A61B

DIAGNOSIS; SURGERY; IDENTIFICATION (analysing biological material G01N, e.g. G01N 33/48; obtaining records using waves other than optical waves, in general G03B 42/00)

Definition statement

This place covers:

Apparatus, instruments, implements, or processes that are either specially adapted or intended to be solely utilized for evaluating, examining, measuring, monitoring, studying, or testing particular characteristics and aspects of either living or dead human and animal bodies for medical purposes (i.e., diagnosis). Diagnosis consists of scrutinizing the following characteristics or aspects of bodies:

• internal or external portions of the bodies (e.g., lungs),
• abnormal bodily conditions (e.g., sickness, broken bones, detecting foreign bodies, pregnancy),
• mental conditions (e.g., psychotechniques), and
• bodily functions (e.g., heart beat, vision).

Apparatus, instruments, implements, or processes that are either specially adapted or intended to be solely utilized for medical procedures employing physical actions (e.g., laser cutting, pressure of fluid) on portions of human or animal bodies to correct, enhance, or inspect (e.g., autopsies) them for medical purposes (i.e., surgery). Surgery consists of the following medical procedures:

• repositioning (e.g. aligning broken bones, opening wounds) parts of bodies,
• stabilizing (e.g., inserting bone pins) to prevent harmful movement of parts of bodies,
• repairing (e.g., fastening skin together, removing cancerous tissue) bodies,
• facilitating the occurrence of naturally occurring bodily functions (e.g., child birth, passing kidney stones) that are out of the ordinary,
• introducing, collecting, or removing cells and organs (e.g., inseminations, tissue sampling, hair transplants, skin grafting, biopsies, organ harvesting) to or from bodies, and
• introducing or taking out foreign objects (e.g., replacement heart valves, bullets) to or from bodies.

Apparatus, instruments, implements, or processes that are either specially adapted or intended to be solely utilized in procedures for identifying individual human beings (e.g., finger printing, by recognition of shape or dimension of body part) using unique characteristics of their bodies (i.e. identification).

Adjunct or supplementary means specially adapted for use in, or intended for exclusive use in, diagnosis, surgery, or identification. These adjunct or supplementary means contribute to the effectiveness (e.g., surgical drapes) or safety (e.g., operating gloves) of a medical procedure, but may or may not (e.g., protective covers for scalpels) themselves involve any direct contact with a body.

Components of diagnosis, surgery, or identification means with structural features limiting their usefulness to medical procedures.

Relationships with other classification places

Several subclasses provide for subject matter that is used for 'diagnosis'. The relationship between these subclasses with regard to the type of 'diagnosis' covered by each is as follows:

Subclass A61B provides for diagnosis in general. A61B also provides for any surgical or identification apparatus or methods when

• the apparatus or methods are combined with diagnosis means or
• the apparatus can be used for diagnosis and either surgery or identification.

A61B additionally provides for any diagnostic apparatus or methods combined with therapy apparatus or method normally covered by subclass A61H or A61N when

• the same apparatus or methods are used for both purposes or
• combined together but only useable separately.

Subclass **A61H** provides for diagnostic means or steps that are combined with massage and physical therapy apparatus or methods used for the treatment of disease or disability (i.e., an abnormal condition of the body) by utilization of direct mechanical energy; when the diagnostic means or step is used solely for operational feedback purposes to enhance therapy.

Subclass **A61N** provides for diagnostic means or steps that are combined with medical treatment therapy apparatus or methods used for the treatment of disease or disability by utilization of forms of energy other than direct mechanical energy; when the means or step is used solely for operational feedback purposes to enhance therapy.

**References**

**Limiting references**

*This place does not cover:*

| Tools or instruments for operating on the mouth portion of a human being (e.g., tooth saws) | A61C 3/00 |
| Saliva removers combined with instruments for opening or keeping open the mouth (e.g., mouth props, tongue guards, tongue depressors, cheek spreaders) | A61C 17/00 |
| Medical instruments, implements, tools, or methods specially adapted so as to limit their usefulness to only animals | A61D |
| Methods or devices for treatment of eyes, putting in contact lenses, or correcting squinting | A61F 9/00 |
| Eye surgery | A61F 9/007 |
| Ear surgery | A61F 11/00 |
| Physical therapy apparatus that includes diagnostic feedback means for influencing operation | A61H |
| Syringes and suction, pumping or atomizing devices for medical use (e.g., cups, breast relievers, irrigators, sprays, powder insufflators, atomizers, inhalers), apparatus for general or local anesthetics, devices or methods for causing a change in the state of consciousness, catheters, dilators, and apparatus for introducing medicines into the body other than orally | A61M |
| Non-surgical treatment of medical conditions or physical injuries by utilization of forms of energy not directly generated by mechanical apparatus, devices, or means that includes diagnostic feedback means for influencing its operation | A61N |
| Clinical thermometers for measuring the temperature of body parts | G01K 5/00 |
| Methods or arrangements for reading or recognizing patterns, e.g. fingerprints | G06K 9/00 |
| Recognizing, identifying, or verifying the identity of human beings by analyzing their voice or speech | G10L 17/00 |

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Operating tables and auxiliary devices for these tables | A61G 13/00 |
| Operating chairs | A61G 15/00 |
| Apparatus for artificial respiration or heart stimulation | A61H 31/00 |
Containers specially adapted for medical or pharmaceutical purposes | A61J 1/00
Devices for administering medicines orally | A61J 7/00
Materials for surgical sutures or for ligaturing blood vessels | A61L 17/00
Surgical adhesives or cements and adhesives for colostomy devices | A61L 24/00
Materials for colostomy devices | A61L 28/00
Measuring or testing processes involving enzymes or microorganisms | C12Q 1/00
Analyzing samples of biological material | G01N

**Special rules of classification**

The following IPC groups are not used in the internal ECLA classification scheme. Subject matter covered by these groups is classified in the following ECLA groups:

<table>
<thead>
<tr>
<th>IPC group</th>
<th>ECLA group covered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61B 5/0295</td>
<td>A61B 5/026</td>
</tr>
<tr>
<td>A61B 5/151</td>
<td>A61B 5/1411</td>
</tr>
<tr>
<td>A61B 5/153</td>
<td>A61B 5/1405</td>
</tr>
<tr>
<td>A61B 5/154</td>
<td>A61B 5/1438</td>
</tr>
</tbody>
</table>

**A61B 1/00**

Instruments for performing medical examinations of the interior of cavities or tubes of the body by visual or photographic inspection, e.g. endoscopes (examination of body cavities or body tracts using ultrasonic, sonic or infrasonic waves A61B 8/12; instruments, e.g. endoscopes, for taking a cell sample A61B 10/00; endoscopic cutting instruments A61B 17/32; surgical instruments using a laser beam being directed along or through a flexible conduit A61B 18/22; technical endoscopes G02B 23/24); Illuminating arrangements therefor (for the eyes A61B 3/00)

**References**

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Subject</th>
<th>IPC group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illuminating arrangements for the eyes</td>
<td>A61B 3/00</td>
</tr>
<tr>
<td>Examination of body cavities or body tracts using ultrasonic, sonic or infrasonic waves</td>
<td>A61B 8/12</td>
</tr>
<tr>
<td>Instruments, e.g. endoscopes, for taking a cell sample</td>
<td>A61B 10/00</td>
</tr>
</tbody>
</table>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Subject</th>
<th>IPC group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical probes as there is no visual/image channel</td>
<td>A61B 5/0059</td>
</tr>
<tr>
<td>Endoscopic cutting instruments</td>
<td>A61B 17/32</td>
</tr>
<tr>
<td>Surgical instruments using a laser beam being directed along or through a flexible conduit</td>
<td>A61B 18/22</td>
</tr>
<tr>
<td>Catheters, e.g. flexible tubes</td>
<td>A61M 25/00</td>
</tr>
</tbody>
</table>
Industrial endoscopes, e.g. borescopes; optical details thereof, e.g. particularly lens and optical fibre details

**Special rules of classification**

**A61B 1/00** - **A61B 1/127** deal with technical features of endoscopes. From **A61B 1/227** - **A61B 1/32** endoscopes are classified according to the body cavity where they are intended to be used.

**Glossary of terms**

*In this place, the following terms or expressions are used with the meaning indicated:*

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rod-lens</td>
<td>A number of glass rods with specially shaped ends, that are used in rigid endoscopes instead of several thin glass lenses to improve image transmission properties and widen the field of view</td>
</tr>
</tbody>
</table>

**A61B 1/00002**

{**Operational features of endoscopes**}

**Definition statement**

*This place covers:*

Operational signal transmission and data processing related with endoscopes if not provided in other, more specific technical fields.

**A61B 1/00009**

{of image signals (**G06T** takes precedence)}

**Definition statement**

*This place covers:*

Operational image processing for display during use of the endoscope, e.g. on-chip or by the camera control unit.

**References**

*Limiting references*

*This place does not cover:*

<table>
<thead>
<tr>
<th>Term</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processing or analysis of bit-mapped images</td>
<td><strong>G06T</strong></td>
</tr>
</tbody>
</table>

**A61B 1/00016**

{using wireless means}

**Definition statement**

*This place covers:*

Wireless data transmission between probe within the body and external receiver.
A61B 1/00018
{using electrical cables}

Definition statement
This place covers:
Wire based data transmission by electrical signals.

A61B 1/00022
{removable}

Definition statement
This place covers:
Exchangeable memory like memory cards, e.g. for image recording or changing endoscope function.

A61B 1/00032
{internally powered}

Definition statement
This place covers:
Power source integral with the endoscope, e.g. batteries.

A61B 1/00036
{Means for power saving, e.g. sleeping mode}

Definition statement
This place covers:
• Power saving features, e.g. in capsule endoscopes or displays
• Sleep/stand-by modes or varying sampling/transmission rates.
A61B 1/00039
{provided with data input arrangements for the user}

Definition statement

This place covers:
All types of user input/interface means, e.g. keyboards, touch screens, joysticks, remote controls, voice-activated.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Deflection control handles</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61B 1/0052</td>
</tr>
</tbody>
</table>

A61B 1/00041
{for user message recording}

Definition statement

This place covers:
Recording user/operator message during operation of endoscope, e.g. record annotation with image.

A61B 1/00048
{Constructional features of the display}

Definition statement

This place covers:
Display construction, e.g. portable, head mounted displays, supports for displays.

A61B 1/0005
{for multiple images}

Definition statement

This place covers:
Display of images obtained by endoscopes, combinations of images, e.g. side-by-side, superimposed, tiled etc., combination of images and other data, e.g. graphs, ECG curves, pulse waveforms, alphanumeric data.

A61B 1/00052
{positioned at proximal end of the endoscope body}

Definition statement

This place covers:
Small display screen at the proximal end of the endoscope shaft, e.g. mounted on the handle.
A61B 1/00055
{for alerting the user}

Definition statement
This place covers:
Alerting/indicating to user of an operative condition/fault, e.g. by voice synthesiser, indicator lights. Includes physiological parameter of patient during endoscopic examination.

A61B 1/00057
{provided with means for testing or calibration}

Definition statement
This place covers:
All types of endoscope testing, e.g. optical performance, leak detection. Testing operation of endoscope, fault detection.

A61B 1/00059
{provided with identification means for the endoscope}

Definition statement
This place covers:
Endoscope provided with identification means, e.g. barcode, memory chip (ROM), coded resistor etc. May also include other data, e.g. operating data, manufacturer's serial number etc.

A61B 1/00062
{provided with means for preventing overuse}

Definition statement
This place covers:
Limiting the number and/or duration of uses of an endoscope, e.g. by a counter/timer. Also limiting use to one patient by configuring endoscope to patient ID. Counting usage for payment.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Identification means | A61B 1/00059 |

A61B 1/00066
{Proximal part of endoscope body, e.g. handles (A61B 1/0052 takes precedence)}

Definition statement
This place covers:
Structural or operational features of the handle, e.g. control elements.
References

Limiting references

This place does not cover:

Control elements, e.g. on the handle for controlled bending of the shaft

A61B 1/00068

{Valve switch arrangements}

Definition statement

This place covers:

Construction of valve switches for controlling suction/water/air supply.

A61B 1/00071

{Insertion part of the endoscope body (A61B 1/0055 takes precedence)}

Definition statement

This place covers:

Details of endoscope shaft/sheath construction, e.g. layers.

References

Limiting references

This place does not cover:

Constructional details of flexible insertion parts, e.g. vertebral elements

A61B 1/00073

{with externally grooved shaft}

Definition statement

This place covers:

Groove(s) on external surface of endoscope to receive additional channel(s), e.g. for tools, suction, rinsing etc.

A61B 1/00078

{with stiffening means}

Definition statement

This place covers:

Details of endoscope shaft/sheath construction, including oversleeves, for stiffening.
A61B 1/0008
{characterised by distal tip features}

Definition statement
This place covers:
Distal tip features not separately provided for below, e.g. distal tips with certain shapes, protective caps, strengthening means, vibrating elements, heating etc.

A61B 1/00082
{Balloons}

Definition statement
This place covers:
Distal fluid inflatable balloons, e.g. for retaining endoscope in a fixed position within a body cavity or for enlarging visual field etc.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Balloon catheters | A61M 25/10 - A61M 25/1025 |

A61B 1/00085
{Baskets}

Definition statement
This place covers:
Distal expandable basket/cage structure, e.g. for retaining endoscope at a fixed position within the body cavity or for spacing the imaging lens from the tissue surface.

A61B 1/00087
{Tools (A61B 17/00234 takes precedence)}

Definition statement
This place covers:
Distal tip tool as part of, mounted on or attached to the endoscope shaft or oversleeve, e.g. for displacing/cutting tissue.

References
Limiting references
This place does not cover:

| Tools for introduction through a working channel | A61B 17/00234 |
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Working channel for introduction of, e.g. surgical tools | A61B 1/018 |

A61B 1/00089
{Hoods}

Definition statement
This place covers:
Distal hood, e.g. projecting beyond the lens/window plane, for restricting field of view.

A61B 1/00091
{Nozzles}

Definition statement
This place covers:
Distal nozzles/baffles/liquid deflectors, e.g. for directing rinsing fluid on to the distal lens/window.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Tool deflectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61B 1/00098</td>
</tr>
</tbody>
</table>

A61B 1/00094
{Suction openings}

Definition statement
This place covers:
Distal suction openings for removing fluid/debris; openings may be in an endoscope oversleeve.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Suction openings for propulsion</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61B 1/00156</td>
</tr>
</tbody>
</table>
A61B 1/00096

{Optical elements}

Definition statement
This place covers:
Distal optical features, e.g. window shapes, lens arrangements, mirrors, prisms or filters arranged in
the distal tip of an insertion section.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| For variation of viewing angle | A61B 1/00174 |

A61B 1/00098

{Deflecting means for inserted tools}

Definition statement
This place covers:
Distal deflector for a tool/instrument/optical fibre introduced through an endoscope channel.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Tool/instrument channels | A61B 1/018 |

A61B 1/00103

{designed for single use}

Definition statement
This place covers:
Disposable endoscope or endoscope parts explicitly intended for single use only and usually not
sterilizable.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Prevention of overuse | A61B 1/00062 |
| Modular construction  | A61B 1/00105 |
A61B 1/00105
{characterised by modular construction}

Definition statement
This place covers:
Modular construction of endoscope allows parts to be exchanged/replaced, e.g. different shafts used with the same handle. Also for disassembly of parts for easier cleaning. Multiple endoscopes interchangeably connected to a monitor unit.

A61B 1/00108
{characterised by self-sufficient functionality for stand-alone use}

Definition statement
This place covers:
Portable endoscopes not requiring a physical connection to further supply or monitor units, e.g. including integrated power supply, light source and video controller, suction and fluid supply, telemetry and/or display means.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Wireless data transmission</th>
<th>A61B 1/00016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated data storages</td>
<td>A61B 1/0002</td>
</tr>
<tr>
<td>Integrated power supply</td>
<td>A61B 1/00032</td>
</tr>
<tr>
<td>Integral display units</td>
<td>A61B 1/00052</td>
</tr>
</tbody>
</table>

A61B 1/0011
{Manufacturing of endoscope parts}

Definition statement
This place covers:
All types of steps/processes in manufacturing / assembling endoscopes or parts thereof.

A61B 1/00112
{Connection or coupling means}

Definition statement
This place covers:
All types of couplings are included here, e.g. optical, mechanical, electrical.
A61B 1/00114

{Electrical cables for connection to external units}

Definition statement
This place covers:
Details of electrical cables. Includes cable construction and cable arrangements.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Details of electrical cables in general | H01B |

A61B 1/00117

{Optical cables, e.g. for connection to an external light source}

Definition statement
This place covers:
Details of light supply cable connecting the endoscope to the light source, may also have, e.g. shutter or filters within cable. Cable may have one end permanently fixed to the endoscope or it may be completely separable from both endoscope and light source unit.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Connectors as such | A61B 1/00126 |

A61B 1/00119

{Tubes or pipes, e.g. for fluid supply to the endoscope}

Definition statement
This place covers:
Also universal cables for combined water/air/suction supply.
A61B 1/00124
{electrical, e.g. electrical plug-and-socket connection}

Definition statement

This place covers:
Details of any type of electrical connector used with endoscopes, includes connectors at the distal end of a cable projecting from the operation portion and connectors mounted on the operation portion.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Electrical couplings in general | H01R 13/00 |

A61B 1/00128
{mechanical, e.g. for tubes or pipes}

Definition statement

This place covers:
Details of any type of mechanical connector used with endoscopes, includes connectors or adaptors at the proximal end of the working channel.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Forceps plugs for sealing or closing of working channels | A61B 1/00137 |
| Surgical tool connectors | A61B 2017/00477 |

A61B 1/00133
{Drive units, e.g. for endoscopic tools}

Definition statement

This place covers:
Drive unit for attachment to an endoscope for driving/introducing a tool/instrument. May be manual or motor driven.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Holding or positioning of the endoscope | A61B 1/00147 |
| Guiding of flexible endoscopes as such | A61B 1/01 |
| Operating/actuating an endoscopic tool | A61B 2017/00367 |
| Introducing catheters | A61M 25/01 |
Introducing guidewires

A61B 1/00135

{Oversleeves (A61B 1/00142 takes precedence)}

Definition statement

This place covers:
Separate oversleeve tube and optical assembly. The optical assembly is inserted into the oversleeve prior to use in a body cavity. The oversleeve may have features like additional working channels for instruments, rinsing or suction channels, illumination channels or further distal tools.

References

Limiting references

This place does not cover:
Sanitary sheaths for hygiene mainly

Informative references

Attention is drawn to the following places, which may be of interest for search:

Guide tubes to aid endoscope insertion

Guiding flexible endoscopes

Synonyms and Keywords

In patent documents, the word/expression in the first column is often used instead of the word/expression in the second column, which is used in the classification scheme of this place:

"sheath" "oversleeve"

A61B 1/00137

{End pieces, e.g. caps, seals, forceps plugs}

Definition statement

This place covers:
For closing or sealing openings at both ends of an endoscope, e.g. forceps plugs for the proximal end of a working channel.

A61B 1/0014

{Fastening elements for attaching accessories to the outside of an endoscope shaft, e.g. clips, clamps or bands}

Definition statement

This place covers:
Any type of fastening element to attach an accessory/tool/channel to the outside of the endoscope shaft, e.g. clip, clamp, loop, band.
**A61B 1/00142**

{with means for preventing contamination, e.g. by using a sanitary sheath}

**Definition statement**

*This place covers:*

Prevention of contamination with bodily fluids of a patient, e.g. by a hygienic sheath covering the insertion tube of an endoscope.

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oversleeves or sheaths not mainly for hygiene, but comprising additional</td>
<td>A61B 1/00135</td>
</tr>
<tr>
<td>technical features like working channels</td>
<td></td>
</tr>
<tr>
<td>Drapes for protection of surgical instruments</td>
<td>A61B 46/10</td>
</tr>
</tbody>
</table>

**A61B 1/00144**

{Hygienic packaging}

**Definition statement**

*This place covers:*

Packages for keeping endoscope sterile before use/in storage.

**A61B 1/00147**

{Holding or positioning arrangements}

**Definition statement**

*This place covers:*

Means for holding and/or changing the position (advancing, rotating, pivoting etc.) of an endoscope with respect to the patient/cavity.

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating endoscope position inside of the body</td>
<td>A61B 5/06</td>
</tr>
<tr>
<td>Tracking endoscopes with NMR</td>
<td>G01R 33/285</td>
</tr>
</tbody>
</table>

**A61B 1/00149**

{using articulated arms}

**Definition statement**

*This place covers:*

Articulated arms for holding and positioning an endoscope.
A61B 1/00151
{using everted tubes}

**Definition statement**

*This place covers:*

Propelling/advancing endoscope by everted tube means, e.g. by turning the tube inside out.

A61B 1/00154
{using guide tubes}

**Definition statement**

*This place covers:*

Guide tubes are positioned at the opening of a body cavity to aid insertion of the endoscope through the guide tube and into the cavity. The guide tubes are usually not fixed or attached to the endoscope shaft.

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Oversleeve to cover an endoscope prior to insertion | A61B 1/00135 |
| Guiding arrangements for flexible endoscopes       | A61B 1/01    |
| Access ports for surgical instruments              | A61B 17/3421 |

A61B 1/00156
{using self propulsion}

**Definition statement**

*This place covers:*

Probe operating inside the body without physical contact with the external environment.

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Capsule endoscopes                                 | A61B 1/041 |

A61B 1/00158
{using magnetic field}

**Definition statement**

*This place covers:*

The probe, e.g. a capsule endoscope, is guided by a magnetic field controlled by the operator. Also for controlled bending of endoscope insertion tube by magnetic forces.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Determining endoscope position using magnetic field | A61B 5/062 |
| Manipulators for magnetic surgery | A61B 34/73 |

A61B 1/0016

{using motor drive units}

Definition statement

This place covers:
Drive unit, e.g. proximal motor, for insertion of an endoscope into the body.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Drive unit for introduction of an endoscopic tool into the endoscope | A61B 1/00133 |
| Pumps for everted tubes | A61B 1/00151 |
| Guiding arrangements for flexible endoscopes in general | A61B 1/01 |
| Introducing catheters | A61M 25/01 |
| Introducing guidewires | A61M 25/09041 |

A61B 1/00163

{Optical arrangements (A61B 1/002, A61B 1/06 take precedence)}

Definition statement

This place covers:
Details of optical arrangements for transmitting image within the endoscope not covered by any lower ranking class. Includes jointed image paths using mirrors/prisms.

References

Limiting references

This place does not cover:

| Rod-lens arrangements | A61B 1/002 |
| Illuminating arrangements | A61B 1/06 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Distal optical elements | A61B 1/00096 |
**A61B 1/00165**

{with light-conductive means, e.g. fibre optics (**A61B 1/07** takes precedence)}

**Definition statement**

*This place covers:*

Guiding light from distal to proximal end of the endoscope, not limited to imaging.

**References**

**Limiting references**

*This place does not cover:*

| Guiding in particular illumination light from proximal to distal end of the endoscope | A61B 1/07 |

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Light guides per se | G02B 6/00 |
| Light guides for industrial endoscopes | G02B 23/26 |

---

**A61B 1/00167**

{Details of optical fibre bundles, e.g. shape or fibre distribution}

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Optical fibre arrangements for illumination | A61B 1/07 |

---

**A61B 1/0017**

{Details of single optical fibres, e.g. material or cladding}

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Optical fibres for illumination | A61B 1/07 |

---

**A61B 1/00172**

{with means for scanning}

**Definition statement**

*This place covers:*

2D/3D scanning of illumination and/or imaging light beams.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Distal mechanical or optical elements</th>
<th>A61B 1/0008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical coherence tomography</td>
<td>A61B 5/0066</td>
</tr>
<tr>
<td>Confocal scanning</td>
<td>A61B 5/0068</td>
</tr>
<tr>
<td>Optical scanning systems in general</td>
<td>G02B 26/10</td>
</tr>
</tbody>
</table>

A61B 1/00174

{characterised by the viewing angles}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Distal optical features in general</th>
<th>A61B 1/00096</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detachable distal elements</td>
<td>A61B 1/00101</td>
</tr>
</tbody>
</table>

A61B 1/00177

{for 90 degrees side-viewing}

Definition statement

This place covers:
Optical element at distal end of endoscope allows side-viewing.

A61B 1/00179

{for off-axis viewing}

Definition statement

This place covers:
Optical element at distal end of endoscope sets the field-of-view at an angle to the longitudinal axis of the endoscope i.e. between 0-90 degrees, in forward or rearward direction.

A61B 1/00181

{for multiple fixed viewing angles (A61B 1/00193 takes precedence)}

Definition statement

This place covers:
Optical elements allow multiple different fixed views, e.g. combining either alternative or simultaneous 0 degree frontal and 90 degrees side-viewing.
References

Limiting references

This place does not cover:

| Stereoscopic viewing | A61B 1/00193 |

A61B 1/00183

{for variable viewing angles}

Definition statement

This place covers:
Optical element at distal end of endoscope allows variable field of view, e.g. by rotation or deflection of a distal optical element.

A61B 1/00186

{with imaging filters}

Definition statement

This place covers:
Filters in the optical imaging path of an endoscope.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Filters in the optical illumination path of an endoscope | A61B 1/0646 |

A61B 1/00188

{with focusing or zooming features}

Definition statement

This place covers:
Optical and/or mechanical arrangements for adjusting the focal point or magnification of an endoscope, e.g. for auto-focus or endo-microscopy.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Confocal scanning | A61B 5/0068 |
A61B 1/0019
{characterised by variable lenses}

**Definition statement**

_This place covers:_

Lens with variable refractive properties, e.g. fluid filled lens, Alvarez lens.

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Variable lenses as such | G02B 3/14 |

A61B 1/00193
{adapted for stereoscopic vision}

**Definition statement**

_This place covers:_

Stereoscopic or three dimensional imaging, e.g. by combining images from two laterally spaced cameras.

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Stereoscopic vision for industrial endoscopes | G02B 23/2415 |

A61B 1/00195
{with eyepieces}

**Definition statement**

_This place covers:_

Features of the eyepiece, e.g. lens arrangement, attachment to endoscope shaft/camera etc. Includes binocular eyepieces.

A61B 1/00197
{characterised by multiple eyepieces}

**Definition statement**

_This place covers:_

Multiple eyepieces allowing more than one observer to view the image.
References

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Binocular eyepieces                                      | A61B 1/00195 |

**A61B 1/002**

having rod-lens arrangements (**A61B 1/055** takes precedence)

References

**Limiting references**

This place does not cover:

| Rod-lens arrangements in combination with a camera       | A61B 1/055 |

**Synonyms and Keywords**

In patent documents, the following words/expressions are often used as synonyms:

- "Rod lens" and "Hopkins optics"

**A61B 1/005**

Flexible endoscopes

References

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Catheters without visualisation                          | A61M 25/00 |

**A61B 1/0051**

{with controlled bending of insertion part}

References

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Tip steering of catheters                               | A61M 25/0133 |
| Articulated or flexible manipulators                    | B25J 1/02 |
| Crawling robots for pipe lines                          | F16L 55/28, F16L 55/34 |
A61B 1/0052
{Constructional details of control elements, e.g. handles}

Definition statement

This place covers:
Operating elements for active control of bending, e.g. mechanical levers, dials or pulleys, but also electrical switches usually mounted on the handle.

References

Limiting references

This place does not cover:

Controlled bending of the insertion part using shape memory elements

Informative references

Attention is drawn to the following places, which may be of interest for search:

Endoscope handles in general

Force transmission elements, e.g. control wires

A61B 1/0058

A61B 1/0057

A61B 1/0055

{Constructional details of insertion parts, e.g. vertebral elements}

Definition statement

This place covers:
Backbone elements repetitively aligned and movably connected to each other to provide stability and flexibility to the insertion tube.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Articulations

A61B 1/008

A61B 1/0057

{Constructional details of force transmission elements, e.g. control wires}

Definition statement

This place covers:
Operating elements for transmission of forces for the purpose of e.g. bending, flexing, twisting, pivoting or rotation of a flexible portion of the insertion tube.
**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Control elements, e.g. on the handle</th>
<th>A61B 1/0052</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articulations</td>
<td>A61B 1/008</td>
</tr>
</tbody>
</table>

**A61B 1/008**

**Articulations**

**Definition statement**

This place covers:

Means for interconnecting (rigid) backbone elements of the shaft to provide flexibility, e.g. hinges, joints or pivots.

**References**

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Constructional details of insertion parts as such</th>
<th>A61B 1/0055</th>
</tr>
</thead>
</table>

**A61B 1/01**

**Guiding arrangements therefore**

**Definition statement**

This place covers:

Guiding means, which are independent from the flexible endoscope and its integrated tip steering mechanisms, e.g. guide wires or insertion aids.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Guide tubes</th>
<th>A61B 1/00154</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guiding arrangements for catheters</td>
<td>A61M 25/01</td>
</tr>
</tbody>
</table>

**A61B 1/0125**

**{Endoscope within endoscope}**

**Definition statement**

This place covers:

Combination of at least 2 endoscopes, where one endoscope is introduced into the body cavity, e.g. by passing it through a channel of another endoscope.
A61B 1/015
Control of fluid supply or evacuation

Definition statement
This place covers:
Controlling fluid supply or evacuation to or from cavities of the human body.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Fluid supply or evacuation to distal balloons</th>
<th>A61B 1/00082</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid supply or evacuation for cleaning purposes post-use</td>
<td>A61B 1/121</td>
</tr>
<tr>
<td>Fluid supply or evacuation for cleaning purposes in-use</td>
<td>A61B 1/126</td>
</tr>
</tbody>
</table>

A61B 1/018
for receiving instruments

Definition statement
This place covers:
All kind of working channels for insertion of medical instruments thought the endoscope shaft, e.g. for minimally invasive surgery.

A61B 1/04
combined with photographic or television appliances {(camera adapters G03B 17/48)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Camera adapters</th>
<th>G03B 17/48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television cameras</td>
<td>H04N 5/225</td>
</tr>
</tbody>
</table>

A61B 1/041
{Capsule endoscopes for imaging}

Definition statement
This place covers:
Small mostly capsule type cameras, usually but not necessarily swallowed for minimally invasive visual documentation e.g. of the gastroenterologic tract or blood vessels. Often in combination with miniaturized on-board diagnostic or therapeutic tools.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Wireless transmission of control or image signals | A61B 1/00016 |
| Internal power supply, e.g. by batteries          | A61B 1/00032 |
| Capsule type diagnostic sensors without visualization | A61B 5/07 |

Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

• "Capsule endoscope" and "Pill camera"

A61B 1/042

{characterised by a proximal camera, e.g. a CCD camera}

Definition statement

This place covers:

Endoscopic cameras integrated into or detachably fixed to the proximal end of an endoscope.

References

Limiting references

This place does not cover:

| Cameras in the distal end portion of an endoscope | A61B 1/05 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Image processing e.g.                          | G06T 7/0012 |
| Details of the TV cameras                     | H04N 5/225 |

A61B 1/043

{for fluorescence imaging}

Definition statement

This place covers:

Visual imaging of tissue fluorescence induced e.g. by exogenously administered fluorophores or endogenous autofluorescence.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Filters in the imaging path                   | A61B 1/00186 |
| Monochromatic illumination                   | A61B 1/063 |

27
Polychromatic illumination
Filters in the illumination path
Detection of tissue fluorescence not resulting in an image

A61B 1/051
{Details of CCD assembly}

Definition statement
This place covers:
Details of mounting the CCD chip in the distal tip of the endoscope.

A61B 1/06
with illuminating arrangements

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Illumination arrangements for industrial endoscopes</th>
</tr>
</thead>
<tbody>
<tr>
<td>G02B 23/2461</td>
</tr>
</tbody>
</table>

A61B 1/0607
{for annular illumination}

Definition statement
This place covers:
Illumination arrangements where light exits the endoscope forwardly in multiple points or circularly, including illumination sources for the oral cavity not incorporated in the endoscope shaft.

A61B 1/0615
{for radial illumination}

Definition statement
This place covers:
Illumination arrangements where light exits the endoscope radially (perpendicularly to the longitudinal axis). Single or multiple illumination ports.

A61B 1/0623
{for off-axis illumination}

Definition statement
This place covers:
Illumination of cavity at an angle to the longitudinal axis of the endoscope other than at 90 degrees.
A61B 1/063
{for monochromatic illumination}

Definition statement
This place covers:
- Lasers or laser diodes
- Quasi-monochromatic light sources like narrow-band filtered lamps.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Illumination filters | A61B 1/0646 |

A61B 1/0638
{providing two or more wavelengths}

Definition statement
This place covers:
Illumination with multiple spectral bands, e.g. for fluorescence endoscopy.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Fluorescence spectroscopy without visual imaging | A61B 5/0071 or G01N 21/64 |

A61B 1/0646
{with illumination filters}

Definition statement
This place covers:
Optical filters provided in the illumination path of the endoscope, e.g. for fluorescence endoscopy.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Filters in the optical imaging path of an endoscope | A61B 1/00186 |
A61B 1/0653

{with wavelength conversion}

**Definition statement**

*This place covers:*

Endoscope comprising one or several light source(s), e.g. semiconductor light source or LEDs, that illuminate(s) a fluorescent material, e.g. phosphor, to emit light at a different wavelength than the exciting light.

A61B 1/0661

{Endoscope light sources}

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Lighting devices in general | F21L |

A61B 1/0669

{at proximal end of an endoscope}

**Definition statement**

*This place covers:*

External or internal light sources coupled to or positioned at the proximal end of an endoscope for illumination.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Cables to couple a light source to an endoscope | A61B 1/00117 |
| Connectors to couple a light source to an endoscope | A61B 1/00126 |

A61B 1/0692

{head mounted}

**Definition statement**

*This place covers:*

Headlamps, e.g. used for dental or ENT applications.
A61B 1/07

**using light-conductive means, e.g. optical fibres**

**Definition statement**

This place covers:
Guiding illumination light from proximal to distal end of the endoscope.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guiding light from distal to proximal end of the endoscope, not limited to imaging</td>
<td>A61B 1/00165</td>
</tr>
<tr>
<td>Details of optical fibre bundles</td>
<td>A61B 1/00167</td>
</tr>
<tr>
<td>Details of single optical fibre structure</td>
<td>A61B 1/0017</td>
</tr>
<tr>
<td>Light guides per se</td>
<td>G02B 6/00</td>
</tr>
<tr>
<td>Light guides for illumination in industrial endoscopes</td>
<td>G02B 23/2469</td>
</tr>
</tbody>
</table>

A61B 1/12

**with cooling or rinsing arrangements**

**Definition statement**

This place covers:
Fluid supply or evacuation for functional purposes of the endoscope.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid supply or evacuation to or from cavities of the human body</td>
<td>A61B 1/015</td>
</tr>
</tbody>
</table>

A61B 1/121

**(provided with means for cleaning post-use)**

**Definition statement**

This place covers:
Cleaning, e.g. physically, of endoscopes and/or parts thereof after use.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning of endoscopes in-use</td>
<td>A61B 1/126</td>
</tr>
<tr>
<td>Cleaning of surgical instruments</td>
<td>A61B 90/70</td>
</tr>
</tbody>
</table>
A61B 1/122
{using cleaning tools, e.g. brushes}

Definition statement
This place covers:
Tools for cleaning endoscopes after use, e.g. cleaning swabs or brushes inserted into endoscope channel.

A61B 1/123
{using washing machines}

Definition statement
This place covers:
Washing machines specially adapted for cleaning endoscopes.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

A61B 1/125
{using fluid circuits}

Definition statement
This place covers:
Fluid circulation in the endoscope during endoscope cleaning cycle.

A61B 1/126
{provided with means for cleaning in-use}

Definition statement
This place covers:
Active cleaning of endoscope parts during use, e.g. of distal windows to maintain vision.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:
Cleaning of endoscopes post-use

A61B 1/121

A61B 1/127
{with means for preventing fogging (A61B 1/253 takes precedence)}

Definition statement
This place covers:
Prevention of fogging, e.g. by dedicated covers or coatings.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active cleaning of endoscopes in-use</td>
<td>A61B 1/126</td>
</tr>
<tr>
<td>Means for preventing fogging of dentists mirrors</td>
<td>A61B 1/253</td>
</tr>
</tbody>
</table>

A61B 1/128
{provided with means for regulating temperature}

Definition statement
This place covers:
Monitoring/controlling/regulation of temperature in an endoscope (shaft or handle) and related units like proximal light sources.

A61B 1/24
for the mouth, i.e. stomatoscopes, e.g. with tongue depressors (tongue depressors per se A61B 13/00); Instruments for opening or keeping open the mouth (combined with saliva removers A61C 17/00; mouth openers for animals A61D 15/00)

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light based diagnosis of oral or dental tissue</td>
<td>A61B 5/0088</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tongue depressors per se</td>
<td>A61B 13/00</td>
</tr>
<tr>
<td>Combined with saliva removers</td>
<td>A61C 17/00</td>
</tr>
<tr>
<td>Mouth openers for animals</td>
<td>A61D 15/00</td>
</tr>
</tbody>
</table>
A61B 1/32

Devices for opening or enlarging the visual field, e.g. of a tube of the body (dilators A61M 29/00)

Definition statement

This place covers:
Devices for enlarging natural openings of the human body for visual inspection, e.g. specula or the like.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Device Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tractors for holding wounds open</td>
<td>A61B 17/02</td>
</tr>
<tr>
<td>Surgical trocars for introduction into natural body openings</td>
<td>A61B 2017/345</td>
</tr>
<tr>
<td>Dilators</td>
<td>A61M 29/00</td>
</tr>
</tbody>
</table>

A61B 3/00

Apparatus for testing the eyes; Instruments for examining the eyes (eye inspection using ultrasonic, sonic or infrasonic waves A61B 8/10; devices for treatment of the eyes A61F 9/00; exercisers for the eyes A61H 5/00; optical systems in general G02B)

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Description                                                     | CPC Code |
|                                                               |          |
| Eye inspection using ultrasonic, sonic or infrasonic waves      | A61B 8/10|
| Devices for treatment of the eyes                               | A61F 9/00|
| Exercisers for the eyes                                        | A61H 5/00|
| Optical systems in general                                     | G02B     |
| Spectacles and contact lenses                                   | G02C     |

Special rules of classification

A61B 3/02 - A61B 3/09 for subjective testing i.e. with patient feedback and A61B 3/10 - A61B 3/158 for objective testing i.e. without patient feedback

The breakdown symbols (i.e. the non “parallel” or non “mirror” symbols) and “orthogonal” symbols are to be used for classifying the invention information (in addition to the invention symbols) in case the invention is insufficiently classified by an invention information symbol. They are also to be used for classifying the additional information. They are stored in the additional information field.
**A61B 3/0008**

{provided with illuminating means (A61B 3/117 takes precedence; goniolenses used for laser treatment A61F 9/009; illuminating means for optical instruments G02B 27/00)}

**Definition statement**

*This place covers:*

Illuminating means for examining the eyes (not related to a specific measuring instrument)

---

**WO 2011/148349**

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Illumination for examining the anterior chamber or the anterior chamber angle</th>
<th>A61B 3/117</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illumination for objective testing apparatus</td>
<td>A61B 3/14</td>
</tr>
</tbody>
</table>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Goniolenses used for laser treatment | A61F 9/009 |
| Illuminating means for optical instruments | G02B 27/00 |
A61B 3/0025
{characterised by electronic signal processing, e.g. eye models}

Definition statement
This place covers:
Use of any type of eye model, e.g. to aid in measurement of visual function or checking correct prescription of corrective lens.

\[ W(r) = ar + br^2 + cr^3 + dr^4 + ... \]

Total Wavefront Aberrations
1. Presbyopia shape
2. Chromatic aberrations
3. Vergence induced aberrations

Retina Image Generation (PSF)
1. Slit-Crawford effect
2. Retinal spectral response
3. Five-point polychromatic PSF

Optimizing Function
1. Three-point MTF normalization
2. Strehl Ratio
3. N-point MTF normalization
4. Encoded energy at specific field of view
5. MTF at specific frequency

Optimizer
1. Area under optimizing function over vergence
2. Fluctuation adjusted area under optimizing function over vergence

Result

US 2012/249950

Determination of parameters of contact lenses or of intraocular lenses on the basis of ophthalmic measurements

Correlation of eye images taken at different times

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Planning of eye laser surgery  A61F 2009/00878
### A61B 3/0033

**{characterised by user input arrangements}**

**Definition statement**

This place covers:

All types of user input/interface means, e.g. particular keyboard/switch layouts, control desks/panels, voice-controlled, light pen, touch screen, joysticks, cursors etc.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Adjusting devices, e.g. operated by control lever | A61B 3/0075 |

### A61B 3/005

**{Constructional features of the display}**

**Definition statement**

This place covers:

Display construction, e.g. portable, supports for displays.

### A61B 3/0058

**{for multiple images}**

**Definition statement**

This place covers:

Display of images obtained by all types of apparatus in A61B 3/00, combinations of images, e.g. side-by-side, superimposed, tiled etc., combination of images and/or other data, e.g. graphs, waveforms, alphanumeric data, questionnaires, patient reports etc.

### A61B 3/0066

**{with identification means for the apparatus}**

**Definition statement**

This place covers:

Identification of apparatus or component parts of the apparatus by any means, e.g. RFID, bar code, coded resistors, EPROM etc.
A61B 3/0075
{provided with adjusting devices, e.g. operated by control lever (manipulators B25J)}

Definition statement
This place covers:
Control levers for ophthalmic apparatus

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Manipulators as such | B25J |

A61B 3/0083
{provided with means for patient positioning}

Definition statement
This place covers:
Means for positioning of a patient with respect to apparatus, e.g. head-rests, chin-rests, seats etc. Adjustable positioning, e.g. sliding elements or motor driven structures.
A61B 3/0091
{Fixation targets for viewing direction}

Definition statement
This place covers:
Details or arrangements of fixation targets or lights.

US 2010/296056
The fixation light 16 includes a plurality of LEDs arranged in a lattice shape. By lighting one LED, the fixation light 16 can guide a sight line of the subject's eye E to a direction of the LED lighting.

Also to relax the accommodation power

A61B 3/022
{for testing contrast sensitivity}

Definition statement
This place covers:
Examination or measurement of the contrast sensitivity of the eye.
A61B 3/024
for determining the visual field, e.g. perimeter types

Definition statement
This place covers:
Determining the field of vision

US 5 050 983

A61B 3/032
Devices for presenting test symbols or characters, e.g. test chart projectors (A61B 3/036 takes precedence)

References
Limiting references
This place does not cover:

| For testing astigmatism | A61B 3/036 |

A61B 3/04
Trial frames; Sets of lenses for use therewith (lenses per se G02C 7/02)

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Ophthalmic lenses per se | G02C 7/02 |
A61B 3/10
Objective types, i.e. instruments for examining the eyes independent of the patients’ perceptions or reactions

Definition statement
This place covers:
Measurements on the eye without the patient's feedback.

Besides the below-listed fields, the following is included:
• detect the features (e.g., position, fitting) of a contact lens or an intraocular lens
• examining the eyelid
• evaluate a contrast agent on the eye surface
• fluorescence examination
• scanning laser ophthalmoscope
• examination of light scattering

A61B 3/1005
{for measuring distances inside the eye, e.g. thickness of the cornea (A61B 3/11 takes precedence)}

References
Limiting references
This place does not cover:

| For measuring interpupillary distance or diameter of pupils | A61B 3/11 |

A61B 3/101
{for examining the tear film}

Definition statement
This place covers:
Measurement of any quantity related to tear secretion or tear film production, e.g. volume, flow, or film thickness.

Synonyms and Keywords
In patent documents, the following words/expressions are often used with the meaning indicated:

| Examining   | Measuring   |
Definition statement

This place covers:
Measuring optical aberrations of the eye or corneal topography with wavefront sensor.

Synonyms and Keywords

wavefront sensor, Hartmann sensor, shack sensor, lenslet array, microlens array
A61B 3/102
{for optical coherence tomography [OCT]}

Definition statement

This place covers:
By optical coherence tomography, also in combination and sharing optical components with scanning laser ophthalmoscopy.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Optical coherence tomography of body tissue in general</th>
<th>A61B 5/0066</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical coherence tomography as such</td>
<td>G01N 21/4795</td>
</tr>
</tbody>
</table>

Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:
- "optical coherence tomography", "OCT", "OCDR", "optical coherence domain reflectometry",
- "optical coherence imaging", "low coherence interferometry" and "partial coherence tomography"

A61B 3/1025
{for confocal scanning}

Definition statement

This place covers:
Scanning the eye wherein a detector receives only the reflected light focussed on a single point in the eye tissue, e.g. cornea or retina.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Confocal scanning of body tissue in general | A61B 5/0068 |

A61B 3/103

for determining refraction, e.g. refractometers, skiascopes

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Wavefront analyzer</th>
<th>A61B 3/1015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intraocular lenses</td>
<td>A61F 2/16</td>
</tr>
<tr>
<td>Eye surgery</td>
<td>A61F9/01</td>
</tr>
<tr>
<td>Lenses</td>
<td>G02B 7/02</td>
</tr>
<tr>
<td>Contact lenses</td>
<td>G02B 7/04</td>
</tr>
<tr>
<td>Spectacles</td>
<td>G02C</td>
</tr>
</tbody>
</table>

A61B 3/1035

{for measuring astigmatism (testing astigmatism A61B 3/036)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Computation of astigmatism based on input values | A61B 3/0025 |
| Testing astigmatism                             | A61B 3/036 |

Special rules of classification

This field mostly relates to processing of ophthalmic data in order to estimate astigmatism.

A61B 3/107

for determining the shape or measuring the curvature of the cornea

Definition statement

This place covers:

Measurement of corneal topography.

E.g. by projecting a light pattern (moiré, placido rings) on the cornea

Examination of limbus
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Wavefront analyzer</th>
<th>A61B 3/1015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination of anterior and posterior chambers</td>
<td>A61B 3/117</td>
</tr>
<tr>
<td>Eye surgery</td>
<td>A61F9/01</td>
</tr>
<tr>
<td>Measuring curvature by projecting a pattern</td>
<td>G01B 11/25</td>
</tr>
</tbody>
</table>

A61B 3/111

{for measuring interpupillary distance}

Definition statement

This place covers:
Measurement of interpupillary distance in the context of diagnostic procedures.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Measuring geometric parameters required to locate ophthalmic lenses in spectacles frames | G02C 13/005 |

A61B 3/113

for determining or recording eye movement

Definition statement

This place covers:
Eye tracking mainly for diagnostic purposes.
E.g. using image processing:

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>For measurement of nystagmus</td>
<td>A61B 5/4863</td>
</tr>
<tr>
<td>Tracking eye movements during eye surgery</td>
<td>A61F 2009/00846</td>
</tr>
<tr>
<td>Means for monitoring data relating to the user, e.g. head-tracking, eye-tracking</td>
<td>G02B 27/00</td>
</tr>
<tr>
<td>Man-machine interfaces</td>
<td>G06F 3/01</td>
</tr>
<tr>
<td>For photography</td>
<td>G06F 3/013</td>
</tr>
</tbody>
</table>
A61B 3/117
for examining the anterior chamber or the anterior chamber angle, e.g. gonioscopes

Definition statement
This place covers:
Examination of the anterior chamber: Space between the cornea and the iris
Examination of the posterior chamber: Iris, ciliary body, lens

References
Limiting references
This place does not cover:
Examination of the cornea

A61B 3/1176
{for determining lens opacity, e.g. cataract}

Definition statement
This place covers:
Any type of apparatus for determining, measuring or examining the opacity of the lens, e.g. due to cataract.

A61B 3/12
for looking at the eye fundus, e.g. ophthalmoscopes (A61B 3/13 takes precedence)

References
Limiting references
This place does not cover:
Ophthalmic microscopes

Informative references
Attention is drawn to the following places, which may be of interest for search:
Documentation by photo or video means
A61B 3/125
with contact lenses (contact lenses per se G02C 7/04)

Definition statement
This place covers:
Lens adapted to be placed on the cornea for direct observation of the retina

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Contact lenses per se | G02C 7/04 |

A61B 3/13
Ophthalmic microscopes

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Operation microscopes | A61B 90/20 |
| Surgical microscopes  | G02B 21/0012 |
A61B 3/14

Arrangements specially adapted for eye photography {(apparatus or arrangements for taking photographs per se \textit{G03B})}

\textbf{Definition statement}

\textit{This place covers:}

Means for focussing an eye image detector:

\begin{itemize}
  \item Adaptive optics
  \item Camera adapters
  \item Focussing features
  \item Eye spectrometry
  \item Evaluation of eye-detector distance
\end{itemize}

\textbf{A61B 3/158}

\textit{of corneal reflection}

\textbf{Definition statement}

\textit{This place covers:}

Means for stopping, e.g. polarised light reflected from the cornea to enhance detection of light reflected from the retina, e.g. in eye fundus examinations.

\textbf{A61B 3/16}

\textit{for measuring intraocular pressure, e.g. tonometers}

\textbf{Definition statement}

\textit{This place covers:}

Detect intraocular pressure.
E.g., using a deformable element in contact with the cornea

Also:
- using deformable item on the eye surface
- causing eye deformation using ultrasound waves
- using implanted sensor
A61B 3/165

{Non-contacting tonometers}

**Definition statement**

*This place covers:*

Detect intraocular pressure by deforming the eye surface with a gas jet a measuring the deformation of the eye surface.

A61B 3/18

**Arrangement of plural eye-testing or -examining apparatus**

**Definition statement**

*This place covers:*

Combinations of eye-testing apparatus in a single workstation, e.g. at a test station.

A61B 3/185

{characterised by modular construction}

**Definition statement**

*This place covers:*

Apparatus may be modified for different applications by exchanging component parts.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Attachment of cameras or photography equipment</th>
</tr>
</thead>
</table>

A61B 5/00

Detecting, measuring or recording for diagnostic purposes (radiation diagnosis A61B 6/00; diagnosis by ultrasonic, sonic or infrasonic waves A61B 8/00); Identification of persons

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Radiation diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis by ultrasonic, sonic or infrasonic waves</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Measuring or recording in general</th>
</tr>
</thead>
</table>

Special rules of classification

The breakdown symbols (i.e. the non “parallel” or non “mirror” symbols) and “orthogonal” symbols are to be used for classifying the invention information (in addition to the invention symbols) in case the invention is insufficiently classified by an invention information symbol. They are also to be used for classifying the additional information. They are stored in the additional information field.

A61B 5/0002

{Remote monitoring of patients using telemetry, e.g. transmission of vital signals via a communication network (A61B 5/07 takes precedence; transmission systems for measured values G08C; transmission H04B; transmission of digital information H04L; wireless communication networks H04W)}

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Endoradiosondes</th>
</tr>
</thead>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Transmitting measured data in general</th>
</tr>
</thead>
</table>
A61B 5/0017
{transmitting optical signals (transmission by light H04B 10/00)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Transmission by light | H04B 10/00 |

A61B 5/0033
{Features or image-related aspects of imaging apparatus classified in A61B 5/00, e.g. for MRI, optical tomography or impedance tomography apparatus; arrangements of imaging apparatus in a room (image data processing or generation G06T)}

Special rules of classification

Documents in this subgroup should be also be classified according to type of imaging apparatus in other subgroups of A61B 5/00.

A61B 5/0036
{including treatment, e.g., using an implantable medical device, ablating, ventilating}

Definition statement

This place covers:

Imaging apparatus, for example employing electron or nuclear magnetic resonance, including surgical and therapeutic techniques to facilitate healing.

Implantable medical device may include pacemakers. Ablating includes cutting, eroding, melting, evaporating, or vaporizing. Ventilating includes oxygenating, aerating.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Diagnosis combined with treatment in closed-loop systems or methods | A61B 5/4836 |
| Monitoring or testing the effects of treatment, e.g. of medication | A61B 5/4848 |
| for verifying the position of the patient with respect to the therapeutic radiation beam | A61N 5/1049 |
A61B 5/0048
{Detecting, measuring or recording by applying mechanical forces or stimuli (A61B 5/021, A61B 5/4884 and A61B 9/00 take precedence)}

Definition statement
This place covers:
Testing or evaluating the body or part of the body by applying mechanical forces or stimuli and measuring the response of the body or tissue to the mechanical force or stimulus.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring pressure in heart or blood vessels</td>
<td>A61B 5/021</td>
</tr>
<tr>
<td>Stress testing</td>
<td>A61B 5/4884</td>
</tr>
<tr>
<td>Examination by percussion</td>
<td>A61B 9/00</td>
</tr>
</tbody>
</table>

A61B 5/0051
{by applying vibrations}

Definition statement
This place covers:
1) Vibration stimulator, e.g. for detecting pain threshold

![Diagram](US 5 458 119)
2) Apply stimulation while carrying out measurements, e.g. oximetry:

References

Limiting references

This place does not cover:

| Applying ultrasound vibrations | A61B 8/00 |

A61B 5/0053

{by applying pressure, e.g. compression, indentation, palpation, grasping, gauging}

Definition statement

This place covers:

Applying compression during a measurement:

Holding skin for skin gauges, palpation, indentation
A61B 5/0055
{by applying suction}

**Definition statement**

*This place covers:*

Applying suction or vacuum at the measurement area during the measurement, e.g. to increase blood pressure:

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply suction to enhance body fluid extraction</td>
<td>A61B 5/150099</td>
</tr>
<tr>
<td>Apply suction to attach sensor to the body surface</td>
<td>A61B 5/6834</td>
</tr>
</tbody>
</table>
A61B 5/0057
{by applying motion other than vibrations, e.g. rolling, rubbing, applying a torque, tribometry}

**Definition statement**

This place covers:

Applying torque, friction etc. to a body part during the measurement of an effect of this force

---

A61B 5/0059
{using light, e.g. diagnosis by transillumination, diascopy, fluorescence (A61B 5/0093, A61B 5/1455, A61B 5/02416 and A61B 5/0261 take precedence)}

**Definition statement**

This place covers:

Testing or evaluating the body, parts of the body or body tissues by applying light and measuring the change in light characteristics caused by the interaction of the light with the body or tissue.

**References**

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optoacoustic or acoustooptic imaging</td>
<td>A61B 5/0093</td>
</tr>
<tr>
<td>Optical probes for detecting heart rate</td>
<td>A61B 5/02416</td>
</tr>
<tr>
<td>Optical probes for blood flow measurement</td>
<td>A61B 5/0261</td>
</tr>
<tr>
<td>Optical probes for detecting blood characteristics</td>
<td>A61B 5/1455</td>
</tr>
</tbody>
</table>
Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Features or image-related aspects of imaging apparatus</th>
<th>A61B 5/0033</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical imaging apparatus involving image processing or analysis</td>
<td>A61B 2576/00</td>
</tr>
<tr>
<td>Spectrometry</td>
<td>G01J 3/00</td>
</tr>
<tr>
<td>Optical measurement in general</td>
<td>G01N 21/00</td>
</tr>
</tbody>
</table>

A61B 5/0062

{Arrangements for scanning}

Definition statement

This place covers:
Diagnosis using scanned light, e.g.:
Laser speckle imaging

WO 2011/029086
A61B 5/0064

{Body surface scanning}

Definition statement

This place covers:

Apparatus for optical scanning of the external body surface:
**A61B 5/0066**

*{Optical coherence imaging}*  

**Definition statement**  
*This place covers:*
Detection using coherent light emission

**References**

**Limiting references**  
*This place does not cover:*

- OCT for eye diagnosis

**Informative references**  
Attention is drawn to the following places, which may be of interest for search:

- OCT in general

---

**A61B 5/0068**

{Confocal scanning}

**Definition statement**

*This place covers:*

The use of confocal scanning techniques, e.g. confocal laser scanning microscopy in order to obtain images at selected depths of body tissue.

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Confocal scanning surgical probes</th>
<th>G02B 21/002</th>
</tr>
</thead>
</table>

WO 2011/053828
A61B 5/0071
{by measuring fluorescence emission}

Definition statement

This place covers:
Detecting fluorescence emission as a result of irradiating excitation light

WO 98/24360
**A61B 5/0073**

{by tomography, i.e. reconstruction of 3D images from 2D projections *(A61B 5/0066 takes precedence)*}

**Definition statement**

This place covers:

Reconstructing volumes using light irradiated into the body and scattered outside the body

**References**

*Limiting references*

This place does not cover:

| Optical coherence tomography | A61B 5/0066 |

US 2011/272597
A61B 5/0075
{by spectroscopy, i.e. measuring spectra, e.g. Raman spectroscopy, infrared absorption spectroscopy (A61B 5/0071 takes precedence)}

Definition statement
This place covers:
Evaluating spectral properties of body parts

References
Limiting references
This place does not cover:

| Measuring fluorescence emission | A61B 5/0071 |
A61B 5/0077

{Devices for viewing the surface of the body, e.g. camera, magnifying lens}

**Definition statement**

*This place covers:*

Apparatus for viewing and taking images of the surface of the body. Documents may include diagnostic evaluation of images, e.g. evaluation of images taken with a camera at different times.

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Apparatus for image acquisition of a particular organ of body part | A61B 5/004 |

A61B 5/0082

{adapted for particular medical purposes}

**Definition statement**

*This place covers:*

Devices using light adapted for a particular medical procedure, e.g. dentistry, mammography, insertion into the body.

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Particular medical applications | A61B 5/40 - A61B 5/48 |
| Relationship between the sensor and the patient | A61B 5/68 |
A61B 5/0084
{for introduction into the body, e.g. by catheters (A61B 5/1459 takes precedence)}

Definition statement

This place covers:
Inspecting the composition of body tissues using light probes introduced into the body

References

Limiting references

This place does not cover:

| Invasive probes for taking images (i.e. endoscopes) | A61B 1/00 |
| Invasive optical sensors | A61B 5/1459 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Probes mounted on invasive devices | A61B 5/6846 |
A61B 5/0088
{for oral or dental tissue}

Definition statement

This place covers:
Detecting properties of all types of oral or dental tissue, e.g. teeth, gums, tongue

References

Limiting references

This place does not cover:

| Imaging the oral region | A61B 1/24 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Measuring instruments specially adapted for dentistry | A61C 19/04 |
A61B 5/0091
{for mammography}

Definition statement
This place covers:
Detection of breast cancer or other properties using light

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Method</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-ray mammography</td>
<td>A61B 6/502</td>
</tr>
<tr>
<td>Ultrasound mammography</td>
<td>A61B 8/0825</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast evaluation in general</td>
<td>A61B 5/4312</td>
</tr>
<tr>
<td>Biopsy instruments for the breast</td>
<td>A61B 10/0041</td>
</tr>
</tbody>
</table>
A61B 5/0093
{Detecting, measuring or recording by applying one single type of energy and measuring its conversion into another type of energy}

Definition statement
This place covers:
E.g., magnetoacoustic examination: apply magnetic energy, detect resulting acoustic radiation

WO 2006/122232
A61B 5/0095
(by applying light and detecting acoustic waves, i.e. photoacoustic measurements)

Definition statement

This place covers:
Apply light, detect resulting acoustic emission

![Diagram with labeled components: acoustic detector, light emitter, etc.]

WO 2011/097291
**A61B 5/0097**

*by applying acoustic waves and detecting light, i.e. acoustooptic measurements*

**Definition statement**

*This place covers:*

Apply acoustic (e.g. ultrasonic) energy, detect resulting light emission

![Diagram of measuring device](image)

**A61B 5/01**

Measuring temperature of body parts; {Diagnostic temperature sensing, e.g. for malignant or inflamed tissue} (clinical thermometers [G01K 5/22]; thermometers for special purposes [G01K 13/00])

**References**

**Limiting references**

*This place does not cover:*

| Transmission of temperature signals | A61B 5/0008 |

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Clinical thermometers | G01K 5/00 |
| Thermometers for special purposes | G01K 13/00 |
A61B 5/02

Detecting, measuring or recording pulse, heart rate, blood pressure or blood flow; Combined pulse/heart-rate/blood pressure determination; Evaluating a cardiovascular condition not otherwise provided for, e.g. using combinations of techniques provided for in this group with electrocardiography or electroauscultation; Heart catheters for measuring blood pressure

Definition statement

This place covers:

Apparatus for detecting, measuring or recording physiological parameters related to diagnosis of the cardiovascular system. It includes apparatus where calculation of health indices, e.g. an arterial index, are made or apparatus for monitoring trends in the patient's condition by analysis of the physiological data, e.g. ambulatory blood pressure monitoring.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Measuring a physiological parameter of a patient undergoing therapy, e.g. for controlling the administration of therapy | A61M 2230/00 |
| Controlling electrotherapy using a measured physiological parameter | A61N 1/365 |
| Electrotherapy combined with monitoring a physiological parameter | A61N 1/3702 |
| Measuring a physiological parameter of a user of sports apparatus | A63B 2230/00 |

Special rules of classification

Multiple subgroups may be allocated if the particular physiological parameter is essential for the determination of a diagnosis or calculation of a health index.

A61B 5/02035

{Determining blood viscosity}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Investigating flow properties of materials, e.g. viscosity | G01N 11/00 |

A61B 5/0205

Simultaneously evaluating both cardiovascular conditions and different types of body conditions, e.g. heart and respiratory condition

Definition statement

This place covers:

Apparatus for detecting, measuring or recording multiple physiological parameters where at least one parameter is a cardiovascular parameter. Combinations with any other physiological parameters, not
only a respiratory condition, are allowed, e.g. measurement of heart rate, movement activity and blood glucose concentration. Multiparameter vital signs monitoring.

**Special rules of classification**

Indexing Codes added for specific parameters to show the combination of physiological parameters measured, e.g. A61B 5/024, A61B 5/0816 and A61B 5/14532.

**A61B 5/02055**

*Simultaneously evaluating both cardiovascular condition and temperature*

**Definition statement**

*This place covers:*

Simultaneously evaluating both cardiovascular condition and body temperature. Multiple vital signs monitoring where at least one cardiovascular parameter is measured with body temperature, e.g. heart rate and temperature.

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Remote monitoring of patients by using telemetry of temperature signals</th>
<th>A61B 5/0008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details of apparatus calibration for compensation or correction of the measured physiological value using ambient temperature</td>
<td>A61B 2560/0252</td>
</tr>
<tr>
<td>Clinical thermometers</td>
<td>G01K 5/00</td>
</tr>
<tr>
<td>Special purpose thermometers</td>
<td>G01K 13/00</td>
</tr>
</tbody>
</table>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Measuring temperature of a patient undergoing therapy, e.g. for controlling administration of therapy</th>
<th>A61M 2230/50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controlling electrotherapy using body or blood temperature</td>
<td>A61N 1/3655</td>
</tr>
<tr>
<td>Measuring temperature of a user of sports apparatus</td>
<td>A63B 2230/50</td>
</tr>
</tbody>
</table>

**A61B 5/021**

**Measuring pressure in heart or blood vessels** *(A61B 5/0205 takes precedence)*

**Definition statement**

*This place covers:*

Apparatus for detecting, measuring or recording blood pressure, diastolic pressure, systolic pressure, arterial pressure, venous pressure. Includes measuring pressure in specific blood vessels, e.g. aortic pressure.
References

Limiting references

This place does not cover:

- Simultaneously evaluating both cardiovascular conditions and different types of body conditions
  A61B 5/0205
- Detecting, measuring or recording fluid pressure within the body other than blood pressure
  A61B 5/03
- Measuring fluid pressure by mechanical pressure-sensitive elements in general
  G01L 7/00
- Measuring fluid pressure by electric or magnetic pressure-sensitive elements in general
  G01L 9/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

- Means for maintaining contact with the body by monitoring or controlling sensor contact pressure
  A61B 5/6843
- Details of pressure sensors specially adapted for sensing pressure in-vivo
  A61B 2562/00
- Measuring blood pressure during the administration of therapy
  A61M 2230/04 and A61M 2230/30
- Controlling electrotherapy by using blood pressure
  A61N 1/36564
- Measuring blood pressure of a user of sports apparatus
  A63B 2230/04 and A63B 2230/30

Special rules of classification

IPC precedence does not apply in the case where the blood pressure in combination with another physiological parameter is essential for the invention, e.g. in calculation of a particular arterial index.

A61B 5/0215

by means inserted into the body (catheters A61M 25/00)

Definition statement

This place covers:

All types of apparatus for detecting, measuring or recording blood pressure invasively including catheters, needle probes, guidewires and implanted devices. Blood pressure may be measured in blood vessels or in the heart itself.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

- Measuring pressure in other body cavities
  A61B 5/036
- Constructional details of invasive sensing devices
  A61B 5/6847 - A61B 5/6866
- Solid probes
  A61B 17/00, A61M 25/09, A61M 29/00
A61B 5/0215

{by optical transmission}

Definition statement

This place covers:
Apparatus for detecting, measuring or recording blood pressure in a blood vessel or the heart comprising optical means for transmitting the pressure change, e.g. deflection of a pressure sensitive membrane is detected optically.

References

Limiting references

This place does not cover:

Optical transmission of a pressure signal from the patient to a remote site

Informative references

Attention is drawn to the following places, which may be of interest for search:

Transmitting or indicating the displacement of pressure sensitive flexible diaphragms using photoelectric means

A61B 5/02156

{Calibration means}

Definition statement

This place covers:
Methods or apparatus for calibrating the pressure sensor response. May include correction or compensation of the measured value, e.g. due to drift.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Details of apparatus for calibration, e.g. calibration protocols

Sensors provided with means for identification combined with means for recording calibration data, e.g. on memory chip

Testing or calibrating of apparatus for measuring fluid pressure
A61B 5/02158
{provided with two or more sensor elements}

Definition statement
This place covers:
Apparatus provided with two or more pressure sensors for measuring the blood pressure in the body, e.g. two pressure transducers mounted on a catheter.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:
Details of pressure sensors, e.g. in a linear arrangement A61B 2562/043

A61B 5/022
by applying pressure to close blood vessels, e.g. against the skin;
Ophthalmodynamometers

Definition statement
This place covers:
Apparatus for detecting, measuring or recording blood pressure where the blood vessel is fully occluded during part of the measurement cycle and then released to allow blood flow.

References
Limiting references
This place does not cover:
Partial compression of blood vessel to allow blood pressure measurement A61B 5/021

A61B 5/02233
{Occluders specially adapted therefor (tourniquets A61B 17/132)}

Definition statement
This place covers:
Details of occluders, e.g. construction of inflatable cuffs, adjustable clamps.

References
Limiting references
This place does not cover:
Tourniquets A61B 17/132
A61B 5/023

the pressure transducers comprising a liquid column

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Measuring pressure of a fluid using liquid as a pressure sensitive medium, e.g. liquid-column gauges | G01L 7/18 |

A61B 5/0235

Valves specially adapted therefor

Definition statement

This place covers:
Details of valves specially adapted for use in blood pressure measuring apparatus, e.g. valves for releasing air from an inflatable cuff. Includes valves used in any part of the apparatus.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Valves for medical use | A61M 39/22 |

Special rules of classification

This subgroup is not restricted to apparatus where the blood vessel is occluded.

A61B 5/024

Detecting, measuring or recording pulse rate or heart rate (A61B 5/0205, A61B 5/021 take precedence)

Definition statement

This place covers:
Apparatus for detecting, measuring or recording pulse rate or heart rate, e.g. given in beats per minute.

References

Limiting references

This place does not cover:

| Evaluating a cardiovascular condition not otherwise provided for, e.g. pulse waveform shape analysis | A61B 5/02 |
| Simultaneously evaluating both cardiovascular conditions and different types of body conditions | A61B 5/0205 |
| Measuring pressure in heart or blood vessels | A61B 5/021 |
| Ballistocardiography, detecting chest motion due to heart beat | A61B 5/1102 |
Measuring pressure in heart or blood vessels  A61B 8/02

Informative references
Attention is drawn to the following places, which may be of interest for search:

Measuring a physiological parameter to provide biofeedback to patient, e.g. measuring heart rate to allow patient to control the heart rate  A61B 5/486
Measuring heart rate of a patient during administration of therapy  A61M 2230/06
Measuring heart rate of a user of sports apparatus  A63B 2230/06

A61B 5/02416
{using photoplethysmograph signals, e.g. generated by infra-red radiation (A61B 5/14552 takes precedence)}

Definition statement
This place covers:
Apparatus for detecting, measuring or recording pulse rate or heart rate using an optical sensor for detecting photoplethysmograph signals.

References
Limiting references
This place does not cover:

Measuring blood flow using plethysmography  A61B 5/0295
Using optical sensors for measuring blood gases, e.g. details of photometrical oximeters  A61B 5/14552

A61B 5/02427
{Details of sensor}

Definition statement
This place covers:
Details of optical sensors for detecting photoplethysmograph signals. Includes constructional details of sensors, arrangements of sensors in housings or probes.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Details of optical sensors specially adapted for measuring blood gases  A61B 5/14552
Details of optical sensors specially adapted for in-vivo measurements  A61B 2562/0233
A61B 5/02438
{with portable devices, e.g. worn by the patient}

Definition statement

This place covers:
All types of portable devices for detecting, measuring or recording pulse or heart rate. Heart rate devices may be worn on any part of the body or be incorporated in a portable device providing a non-medical function, e.g. a music player.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Arrangements of detecting, measuring or recording means where the sensors are mounted on worn items</th>
<th>A61B 5/6802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrangements of detecting, measuring or recording means where the sensors are mounted on a non-medical device</td>
<td>A61B 5/6887</td>
</tr>
<tr>
<td>Constructional details of apparatus, low-profile patch shaped housings</td>
<td>A61B 2560/04</td>
</tr>
<tr>
<td>Apparatus with built-in sensors</td>
<td>A61B 2560/0462</td>
</tr>
</tbody>
</table>

A61B 5/02444
{Details of sensor (A61B 5/02427 takes precedence)}

Definition statement

This place covers:
Details of sensors for measuring heart or pulse rate not covered by A61B 5/02416 or A61B 5/0245. For example, pressure sensors, strain gauges or accelerometers for measuring the tissue deformation due to the pulse wave. Includes sensor construction and arrangements of sensors in housings or probes.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Details of optical sensors for measuring heart rate</th>
<th>A61B 5/02427</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details of ECG sensors for measuring heart rate</td>
<td>A61B 5/0245</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Details of sensors specially adapted for in-vivo measurements | A61B 2562/00 |
A61B 5/0245
by using sensing means generating electric signals, {i.e. ECG signals}

Definition statement
This place covers:
Apparatus for measuring, detecting or recording the heart rate using the detection ECG signals.

References
Limiting references
This place does not cover:
Detecting specific parameters of the ECG cycle for diagnostic purposes A61B 5/0452

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Electrodes specially adapted for ECG</th>
<th>A61B 5/0408</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparatus with built-in electrodes</td>
<td>A61B 2560/0468</td>
</tr>
</tbody>
</table>

A61B 5/025
within occluders, e.g. responsive to Korotkoff sounds (electric stethoscopes A61B 7/04)

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Electric stethoscopes A61B 7/04

A61B 5/026
Measuring blood flow {(A61B 3/1233, A61B 3/1241 take precedence)}

Definition statement
This place covers:
Apparatus for measuring, detecting or recording blood flow or perfusion of blood in tissue. The extent of blood flow detected is not always given as a flow rate, e.g. in ml/s.

References
Limiting references
This place does not cover:
Apparatus, instrument for testing the eyes A61B 3/1233, A61B 3/1241
Measuring volume flow or mass flow in general G01F 1/00
Informative references
Attention is drawn to the following places, which may be of interest for search:

Controlling therapy by using blood flow rate

A61B 5/0265
using electromagnetic means, e.g. electromagnetic flowmeter

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Measuring volume flow or mass flow using electromagnetic flowmeters

A61B 5/027
using catheters

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Details of catheters for measuring

A61B 5/029
Measuring or recording blood output from the heart, e.g. minute volume
{(A61B 8/065 takes precedence)}

References
Limiting references
This place does not cover:

Measuring blood output from the heart using ultrasonic, sonic or infrasonic waves

A61B 8/065

Informative references
Attention is drawn to the following places, which may be of interest for search:

Controlling electrotherapy by using blood flow rate, e.g. blood velocity or cardiac output

A61N 1/36571
A61B 5/0295

using plethysmography, i.e. measuring the variations in the volume of a body part as modified by the circulation of blood therethrough, e.g. impedance plethysmography

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Device Description</th>
<th>CPC Classification</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detecting, measuring or recording devices for evaluating the respiratory organs by impedance pneumography</td>
<td>A61B 5/0809</td>
<td>A61B 5/0809</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Device Description</th>
<th>CPC Classification</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impedance plethysmography not specifically for determining blood flow or perfusion</td>
<td>A61B 5/0535</td>
<td>A61B 5/0535</td>
</tr>
<tr>
<td>Measuring volume of limbs, e.g. by plethysmography</td>
<td>A61B 5/1073</td>
<td>A61B 5/1073</td>
</tr>
</tbody>
</table>

A61B 5/03

Detecting, measuring or recording fluid pressure within the body other than blood pressure, e.g. cerebral pressure; {Measuring pressure in body tissues or organs (A61B 5/205 takes precedence)}

Definition statement
This place covers:

Apparatus for detecting, measuring or recording fluid pressure within any part of the body other than blood pressure of the heart or blood vessels.

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Device Description</th>
<th>CPC Classification</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining bladder or urethral pressure</td>
<td>A61B 5/205</td>
<td>A61B 5/205</td>
</tr>
<tr>
<td>Measuring fluid pressure by electric or magnetic pressure-sensitive elements in general</td>
<td>Q01L 9/00</td>
<td>Q01L 9/00</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Device Description</th>
<th>CPC Classification</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details of pressure sensors specially adapted for in-vivo measurements</td>
<td>A61B 2562/0247</td>
<td>A61B 2562/0247</td>
</tr>
</tbody>
</table>
A61B 5/031

{Intracranial pressure}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Measuring blood pressure by means inserted into the body | A61B 5/0215 |
| Constructional details of invasive sensing devices, e.g. burr holes | A61B 5/6864 |
| Catheters, e.g. for introducing media or drainage | A61M 25/00 |
| Devices for cerebrospinal drainage | A61M 27/006 |

A61B 5/036

{by means introduced into body tracts (A61B 5/032 and A61B 5/035 take precedence)}

References

Limiting references

This place does not cover:

| Detecting, measuring or recording spinal fluid pressure | A61B 5/032 |
| Detecting, measuring or recording uterine pressure using intra-uterine probes | A61B 5/035 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Measuring blood pressure by means inserted into the body | A61B 5/0215 |
| Constructional details of invasive sensing devices | A61B 5/6847 - A61B 5/6866 |
| Catheters, e.g. for introducing media or drainage | A61M 25/00 |

A61B 5/04

Measuring bioelectric signals of the body or parts thereof

Definition statement

This place covers:

Apparatus for measuring, detecting or recording bioelectric or biomagnetic signals generated by the body or parts thereof. The measurement does not require application of an electric current or voltage nor application of an electromagnetic or magnetic field. Apparatus for ambulatory or long-term monitoring of bioelectric signals. Apparatus for measuring combined with analysis of bioelectric signals for diagnosis.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Details of electrodes specially adapted for in-vivo measurements, e.g. for impedance measurements</th>
<th>A61B 2562/0209</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicinal preparations involving or responsive to electricity, magnetism or acoustic waves</td>
<td>A61K 9/0009</td>
</tr>
<tr>
<td>Controlling electrotherapy using a physiological parameter, e.g. heart potential</td>
<td>A61N 1/365</td>
</tr>
<tr>
<td>Electrotherapy combined with monitoring a physiological parameter</td>
<td>A61N 1/3702</td>
</tr>
<tr>
<td>Electrically-conducting adhesives</td>
<td>C09J 9/02</td>
</tr>
<tr>
<td>Indicating or recording in connection with measuring in general</td>
<td>G01D</td>
</tr>
<tr>
<td>Measuring or recording or electrical currents of voltages in general</td>
<td>G01R 13/00</td>
</tr>
<tr>
<td>Recording with possibility of play-back</td>
<td>G11B</td>
</tr>
<tr>
<td>ICT specially adapted for the operation of medical equipment or devices</td>
<td>G16H 40/60</td>
</tr>
<tr>
<td>ICT specially adapted for mining of medical data, e.g. analysing previous cases of other patients</td>
<td>G16H 50/70</td>
</tr>
<tr>
<td>Emergency protective circuit arrangements</td>
<td>H02H</td>
</tr>
<tr>
<td>Amplifiers</td>
<td>H03F</td>
</tr>
<tr>
<td>Interference or noise suppression in transmissions systems</td>
<td>H04B 15/00</td>
</tr>
</tbody>
</table>

A61B 5/04001

{adapted to neuroelectric signals, e.g. nerve impulses}

Definition statement

This place covers:
Apparatus for measuring, detecting or recording neuroelectric signal generated by nerves or the brain. For monitoring the brain, intracranial or intracortical electrodes are required.

References

Limiting references

This place does not cover:

Electroencephalographic signals detected on the surface of the scalp or head | A61B 5/0476 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

Electrodes for electrotherapy implanted or inserted into the body; for stimulating the brain; spinal or peripheral nerve electrodes; nerve electrodes not otherwise provided for | A61N 1/0529 - A61N 1/0539; A61N 1/0551 |
Special rules of classification

Apparatus for detecting, measuring or recording neuroelectric signals combined with stimulation of neural tissue is classified in A61B 5/04001 and the respective A61N subgroup.

A61B 5/04004

{Input circuits for EEG-, or EMG-signals}

Definition statement

This place covers:
Input circuits specially adapted for EEG or EMG signals, e.g. for filtering, amplification, switching.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Input circuits for ECG | A61B 5/0428 |

A61B 5/04005

{Detecting magnetic fields produced by bio-electric currents (measuring magnetic variables in general G01R 33/00)}

Definition statement

This place covers:
Apparatus and methods for detecting electromagnetic fields generated by the body or biomagnetic signals.

References

Limiting references

This place does not cover:

| Detecting, measuring or recording for diagnosis by means of electric currents or magnetic fields | A61B 5/05 |
| Measuring magnetic variables in general | G01R 33/00 |

A61B 5/04012

{Analysis of electro-cardiograms, electro-encephalograms, electro-myograms}

Definition statement

This place covers:
Signal analysis of electrocardiograms, electroencephalograms and electromyograms not covered in other subgroups usually to obtain diagnostically relevant information.
References

Limiting references
This place does not cover:

- Detecting specific parameters of the electrocardiograph cycle A61B 5/0452

Informative references
Attention is drawn to the following places, which may be of interest for search:

- Evaluating the central nervous system for particular diseases A61B 5/40
- Evaluating the musculoskeletal system A61B 5/45

A61B 5/04014
(by measuring frequency distribution using a set of filters (arrangements for analysing frequency spectra in general G01R 23/00))

References

Limiting references
This place does not cover:

- Frequency distribution of EEG A61B 5/048
- Arrangements for analysing frequency spectra in general G01R 23/00

A61B 5/0402
Electrocardiography, i.e. ECG

Definition statement
This place covers:

Apparatus for detecting, measuring or recording ECG signals on the surface of the body. Apparatus for detecting, measuring or recording electrograms from the heart surface or from within the heart. Apparatus for long-term or ambulatory monitoring of ECG. Apparatus for measuring ECG combined with analysis of the ECG to obtain a diagnosis.

References

Limiting references
This place does not cover:

- Remote monitoring of patient with the measured ECG signals being transmitted from the patient to a remote monitor or site A61B 5/0006

Informative references
Attention is drawn to the following places, which may be of interest for search:

- Controlling electrotherapy using a physiological parameter, e.g. heart potential A61N 1/365
A61B 5/0404

Hand-held devices

Definition statement

This place covers:
Hand-held or portable apparatus for detecting, measuring or recording ECG.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Apparatus with built-in electrodes | A61B 2560/0468 |

A61B 5/0408

Electrodes specially adapted therefor (for foetal cardiography A61B 5/0448; for electroencephalograph signals A61B 5/0478; for electromyography A61B 5/0492)

Definition statement

This place covers:
Constructional details of electrodes for detecting ECG.

References

Limiting references

This place does not cover:

| For foetal cardiography        | A61B 5/0448    |
| For electroencephalograph signals | A61B 5/0478 |
| For electromyography           | A61B 5/0492    |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Electrodes for detecting neural signals | A61B 5/04001 |
| Electrodes for bioimpedance measurements | A61B 5/053 - A61B 5/0537 ; A61B 2562/0209 |
| Probe or electrodes for electrosurgery | A61B 18/14    |
| Manufacturing methods specially adapated for producing electrodes | A61B 2562/125 |
| Electrodes for stimulation in electrotherapy | A61N 1/04 - A61N 1/0597 |

Special rules of classification

Where the electrode(s) is(are) adapted for both measuring and applying therapy classification in A61B 5/0408-A61B 5/0416 and the corresponding therapy or electrosurgical group takes place.
**A61B 5/04082**

{attached by means of suction}

References

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Means for maintaining contact with the body by using a vacuum | A61B 5/683 |

**A61B 5/04085**

{Multiple electrode holders (A61B 5/04286, A61B 5/0422 take precedence)}

Definition statement

*This place covers:*

Arrangements of multiple ECG electrodes mounted on a single substrate, e.g. a flexible strap. Arrangements of multiple electrodes joined by a cable. Arrangements of multiple ECG electrodes mounted or fixed on an item of clothing, e.g. vest.

References

*Limiting references*

*This place does not cover:*

| Multiple ECG electrode holders for introducing into the body | A61B 5/0422 |
| Patient cord assembly, e.g. cable harness | A61B 5/04286 |

**A61B 5/04087**

{using conductive adhesive means}

Definition statement

*This place covers:*

Conductive adhesive or gels for improving the electrical contact between the electrode and the skin or body surface.

References

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Adhesives characterised by being electroconductive | C09J 9/02 |
A61B 5/042

for introducing into the body

Definition statement

This place covers:
Details of ECG electrodes specially adapted to be introduced into the body. All types of apparatus, e.g. catheters, guidewires, probes or implanted devices for introducing ECG electrodes into the body. Electrodes for epicardial or endocardial measurements of ECG or electrograms.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Constructional details of invasive sensing devices</th>
<th>A61B 5/6847 - A61B 5/6866</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrodes for electrotherapy for implantation or insertion into the body, epicardial or endocardial electrodes</td>
<td>A61N 1/0587 - A61N 1/0597</td>
</tr>
</tbody>
</table>

A61B 5/0422

{Multiple electrode holders}

Definition statement

This place covers:
Multiple electrodes on a single holder, e.g. multiple electrodes on a catheter.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Sensors mounted on catheters | A61B 5/6852 |

A61B 5/0424

Protection against electrode failure

Definition statement

This place covers:
Apparatus for detecting electrode failure or electrode disconnection from patient. Also called lead failure.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Monitoring or maintaining sensor contact pressure | A61B 5/6843 |
A61B 5/04282
{using insulating or floating elements, e.g. transformers, opto-couplers
(transformers for specific applications H01F 38/00; amplifiers H03F; optocouplers H04B 10/80)}

Definition statement

This place covers:
Means for the electrical isolation of the the patient side electrodes from the mains power supply, e.g. using an isolation transformer or optocoupler.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Coupling light guides with opto-electronic elements | G02B 6/42 |
| Adoptions of transformers for specific applications of functions | H01F 38/00 |
| Amplifiers using electroluminescent element or photocell | H03F 17/00 |

A61B 5/04286

{Patient cord assembly, e.g. cable harness}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Arrangements of sensors with cables or leads, e.g. cable harnesses | A61B 2562/221 |

A61B 5/04288

{Switching circuits}

Definition statement

This place covers:
Apparatus for switching the connection of ECG leads to the monitor or analysis unit, e.g. using a multiplexer.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Modular apparatus with a separable interface unit, e.g. for transmission or switching signals | A61B 2560/045 |
A61B 5/0432
Recording apparatus specially adapted therefor

Definition statement
This place covers:
Recording apparatus specially adapted for long-term or ambulatory recording of ECG, e.g. 24 hour recording, Holter monitors.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Recording measured values | G01D 9/00 |

A61B 5/04325
{using integrated circuit memory devices}

Definition statement
This place covers:
Integrated circuit memory devices may be built into the device or may comprise removable memory chips, e.g. flash memory stick

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Solid state data loggers | G01D 9/005 |

A61B 5/044
Displays specially adapted therefor {arrangements for displaying electric variables or waveforms, e.g. cathode-ray oscilloscopes, G01R 13/00}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Arrangements for displaying electric variables or waveforms, e.g. cathode-ray oscilloscopes | G01R 13/00 |
| Output arrangements for digital computers, output to a display device | G06F 3/14 |
A61B 5/0448
Electrodes specially adapted therefor, e.g. scalp electrodes

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Sensors for measuring characteristics of blood specially adapted for foetal tissue</th>
<th>A61B 5/1464; A61B 5/1482</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchoring means for maintaining sensor contact with the body, e.g. barbs</td>
<td>A61B 5/6839</td>
</tr>
</tbody>
</table>

A61B 5/04485
{attached by means of suction}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Means for maintaining sensor contact with the body using a vacuum                     | A61B 5/6834 |

A61B 5/0452
Detecting specific parameters of the electrocardiograph cycle

Definition statement

This place covers:

Apparatus for detecting, measuring or recording ECG in combination with analysis of specific parameters of the electrocardiograph cycle in order to determine a diagnosis, e.g. analysis of ST segment elevation for determining ischaemia. Includes analysis of epicardial or endocardial electrograms for diagnosis.

References

Limiting references

This place does not cover:

| Methods or arrangements for recognising patterns in general                        | G06K 9/00     |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Controlling electrotherapy by using a physiological parameter, e.g. heart potential | A61N 1/365    |
A61B 5/0456
Detecting R peaks, e.g. for synchronising diagnostic apparatus {(physiological signal analysis for synchronising or triggering a measurement or image acquisition A61B 5/7285)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Circuit arrangements for obtaining a series of X-ray photographs | H05G 1/60 |

A61B 5/0464
Detecting tachycardia or bradycardia

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Devices provided with high/low alarm devices | A61B 5/02455 |

A61B 5/0476
Electroencephalography {(devices for psychotechnics A61B 5/16)}

Definition statement
This place covers:
Apparatus for detecting, measuring or recording electroencephalographic signals (EEG) for diagnosis. Apparatus for measuring combined with analysis of signals for determining a diagnosis, e.g. for determining a seizure.

References
Limiting references
This place does not cover:

| Devices for psychotechnics, e.g. for determining the psychological state | A61B 5/16 |
| Devices or methods to cause a change in the state of consciousness | A61M 21/00 |
| Input arrangements for computers based on nervous system activity, e.g. brain machine interfaces using EEG | G06F 3/015 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring a physiological parameter to provide biofeedback to a patient, e.g. to allow the patient to control brain waves | A61B 5/0482 |
| Evaluating the central nervous system | A61B 5/4076 |
| Measuring EEG of a patient during administration of therapy | A61M 2230/10 |
A61B 5/0478
Electrodes specially adapted therefor

References

Limiting references
This place does not cover:

Measuring neuroelectric signals, e.g. by using intracranial or intracortical electrodes
A61B 5/04001

A61B 5/048
Detecting the frequency distribution of signals {analyzing frequency spectra in general G01R 23/00}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

Analyzing frequency spectra in general G01R 23/00

A61B 5/0482
using biofeedback {biofeedback per se A61B 5/486}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

Biofeedback per se A61B 5/486

A61B 5/0484
using evoked response

Definition statement
This place covers:
Apparatus for detecting, measuring or recording EEG that has been evoked in response to the application of a stimulus.
A61B 5/04845
{acoustically or auditory}

Definition statement
This place covers:
Using a sound, acoustic or audible stimulus to evoke an EEG response.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Audiometering with electric or electronic apparatus, e.g. using evoked EEG response | A61B 5/12 |

A61B 5/0488
Electromyography

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Electrical operating or control means of prostheses implantable into the body | A61F 2002/482 |
| Electrical operating or control means of prostheses not implantable in the body, e.g. myoelectric | A61F 2/72 |

A61B 5/04888
{Control of prosthetics}

Definition statement
This place covers:
Detecting, measuring or recording EMG combined with analysis of the EMG signal in order to provide control of a prosthesis.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Bioelectric control of prosthesis | A61F 2/72 |
A61B 5/0492
Electrodes specially adapted therefor, e.g. needle electrodes

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring neuroelectric signals, e.g. using intracranial or intracortical electrodes | A61B 5/04001 |

A61B 5/0496
Electro-oculography, e.g. detecting nystagmus {(measuring or inducing nystagmus A61B 5/4863)}

Definition statement
This place covers:
Apparatus for detecting, measuring or recording electro-oculographic signals or electroretinographic signals.

References
Limiting references
This place does not cover:

| Measuring or inducing nystagmus | A61B 5/4863 |

A61B 5/05
Detecting, measuring or recording for diagnosis by means of electric currents or magnetic fields; {Measuring using microwaves or radiowaves} (A61B 5/02, A61B 5/04, A61B 5/11 take precedence)

Definition statement
This place covers:
Measurements carried out while applying a magnetic field, an electric field or an electromagnetic field, e.g.:
1) Magnetic induction tomography, note figure showing measurement coils, or

2) Measurements of microwaves modified by parts of the body.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detecting heart rate, blood flow etc.</td>
<td>A61B 5/02</td>
</tr>
<tr>
<td>EEG, ECG, EOG</td>
<td>A61B 5/04</td>
</tr>
<tr>
<td>Detecting movement of the body</td>
<td>A61B 5/11</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Features or image-related aspects of imaging apparatus</td>
<td>A61B 5/0033</td>
</tr>
<tr>
<td>Dental radiography</td>
<td>A61B 6/14</td>
</tr>
</tbody>
</table>

A61B 5/053

Measuring electrical impedance or conductance of a portion of the body

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining position of an invasive probe using impedance measurements</td>
<td>A61B 5/063</td>
</tr>
<tr>
<td>Measuring impedance in general</td>
<td>G01R 27/00</td>
</tr>
</tbody>
</table>
A61B 5/0531

{Measuring skin impedance}

**Definition statement**

This place covers:

Measuring skin impedance, conductance or resistance by applying a current or voltage to the skin.

![Diagram](image.png)

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Evaluating the autonomic nervous system | A61B 5/4035 |

A61B 5/0532

{specially adapted for acupuncture}

**Definition statement**

This place covers:

Using skin conductance measurement to detect acupuncture points

**References**

*Informative references*

A61B 5/0533

{Measuring galvanic skin response, e.g. by lie detector}

**Definition statement**

This place covers:

Measurements are carried out while presenting a stimulus (visual, auditory, auditive, etc.) to the subject of the examination
A61B 5/0534

{Testing vitality of teeth}

Definition statement

This place covers:
Conductance / impedance measurement on teeth

References

Limiting references

This place does not cover:

Dental radiography

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Evaluation of teeth in general | A61B 5/4547 |
| Sensors adapted for attachment to the mouth | A61B 5/682 |
| Measuring instruments specially adapted for dentistry | A61C 19/04 |
**A61B 5/0535**

{impedance plethysmography}

**Definition statement**

*This place covers:*

Detection of volume changes by impedance measurements

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Detection of electrical impedance of respiratory organs | A61B 5/0809 |
---|---|
**A61B 5/0536**

{Impedance imaging, e.g. by tomography}

**Definition statement**

*This place covers:*

Reconstruction of images of parts of the body by means of impedance measurements:
A61B 5/0537

{Measuring body composition by impedance, e.g. tissue hydration or fat content}

Definition statement

This place covers:

Fat content evaluation: measuring various parameters of body composition including body fat composition, lean body mass, body-fat ratio, tissue hydration, total body water, extracellular fluid volume etc..

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighing apparatus for diet control</td>
<td>G01G 19/4146</td>
</tr>
<tr>
<td>ICT specially adapted for therapies or health-improving plans (e.g. for handling prescriptions, for steering therapy or for monitoring patient compliance) relating to nutrition control (e.g. diets)</td>
<td>G16H 20/60</td>
</tr>
</tbody>
</table>
**A61B 5/055**

involving electronic [EMR] or nuclear [NMR] magnetic resonance, e.g. magnetic resonance imaging

**Definition statement**

This place covers:

**A61B 5/055** mainly covers the relationship between magnetic resonance apparatus (NMR, MRS, MRI, fMRI etc.) and other devices classified in **A61B 5/00**. This subgroup does not include specific MR arrangements and MR processes as such which are already covered in **G01R 33/20**, however includes documents where the diagnostic application of MR predominates rather than the system details or the details of the MR process. The following image shows an example of an MRI device with arterial tone measurement output.

![MRI Device with Arterial Tone Measurement](image)

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Feature / Description</th>
<th>Class Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Features or image-related aspects of imaging apparatus</td>
<td>A61B 5/0033</td>
</tr>
<tr>
<td>Adapted for image acquisition of a particular organ or body part</td>
<td>A61B 5/004</td>
</tr>
<tr>
<td>Diagnosing of monitoring cognitive diseases, e.g. Alzheimer, prion diseases or dementia</td>
<td>A61B 5/4088</td>
</tr>
<tr>
<td>Touch or pain perception evaluation</td>
<td>A61B 5/4824</td>
</tr>
<tr>
<td>Surgical systems with NMR or MRI images on a monitor during operation</td>
<td>A61B 2090/374</td>
</tr>
<tr>
<td>In vivo contrast agents</td>
<td>A61K 49/00</td>
</tr>
<tr>
<td>Arrangements or instruments for measuring magnetic variables involving electronic or nuclear magnetic resonance, in general</td>
<td>G01R 33/20</td>
</tr>
<tr>
<td>Invasive instruments, e.g. catheters or biopsy needles, specially adapted for tracking, guiding or visualization by NMR</td>
<td>G01R 33/285</td>
</tr>
<tr>
<td>Using nuclear magnetic resonance [NMR]</td>
<td>G01R 33/44</td>
</tr>
</tbody>
</table>
With selection of signals or spectra from particular regions of the volume, e.g. in vivo spectroscopy | G01R 33/483
---|---
Signal processing systems, e.g. using pulse sequences | G01R 33/54
Image enhancement or correction, e.g. subtraction or averaging techniques, e.g. improvement of signal-to-noise ratio and resolution | G01R 33/56

**Special rules of classification**

There is an overlap between the scope of G01R 33/20 (or its relevant subgroup) and A61B 5/055 in the sense that, depending on the disclosure of a given document, the document may have to be classified in G01R 33/20 (or its relevant subgroup) only, in A61B 5/055 only or in both places.

For instance:
- if the invention information of a document to be classified is primarily directed to the MR process as such (e.g. a novel pulse sequence which, according to the document, facilitates the diagnosis of a disease on the basis of the resulting MR images wherein the document merely mentions the diagnosis but does not specifically disclose its implementation in detail), the document should be classified in G01R 33/20 (or its relevant subgroup) only and the additional information related to the diagnosis may be classified using the appropriate Indexing Code corresponding to A61B 5/055.
- if the invention information of the document is primarily directed to the diagnosis as such (e.g. a novel way of processing MRI data in order to enable the diagnosis of a disease wherein the MRI data was acquired using a commonly known standard MRI technique), the document should be classified in A61B 5/055 only.
- documents where the focus lies in diagnostic features as well as in technical details of the MR apparatus or details of the MR process should be classified in both A61B 5/055 and G01R 33/20.

**A61B 5/055**

{Means for positioning of patients (for radiation diagnosis or therapy A61B 6/04)}

**Definition statement**

*This place covers:*

Positioning of patients in NMR or MRI apparatus including patient support tables, chairs and body restraints.

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Positioning of patients in x-ray apparatus | A61B 6/04 |
A61B 5/06

Devices, other than using radiation, for detecting or locating foreign bodies (for removing same A61B 17/50){; determining position of probes within or on the body of the patient}

Definition statement

This place covers:

Position sensors on a probe to detect relative positions of different components

Sensor 50 is configured to provide position data for the emitter 56 and detector 57.

Sensor 50 comprises a sensor body that includes the emitter 56, detector 57, and one or more position indicators 58 and 60

References

Limiting references

This place does not cover:

| Tracking foreign bodies using x-ray | A61B 6/12 |
| Tracking foreign bodies using ultrasound | A61B 8/0833 |
| Instruments for removing foreign bodies | A61B 17/50 |

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| Foreign body | 1) Sensing probe inserted in the human or animal body, e.g. catheter, endoscope, implant 2) External sensing probe |
A61B 5/061

{Determining position of a probe within the body employing means separate from the probe, e.g. sensing internal probe position employing impedance electrodes on the surface of the body (A61B 1/00158 takes precedence)}

Definition statement

This place covers:
External tracking device detecting position of:

1) Invasive probes comprising position indicating element
2) Markers placed on the surface of the body

References

Limiting references

This place does not cover:

Endoscope provided with position sensors, e.g. internally mounted  A61B 1/00158

A61B 5/062

{using magnetic field}

Definition statement

This place covers:
Probes comprising magnet or electromagnetic coil

WO 2010/049854

[Diagram of a probe with labeled parts and arrows indicating optical probe distal end and position measuring coil]
References

Limiting references
This place does not cover:

MRI tracking of surgical probes  \[\text{G01R 33/287}\]

Informative references
Attention is drawn to the following places, which may be of interest for search:

Electromagnetic tracking of surgical instruments  \[\text{A61B 2034/2051}\]

A61B 5/063

{using impedance measurements}

Definition statement
This place covers:
Impedance measurement means for detecting the position of an invasive probe
The coordinates of a catheter inside the body are determined by passing currents between catheter electrodes 60, 62 and body surface electrodes 30.

**US 2008/221643**

**A61B 5/064**

{using markers *(A61B 5/062 takes precedence)*}

**Definition statement**

*This place covers:*

1) Detecting position of markers associated with a sensor, the markers being placed on the surface of the body of the patient.
2) Tracking position of markers associated with an invasive probe

US 2016/069784

The position and movement of the tracking members are tracked by the control unit 14. The pressure sensors in rings 18a-18i serve as the tracking members.

References

Limiting references

This place does not cover:

Using magnetic fields

A61B 5/062

A61B 5/065

{Determining position of the probe employing exclusively positioning means located on or in the probe, e.g. using position sensors arranged on the probe}

Definition statement

This place covers:

The probe is provided with means for detecting its own position within the body

EP 1 508 300
Position sensors detect positions relative to their own reference frame, e.g., gyroscopes, accelerometers.

**A61B 5/066**

{Superposing sensor position on an image of the patient, e.g. obtained by ultrasound or x-ray imaging}

**Definition statement**

*This place covers:*

Registration of pre-operative images with detected positions of a probe.

**References**

**Limiting references**

*This place does not cover:*

- MRI tracking of interventional instruments
  
**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

- X-ray detection of foreign bodies
- Ultrasound detection of foreign bodies
- Visualisation of surgical instruments using MRI
A61B 5/07
Endoradiosondes

Definition statement
This place covers:
Wireless data transmission between probe within the body and external monitor

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Transmission of endoscopic image data</th>
<th>A61B 1/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission of measured data from implanted circuitry</td>
<td>A61B 5/0031</td>
</tr>
</tbody>
</table>

A61B 5/073
{Intestinal transmitters}

Definition statement
This place covers:
Swallowed capsules travelling through the GI system

US 6 929 635
A61B 5/076

{Permanent implantations (telemetry using implanted circuitry A61B 5/0031; implanted stimulators for therapy A61N 1/3605, A61N 1/362, A61N 1/372)}

Definition statement

This place covers:

Implanted devices that are attached or anchored to the internal body tissue so that movement of the device from the place of attachment does not occur.

Using clips, sensor 10 may be held at a fixed position in the GI tract.

Device 10 uses a wireless communication protocol to transmit data to monitor 14

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Implants for transcutaneous transmission | A61B 5/0031 |
| Evaluation of respiratory rate in general | A61B 5/08 |
| Implanted stimulators | A61N 1/362, A61N 1/372 |

A61B 5/08

Detecting, measuring or recording devices for evaluating the respiratory organs (A61B 5/0205 takes precedence)

Definition statement

This place covers:

Evaluation of the respiratory system.
References

Limiting references

This place does not cover:

| Simultaneously evaluating both cardiovascular conditions and different types of body conditions | A61B 5/0205 |

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| Mechanical impedance of respiratory organs | Ratio of the measured air pressure and air flow at the mouth of the patient |
| Electrical impedance of respiratory organs  | Ratio of voltage applied to respiratory organs and current flow |

A61B 5/0803

{Recording apparatus specially adapted therefor}

Definition statement

This place covers:

Apparatus for recording respiratory parameters, e.g. portable devices for ambulatory recording.

A61B 5/0806

{by whole-body plethysmography (measuring blood flow using plethysmography A61B 5/0295; impedance plethysmography A61B 5/053; measuring volume of the body or parts thereof A61B 5/1073)}

Definition statement

This place covers:

Evaluating volume changes due to respiration
1) by measuring changes of spatial dimensions:

2) by measuring pressure changes in a closed chamber

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Evaluation of respiratory rate in general</th>
<th>A61B 5/0816</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring movement due to respiration</td>
<td>A61B 5/113</td>
</tr>
</tbody>
</table>
A61B 5/0809
{by impedance pneumography}

Definition statement

This place covers:
Detection of electrical impedance of respiratory organs

IP (impedance pneumography) circuit 27 25 generates a current that is modulated at a high frequency (typically 50-100 kHz). The current passes through electrode LL 24. It then propagates through the patient's chest, as indicated by the arrow 29, where a respiration-induced capacitance change modulates it according to the RR.

Electrode UR 20 detects the resultant analog signal, which is then processed within the IP circuit to determine an analog IP waveform 30 featuring a low-frequency series of pulses corresponding to RR.

The analog filters in the IP circuit 27 are chosen to filter out high-frequency components that contribute to the ECG QRS complex.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Impedance plethysmography in general | A61B 5/0535 |
| Detecting respiration rate in general | A61B 5/0816 |
A61B 5/0813

{Measurement of pulmonary parameters by tracers, e.g. radioactive tracers}

Definition statement

This place covers:
1) Evaluation of tracer quantity absorbed by the lungs
2) Inhalators for tracers to be detected by imaging devices, e.g. MRI, PET

References

Limiting references

This place does not cover:

Breath analysis A61B 5/082

Informative references

Attention is drawn to the following places, which may be of interest for search:

Breath test in general A61B 5/083
Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracer</td>
<td>Composition, e.g. aerosol, which is mixed with inhaled air and detected after exhalation</td>
</tr>
</tbody>
</table>

A61B 5/0816

{Measuring devices for examining respiratory frequency (measuring frequency of electric signals G01R 23/00)}

Definition statement

This place covers:
Detection of respiratory signals, e.g.:
using photoplethysmography, i.e. a signal provided by a pulse oximeter on a body part, e.g. finger, ear

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Detection of respiratory signals</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detect changes of body volume due to respiration</td>
<td>A61B 5/0806, A61B 5/113</td>
</tr>
<tr>
<td>Detect respiratory signals using electrical impedance measurements</td>
<td>A61B 5/0809, A61B 5/0535</td>
</tr>
<tr>
<td>Detect respiratory sounds</td>
<td>A61B 7/003</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Measuring frequency of electric signals</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring frequency of electric signals</td>
<td>G01R 23/00</td>
</tr>
</tbody>
</table>
**A61B 5/082**

{Evaluation by breath analysis, e.g. determination of the chemical composition of exhaled breath ([A61B 5/083], [A61B 5/091] take precedence)}

**Definition statement**

*This place covers:*

Detection of chemical composition of exhaled breath.

Not relating to lung function.

**References**

**Limiting references**

*This place does not cover:*

| Evaluation of lung function | [A61B 5/083], [A61B 5/085] |
| Determination of instantaneous concentration of a component of inhaled/exhaled air in order to determine breath flow | [A61B 5/087] |

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Gas analysers | G01N 33/0009 |
| Breath analysis in general | G01N 33/497 |
**A61B 5/0823**

(Detecting or evaluating cough events)

**Definition statement**

*This place covers:*

Detect cough events which may be spontaneous coughing events or where the patient is asked to voluntarily cough:

![Diagram of cough detection process]

**US 2007/276278**

Evaluate cough event:

![Diagram of cough evaluation process]

**US 2011/015535**

**A61B 5/0826**

(Detecting or evaluating apnoea events *(A61B 5/4818 takes precedence)*)

**Definition statement**

*This place covers:*

Detection of all types of apnoea events, e.g. cessation of breathing (apnoea), shallow breathing (hypopnea), fast deep breathing (hypernoea), Cheynes-Stokes respiration etc.
**A61B 5/083**

Measuring rate of metabolism by using breath test, e.g. measuring rate of oxygen consumption

**Definition statement**

This place covers:

Breath test specially adapted to detect rate of metabolism. For example, properties of exhaled gas are compared to properties of inhaled air.

References

**Limiting references**

This place does not cover:

- Detect a tracer mixed in inhaled gas
- Determination of instantaneous concentration of a component of inhaled/exhaled air in order to determine breath flow
Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detect chemical composition of exhaled gas by breath test in general</td>
<td>A61B 5/082</td>
</tr>
<tr>
<td>Gas analysers</td>
<td>G01N 33/0009</td>
</tr>
<tr>
<td>Breath analysis in general</td>
<td>G01N 33/497</td>
</tr>
</tbody>
</table>

A61B 5/0833

{Measuring rate of oxygen consumption}

Definition statement

This place covers:
Evaluation of O2 uptake from breath analysis.

A61B 5/0836

{Measuring rate of CO₂ production}

Definition statement

This place covers:
Evaluation of CO2 release.

A61B 5/085

Measuring impedance of respiratory organs or lung elasticity

Definition statement

This place covers:
Detection of mechanical impedance of respiratory organs.

\[
z(t) = \frac{p(t)}{q(t)}
\]
**Glossary of terms**

*In this place, the following terms or expressions are used with the meaning indicated:*

| Term |
|----------------------------------|----------------------------------|
| Mechanical impedance of respiratory organs | Ratio of the measured air pressure and air flow at the mouth of the patient |
| Electrical impedance of respiratory organs | Ratio of voltage applied to respiratory organs and current flow |

**A61B 5/087**

**Measuring breath flow**

**Definition statement**

*This place covers:*

Evaluate breath flow

![Diagram of breath flow measurement](image)

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detect breath flow in order to evaluate lung impedance parameters</td>
</tr>
<tr>
<td>Ventilators provided with means for detecting breath flow</td>
</tr>
</tbody>
</table>
**A61B 5/0871**

**{Peak expiratory flowmeters}**

**Definition statement**

*This place covers:*

Detectors of maximum air flow

---

| EP 857 459 |

The pointer 4 is entrained along its slot 6 by the exhaled air flow. When the exhalation ends friction retains the pointer 4 in its displaced position to indicate a peak flow value against a scale 8 marked along the slot.

**References**

**Limiting references**

*This place does not cover:*

| Spirometers in general, wherein it is possible to calculate peak flow | A61B 5/087 |
A61B 5/0873
{using optical means}

**Definition statement**

*This place covers:*

Detection of breath flow using optical sensors. The optical sensor is placed in or by the flow path.

The detector 40 generates an electrical signal that is related to the radiant power falling on it. The detector senses the breath exhaled into the volume 16 close to the patient's mouth and nose.

The signal processing circuit 48 examines the electrical signal 44 to determine whether it varies in a manner that indicates the patient is breathing.
A61B 5/0875

{using means carried by the fluid stream, e.g. free floating balls}

Definition statement

This place covers:
E.g. for indicating flow level for breath training.

US 4 425 923

Object 29 is raised in tube 26 according to exhalation effort of the patient.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Flow meters adapted to indicate specifically the maximum value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61B 5/087</td>
</tr>
</tbody>
</table>
**A61B 5/0876**

{using means deflected by the fluid stream, e.g. flaps}

**Definition statement**

*This place covers:*

![Diagram](image1)

US 2007/131279

Flaps 16, 18 are deflectable in response to breath flow 25.

**A61B 5/0878**

{using temperature sensing means}

**Definition statement**

*This place covers:*

![Diagram](image2)

US 2004/040386

A filament 34 is secured to the ends of the four pins 32.

The filament 34 is used to measure the flow rate of the fluid 26 based on its power consumption.
A61B 5/09

using an element rotated by the flow \{(toys actuated by air current A63H 33/40)\}

Definition statement

This place covers:

An optical detector detects rotor movement to evaluate air flow

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Toys actuated by air current</th>
<th>A63H 33/40</th>
</tr>
</thead>
</table>

A61B 5/097

Devices for facilitating collection of breath or for directing breath into or through measuring devices

Definition statement

This place covers:
A61B 5/103
Detecting, measuring or recording devices for testing the shape, pattern, {colour,} size or movement of the body or parts thereof, for diagnostic purposes (A61B 5/08 takes precedence; measuring aids for tailors A41H 1/00; measuring instruments specially adapted for dentistry A61C 19/04)

Definition statement
This place covers:
Detecting spatial properties of the human or animal body, e.g. lengths, areas, volumes, angles, velocities, accelerations, weights

References
Limiting references
This place does not cover:
Detecting, measuring or recording devices for evaluating the respiratory organs A61B 5/08

Informative references
Attention is drawn to the following places, which may be of interest for search:
Measuring instruments specially adapted for dentistry A61C 19/04
Measuring aids for tailors A61H 1/00
Analysis of geometric features (lengths, area, volume) from images G06T 7/60
A61B 5/1032
{Determining colour for diagnostic purposes (measuring colour in general G01J 3/46)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 5/1032

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring colour in general | G01J 3/46 |

US 6 129 664
A61B 5/1034
{by means of colour cards}

Definition statement

This place covers:
Assessing body features by comparison with colour patterns or atlases

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Colour charts in general | G01J 3/52 |

WO 2010/100032
A61B 5/1036
{Measuring load distribution, e.g. podologic studies}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 5/1036

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Gait analysis</th>
<th>A61B 5/112</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparatus for weighing persons</td>
<td>G01G 19/44</td>
</tr>
</tbody>
</table>

A61B 5/107
Measuring physical dimensions, e.g. size of the entire body or parts thereof

Definition statement
This place covers:
Measuring spatial dimensions: distances (e.g. length, depth, thickness), angles, areas, volumes etc.
By detecting marker positions:

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Measuring distance in general | G01B 5/00 |

A61B 5/1071

{measuring angles, e.g. using goniometers (A61B 5/1123 takes precedence)}

Definition statement

This place covers:

Measurements of angles
Angle measuring device 6 comprising light source 7 and light detector 8

Processing module is enabled to calculate, from the ratio between the power entered into the light source 7 and the power received by the light detector 8, an angle between the first and second member

References

Limiting references

This place does not cover:

| Discriminating types of movement | A61B 5/1123 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Goniometers in general | G01B 3/56, G01B 7/30 |

A61B 5/1072

{measuring distances on the body, e.g. measuring length, height or thickness (A61B 5/1076 takes precedence)}

Definition statement

This place covers:

Rulers, tapes, height measuring device for direct measurement on the body

WO 03/048678
A61B 5/1072 (continued)

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring interpupillary distance</td>
<td>A61B 3/11</td>
</tr>
<tr>
<td>Measuring dimensions inside body cavities</td>
<td>A61B 5/1076</td>
</tr>
</tbody>
</table>

A61B 5/1073

(Measuring volume, e.g. of limbs)

Definition statement

This place covers:

The arm has been segmented into discrete volumes C1-C10

Circumference measurement is taken at the intersection of each linear segment of centerline 10.

Evaluate changes in the arm volume over time.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plethysmography for blood flow assessment based on vessel volume changes</td>
<td>A61B 5/0295</td>
</tr>
<tr>
<td>Impedance plethysmography</td>
<td>A61B 5/0535</td>
</tr>
<tr>
<td>Whole-body plethysmography for respiration assessment based on chest volume changes</td>
<td>A61B 5/0806</td>
</tr>
</tbody>
</table>
Impedance pneumography  A61B 5/0809
Measuring bladder volume  A61B 5/204

A61B 5/1075
{for measuring dimensions by non-invasive methods, e.g. for determining thickness of tissue layer (A61B 8/0858 takes precedence)}

Definition statement
This place covers:
All types of apparatus for measuring dimensions non-invasively, e.g. calipers, gauges, templates for measuring on patient images. Also, includes imaging apparatus with measuring scales projected on the image or cursors allowing dimensions to be read from an image.

References

Limiting references
This place does not cover:
Endoradiosondes by impedance pneumography  A61B 5/0809

A61B 5/1076
{for measuring dimensions inside body cavities, e.g. using catheters (A61B 3/1005 takes precedence)}

Definition statement
This place covers:
Rulers, height measuring devices for direct measurement inside the body

US 2006/258961

References

Limiting references
This place does not cover:
Measuring distances inside the eye, e.g. thickness of the cornea  A61B 3/1005
Measuring interpupillary distance  A61B 3/11
Measuring dimensions on the body cavities  A61B 5/1072
A61B 5/1077
{Measuring of profiles}

Definition statement

This place covers:
Detect 2- or 3-dimensional contour or profile or shape of objects, e.g. using mechanical elements brought into contact with the body surface:

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th></th>
<th>A61B 5/0064</th>
<th>A61B 5/1073</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical shape detection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measuring volumes of body parts</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LEG MEASUREMENT

POINT OF ROTATION
A61B 5/1078
{by moulding}

Definition statement

This place covers:
Detecting impressions of body parts

WO 2004/071297

A61B 5/11

Measuring movement of the entire body or parts thereof, e.g. head or hand tremor, mobility of a limb (for measuring pulse A61B 5/02 ; A61B 5/1038 takes precedence; motion detection to correct for motion artifacts in physiological signals A61B 5/721))

Definition statement

This place covers:
Measurement of movement includes the determination of any change in position or orientation, it is not mandatory that a velocity or acceleration is measured.

References

Limiting references

This place does not cover:

| Detecting, measuring or recording pulse rate or heart rate | A61B 5/024 |
| Electromyography | A61B 5/0488 |
| Plethysmography | A61B 5/0535, A61B 5/0806 |
| Measuring movement of foreign bodies, e.g. tracking of catheters | A61B 5/06, A61B 6/12, A61B 8/0833, A61B 34/20 |
| Detecting, measuring or recording respiratory frequency | A61B 5/0816 |
| Testing reaction times | A61B 5/162 |
| Ergometry or measuring muscular strength | A61B 5/22 |
The preceding exclusions apply only in so far as they are not used for measuring movement, such as, e.g. **A61B 5/113**, or based on measuring movement, e.g. measurement of movement of a finger for determining reaction times.

<table>
<thead>
<tr>
<th>Activity</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring for testing the shape, pattern, size or movement of the body or parts thereof for podologic studies during locomotion</td>
<td>A61B 5/1038</td>
</tr>
<tr>
<td>Measuring movement for compensation of motion artefacts</td>
<td>A61B 5/721</td>
</tr>
</tbody>
</table>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Activity</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring eye movement, e.g. using eye trackers</td>
<td>A61B 3/113</td>
</tr>
<tr>
<td>Measuring circulation of blood, e.g. blood flow</td>
<td>A61B 5/026, A61B 6/504, A61B 8/06</td>
</tr>
<tr>
<td>Electrooculography</td>
<td>A61B 5/0496</td>
</tr>
<tr>
<td>Measuring or inducing nystagmus</td>
<td>A61B 5/4863</td>
</tr>
<tr>
<td>Detecting organic movements or changes using ultrasonic, sonic or infrasonic waves</td>
<td>A61B 8/08</td>
</tr>
<tr>
<td>Pleximeters</td>
<td>A61B 9/00</td>
</tr>
<tr>
<td>Measuring movement in general</td>
<td>G01, e.g. G01P, G01C or G01B</td>
</tr>
</tbody>
</table>

**A61B 5/1104**

{induced by stimuli or drugs; (**A61B 5/1102** takes precedence; investigating medicinal preparations **G01N 33/15**)}

**References**

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Activity</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballistocardiography</td>
<td>A61B 5/1102</td>
</tr>
</tbody>
</table>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Activity</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigating medicinal preparations</td>
<td>G01N 33/15</td>
</tr>
</tbody>
</table>

**A61B 5/1107**

{Measuring contraction of parts of the body, e.g. organ, muscle (apparatus for measuring work or force in general **G01L**)}

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Activity</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparatus for measuring work or force in general</td>
<td>G01L</td>
</tr>
</tbody>
</table>
A61B 5/1112
{Global tracking of patients, e.g. by using GPS}

Definition statement
This place covers:
Patient monitors including means for global position determination, localizing a patient world-wide.

A61B 5/1113
{Local tracking of patients, e.g. in a hospital or private home}

Definition statement
This place covers:
Patient monitors including means for local position determination, e.g. in hospitals, rooms, imaging apparatus.

A61B 5/1116
{Determining posture transitions}

Definition statement
This place covers:
Includes posture transitions from standing to sitting to lying down, etc.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Controlling electrical heart stimulation by body motion |

A61B 5/1117
{Fall detection}

Definition statement
This place covers:
Patient position sensing/monitoring with sensors, e.g. carried on the patient, e.g. 3D sensors, mercury switches, for indicating (change to) prone/lying position probably from a fall. May be combined with a timer/physiological sensors/alarm (to remote station). Includes devices for monitoring fall from bed.

A61B 5/1118
{Determining activity level}

Definition statement
This place covers:
Determining a parameter indicative of the degree of overall activity of a subject, e.g. for use in determining caloric consumption.
Special rules of classification
When metabolism is evaluated, e.g. caloric expenditure determined, A61B 5/4866 should additionally be given.

A61B 5/1121
{Determining geometric values, e.g. centre of rotation or angular range of movement}

References
Limiting references
This place does not cover:

| Gait analysis | A61B 5/112 |

A61B 5/1123
{Discriminating type of movement, e.g. walking or running (A61B 5/1116, A61B 5/112 take precedence)}

References
Limiting references
This place does not cover:

| Determining posture transition | A61B 5/1116 |
| Gait analysis | A61B 5/112 |

A61B 5/1124
{Determining motor skills}

Definition statement
This place covers:
Evaluating the degree of mastering a particular task in the form of a specific movement or sequence of movements. In particular for rehabilitation or assessing development of infants.

A61B 5/1126
{using a particular sensing technique}

Definition statement
This place covers:
Details of sensing techniques adapted for measuring movement other than those mentioned in A61B 5/1127 and A61B 5/1128.
References

Informative references
Attention is drawn to the following places, which may be of interest for search:

- Inertial sensors used for measuring movement
  - A61B 2562/0219

A61B 5/1127

{using markers}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

- Markers for medical use
  - A61B 90/39

A61B 5/1128

{using image analysis (A61B 5/1127 takes precedence)}

References

Limiting references
This place does not cover:

- Using markers
  - A61B 5/1127

Informative references
Attention is drawn to the following places, which may be of interest for search:

- Extraction of features from images
  - G06K 9/46
- Analysis of motion in images
  - G06T 7/20

A61B 5/117

Identification of persons (methods or arrangements for recognising patterns, e.g. fingerprints, G06K 9/00; identification of persons by analysing their voice or speech G10L 17/00)

Definition statement
This place covers:
Means for distinguishing one person from another

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

- Dental impression cups or articulators
  - A61C 9/00, A61C 11/00
Pattern recognition, e.g. for recognising fingerprints
Identification tags

A61B 5/1172
using fingerprinting

Definition statement
This place covers:
Apparatus and methods for taking fingerprints from a person. Includes developing latent fingerprints for forensic purposes.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

A61B 5/12
Audiometering {Evaluation or the auditory system, not limited to hearing capacity (A61B 5/0485, A61B 5/4023 take precedence)}

Definition statement
This place covers:
Evaluating the hearing system

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Otoscopes</th>
<th>A61B 1/227</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEG detecting auditory evoked potentials</td>
<td>A61B 5/0485</td>
</tr>
<tr>
<td>Evaluating sense of balance</td>
<td>A61B 5/4023</td>
</tr>
<tr>
<td>Hearing aid devices</td>
<td>A61F 11/008, H04R 25/00</td>
</tr>
<tr>
<td>Testing of hearing device using in-hear measurements</td>
<td>H04R 29/00</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

Tinnitus treatment

A61F 11/00, H04R 25/75
**A61B 5/121**

{evaluating hearing capacity}

**Definition statement**

This place covers:
Evaluate hearing

**A61B 5/123**

{subjective methods}

**Definition statement**

This place covers:
Evaluation of the hearing without technical means for detecting an auditory characteristics, e.g.:

Vibrating unit for stimulating the ear canal. No sensor is provided:

**US 2011/166473**
Feedback is provided by the patient by, e.g., a response button:

**Definition statement**

*This place covers:*

Detecting physiological response, e.g. EEG, to auditory stimuli:

1) **stimulation**

2) **detection**

3) **evaluation**
A61B 5/126
{measuring compliance or mechanical impedance of the tympanic membrane}

Definition statement
This place covers:
Tympanometer (detects acoustic response to a sound generated into the ear canal)

Measuring acoustic impedance (frequency response) of the outer ear in general:

US 2011/100127

1) sound stimulus

2) detect acoustic response from outer ear
A61B 5/128
{evaluating tinnitus}

Definition statement
This place covers:
Apparatus for detecting, testing, evaluating or measuring tinnitus comprising a generator for generating tinnitus masking sound based on the detected tinnitus features

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masking sound in general</td>
<td>G10K 11/175</td>
</tr>
<tr>
<td>Deaf-aid sets that provide electric tinnitus maskers</td>
<td>H04R 25/75</td>
</tr>
</tbody>
</table>

A61B 5/145
Measuring characteristics of blood in vivo, e.g. gas concentration, pH value; {Measuring characteristics of body fluids or tissues, e.g. interstitial fluid, cerebral tissue} {measuring of blood pressure or blood flow A61B 5/02; non-radiation detecting or locating of foreign bodies in blood A61B 5/06}

Definition statement
This place covers:
Apparatus for detecting, measuring or recording characteristics of blood, body fluids or tissues in-vivo. Determining chemical characteristics, e.g. measuring the concentration of an analyte. Determining constituents of blood or body fluids, e.g. haematocrit. The measurement is performed on the body, i.e. in-vivo, or immediately after a sample of body fluid has been obtained, e.g. by lancet.
### References

#### Limiting references

**This place does not cover:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detecting, measuring or recording for diagnosis using light, e.g. detecting</td>
<td>A61B 5/0059</td>
</tr>
<tr>
<td>cancer, fatty tissue</td>
<td></td>
</tr>
<tr>
<td>Measuring blood pressure or blood flow</td>
<td>A61B 5/02</td>
</tr>
<tr>
<td>Non-radiation detecting or locating of foreign bodies in blood</td>
<td>A61B 5/06</td>
</tr>
<tr>
<td>Investigating or analysing materials by determining their chemical or</td>
<td>G01N</td>
</tr>
<tr>
<td>physical properties in general</td>
<td></td>
</tr>
<tr>
<td>Investigating or analysing biological material in vitro, physical analysis</td>
<td>G01N 33/483</td>
</tr>
<tr>
<td>Chemical analysis of biological material</td>
<td>G01N 33/50</td>
</tr>
</tbody>
</table>

#### Informative references

**Attention is drawn to the following places, which may be of interest for search:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring blood composition characteristics of a patient undergoing</td>
<td>A61M 2230/20</td>
</tr>
<tr>
<td>therapy, e.g. for controlling the administration of therapy</td>
<td></td>
</tr>
<tr>
<td>Controlling electrotherapy using a parameter of a chemical substance in</td>
<td>A61N 1/36557</td>
</tr>
<tr>
<td>blood</td>
<td></td>
</tr>
<tr>
<td>Measuring blood composition characteristics of a user of sports apparatus</td>
<td>A63B 2230/20</td>
</tr>
</tbody>
</table>

#### Special rules of classification

Combinations of several characteristics are common. Classification in more than one EC subgroup takes place if the apparatus is specially adapted for detecting, measuring or recording a particular characteristic. An indexing code is used where a characteristic is explicitly mentioned, but no details of specially adapted apparatus are given.

**A61B 5/14503**

{invasive, e.g. introduced into the body by a catheter or needle or using implanted sensors ([A61B 5/1459], [A61B 5/1464], [A61B 5/1473], [A61B 5/1482], [A61B 5/14865] take precedence)}

### References

#### Limiting references

**This place does not cover:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using invasive optical sensors</td>
<td>A61B 5/1459</td>
</tr>
<tr>
<td>Optical sensors specially adapted for foetal tissue</td>
<td>A61B 5/1464</td>
</tr>
<tr>
<td>Using invasive chemical or electrochemical sensors</td>
<td>A61B 5/1473</td>
</tr>
<tr>
<td>Chemical or electrochemical sensors specially adapted for foetal tissue</td>
<td>A61B 5/1482</td>
</tr>
<tr>
<td>Using invasive enzyme electrodes</td>
<td>A61B 5/14865</td>
</tr>
</tbody>
</table>
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Constructional details of invasive sensing devices | A61B 5/6847 |
| Catheters, e.g. for introducing media or for drainage | A61M 25/00 |

A61B 5/14532
{for measuring glucose, e.g. by tissue impedance measurement}

Definition statement
This place covers:
Apparatus for detecting, measuring or recording glucose. Apparatus for continual monitoring of glucose with analysis of glucose data to determine trends, e.g. to optimise insulin administration. Apparatus for measuring glucose in combination with an insulin pump. Apparatus for glucose measurement in-vivo or combination with fluid or blood sampling where the measurement is made immediately after sampling the fluid, e.g. by lancet.

Relationships with other classification places
A61B 5/14532 is given for glucose, and the corresponding subgroup for the measurement technique, e.g. A61B 5/14532 and A61B 5/1486. Classification of glucose measurement in combination with blood or fluid sampling is covered by A61B 5/15-A61B 5/157 (apparatus for blood sampling). Test strips with no further disclosure of interaction with the patient is covered by G01N.

References
Limiting references
This place does not cover:

| Devices for bringing media into the body in a subcutaneous, intravascular or intramuscular way | A61M 5/00 |
| Measuring or testing processes involving enzymes, enzyme electrodes for glucose | C12Q 1/006 |
| Investigating or analysing biological material in vitro by physical analysis using electrical means for determining glucose content | G01N 27/3271 |
| Details, e.g. test element handling, dispensing or storage not specific to a particular test method | G01N 33/4875 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Devices for taking samples of blood characterised by integrated means for measuring characteristics of blood | A61B 5/157 |
| Other medical applications, combined with drug delivery | A61B 5/4839 |
| Measuring blood glucose of a patient undergoing therapy, e.g. for controlling the administration of therapy | A61M 2230/201 |
| Measuring blood glucose of a user of sports apparatus | A63B 2230/202 |
A61B 5/14542
{for measuring blood gases (A61B 5/14551 takes precedence)}

References
Limiting references
This place does not cover:

| Measuring blood gases using optical sensors | A61B 5/14551 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring blood gases of a patient undergoing therapy, e.g. for controlling the administration of therapy | A61M 2230/202; K61B230/20D |
| Measuring blood gases of a user of sports apparatus | K61B230/20C; A63B 2230/207 |

A61B 5/1455
using optical sensors, e.g. spectral photometrical oximeters

Definition statement
This place covers:
Apparatus for detecting, measuring or recording chemical characteristics of blood, body fluids or tissue using optical sensors, where the measurement is made in-vivo or on a blood of fluid sample immediately after sampling, e.g. measurement is made immediately after sampling by lancet.

References
Limiting references
This place does not cover:

| Investigating or analysing materials by the use of optical means | G01N 21/00 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Detecting, measuring or recording for diagnostic purposes using light, e.g. for detection of tumour | A61B 5/0059 |
| Detecting, measuring or recording heart rate using photoplethysmograph signals | A61B 5/02416 |
A61B 5/14552
{Details of sensors specially adapted therefor}

Definition statement

This place covers:
Details of optical sensor construction for pulse oximetry. Sensors particularly adapted for attachment to parts of the body, e.g. earlobe clips, finger clips, adhesive patches etc.. Arrangements of optical sensors in housing or probes.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Details of optical sensors</th>
<th>A61B 2562/0233</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detecting, measuring or recording heart rate using photoplethysmograph signals, details of sensor</td>
<td>A61B 5/02427</td>
</tr>
</tbody>
</table>

A61B 5/14553
{specially adapted for cerebral tissue}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Evaluating the central nervous system</th>
<th>A61B 5/4076</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensors mounted on head worn items, e.g. helmet or cap</td>
<td>A61B 5/6803</td>
</tr>
</tbody>
</table>

A61B 5/14555
{specially adapted for the eye fundus}

Definition statement

This place covers:
Apparatus for making pulse oximetry measurements at the eye fundus, comprising optical sensors for detecting changes in light characteristics reflected from the eye fundus.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Apparatus for looking at the eye fundus | A61B 3/12 |
**A61B 5/14556**

{by fluorescence (A61B 5/14555 takes precedence)}

**Definition statement**

*This place covers:*

Pulse oximetry using measured change in the fluorescence of light. Includes the use of fluorescent agents.

**References**

**Limiting references**

*This place does not cover:*

| Measuring blood gases specially adapted for the eye fundus | A61B 5/14555 |
| Investigating or analysing materials by the use of light, optically excited fluorescence | G01N 21/64 |

**A61B 5/14557**

{specially adapted to extracorporeal circuits}

**Definition statement**

*This place covers:*

Apparatus for detecting, measuring or recording chemical characteristics of blood, body fluids or tissue where the measurement is made in an extracorporeal circuit attached to the patient, e.g. a blood dialysis machine attached to a patient by a catheter. Apparatus for measuring in an external fluid line, e.g. measurement cassette connected to the patient's blood circulation by a catheter.

**References**

**Limiting references**

*This place does not cover:*

| Investigating or analysing materials by the use of optical means, flow through cuvettes | G01N 21/05 |

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Other treatment of blood in extracorporeal circuits | A61M 1/3621 |
| Measuring blood gas characteristics of a patient undergoing therapy | A63B 2230/205 |

**A61B 5/14558**

{by polarisation}

**Definition statement**

*This place covers:*

Pulse oximetry using the measured change in the polarisation characteristic of light.
References

Limiting references

This place does not cover:

Investigation or analysing materials by the use of optical means, using polarisation-affecting properties

References

Limiting references

This place does not cover:

Using optical sensors specially adapted for foetal tissue

Informative references

Attention is drawn to the following places, which may be of interest for search:

Constructional details of invasive sensing devices

A61B 5/1459

invasive, e.g. introduced into the body by a catheter {

(A61B 5/1464 takes precedence)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Constructional details of invasive sensing devices

A61B 5/1464

specially adapted for foetal tissue

Definition statement

This place covers:

Apparatus for detecting, measuring or recording of characteristics of blood, body fluid or tissue using optical sensors specially adapted for foetal or neonatal monitoring.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Using chemical or electrochemical methods specially adapted for foetal tissue

A61B 5/1482
**A61B 5/1468**

using chemical or electrochemical methods, e.g. by polarographic means 
{(A61B 5/1486 takes precedence)}

**Definition statement**

*This place covers:*

Apparatus for detecting, measuring or recording chemical characteristics of blood, body fluids or tissue using chemical or electrochemical sensors, where the measurement is made in-vivo or on a blood or fluid sample immediately after sampling, e.g. sampling by lancet. Includes apparatus for measuring in an external fluid line, e.g. measurement cassette connected to the patient's blood circulation.

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Using enzyme electrodes</th>
<th>A61B 5/1486</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigating or analysing biological material in vitro by using electrochemistry</td>
<td>G01N 33/48707</td>
</tr>
</tbody>
</table>

**A61B 5/1473**

invasive, e.g. introduced into the body by a catheter 
{(A61B 5/1482 takes precedence)}

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Using chemical or electrochemical methods specially adapted for foetal tissue</th>
<th>A61B 5/1482</th>
</tr>
</thead>
</table>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Constructional details of invasive sensing devices</th>
<th>A61B 5/6847 - A61B 5/6866</th>
</tr>
</thead>
</table>

**A61B 5/1482**

specially adapted for foetal tissue

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Using optical methods specially adapted for foetal tissue</th>
<th>A61B 5/1464</th>
</tr>
</thead>
</table>
A61B 5/1486

using enzyme electrodes, e.g. with immobilised oxidase

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring or testing processing involving enzymes, enzyme electrodes</td>
<td>C12Q 1/001</td>
</tr>
<tr>
<td>Investigating or analysing biological material in vitro by using electrochemistry</td>
<td>G01N 27/3271</td>
</tr>
</tbody>
</table>

A61B 5/14865

{invasive, e.g. introduced into the body by a catheter or needle or using implanted sensors}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constructional details of invasive sensing devices</td>
<td>A61B 5/6847 - A61B 5/6866</td>
</tr>
</tbody>
</table>

A61B 5/1495

Calibrating or testing of in-vivo probes

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigating or analysing materials by the use of optical means, detection standards or calibrating</td>
<td>G01N 21/93</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details of apparatus for calibration, e.g. calibration protocols</td>
<td>A61B 2562/0223</td>
</tr>
<tr>
<td>Sensors provided with means for identification combined with means for recording calibration data, e.g. on memory chip</td>
<td>A61B 2562/085</td>
</tr>
</tbody>
</table>
A61B 5/15

Devices for taking samples of blood (hypodermic syringes A61M 5/178)

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Hypodermic syringes | A61M 5/178 |

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| Piercing element | skin penetrating component, e.g. blade, needle, lancet, laser beam |
| piercing or lancing device | device ready to be used for lancing |
| driving device | device for driving a piercing element, e.g. spring |

A61B 5/16

Devices for psychotechnics (using teaching or educational appliances G09B 1/00 - G09B 7/00); Testing reaction times {; Devices for evaluating the psychological state}

Definition statement

This place covers:

Apparatus for detecting, measuring or recording the psychological state of a subject from physiological measurements. Any type of measurement may be applied, e.g. skin resistance, motion activity.

References

Limiting references

This place does not cover:

| Testing capability using educational aids or toys | G09B 1/00- G09B 7/00 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Detecting using light | A61B 5/0059 |
| Detecting bioelectric signals | A61B 5/04 |
| Detecting using MRI | A61B 5/055 |
| Measuring movement of the body or parts thereof for determining motor skills | A61B 5/1124 |
| Devices or methods to cause a change in the state of consciousness | A61M 21/00 |

Special rules of classification

Classification is made in A61B 5/16 and in the particular physiological measurement, e.g. A61B 5/16 and A61B 5/0531, when appropriate.
A61B 5/161

{Flicker fusion testing (eye testing A61B 3/00)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Eye testing | A61B 3/00 |

A61B 5/162

{Testing reaction times}

References

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

| Reaction-time training with a substantial physical effort | A63B 69/0053 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Determining motor skills | A61B 5/1124 |
| Reaction-time games | A63F 9/0096 |

A61B 5/163

{by tracking eye movement, gaze, or pupil change}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Devices for examining the eye | A61B 3/00 |
| Acquiring or recognizing eyes, e.g. iris verification | G06K 9/00597 |
| Processing of images of the eye | G06T 2207/30041 |

A61B 5/18

for vehicle drivers {or machine operators}

Definition statement

This place covers:

Apparatus for detecting, measuring or recording the state of alertness or consciousness of drivers or machine operators from physiological measurements. Any type of measurement may be applied, e.g. tracking eye motion, measuring heart rate.
References

Limiting references
This place does not cover:

| Testing capability using educational aids or toys | G09B 1/00- G09B 5/00 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Safety devices for propulsion-unit control responsive to incapacity of driver | B60K 28/06 |
| Alarms responsive to an undesired or abnormal condition indicating sleep | Q08B 21/08 |

A61B 5/20

for measuring urological functions {restricted to the evaluation of the urinary system (A61B 5/4375 takes precedence)}

Definition statement
This place covers:
Evaluation of the urinary system.
Urine collection bags comprising urine sensors

References

Limiting references
This place does not cover:

| Evaluating the male reproductive system | A61B 5/4375 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring contraction of body parts | A61B 5/1107 |
| Measuring constituents of body fluids other than blood | A61B 5/14507 |
| Devices for taking urine samples | A61B 10/007 |

A61B 5/201

{Assessing renal or kidney functions}

Definition statement
This place covers:
Evaluate renal function, e.g. detect renal failure
1) By urine analysis:

- Detecting a change in a urinary parameter indicative of a kidney malfunction, e.g., pH, a sodium level, an oxygen level, a potassium level.

2) By blood analysis:

- Fluorescent molecules are introduced into the bloodstream.

**US 2010/286559**

**US 2009/285761**

Fluorescent molecules are introduced into the bloodstream.
Over a period of time, a measurement of the intensities of the reporter and marker fluorescent molecules is taken.

A ratio is calculated to determine a glomerular filtration rate and therefore the health of the subject’s kidney.

**References**

**Limiting references**

This place does not cover:

| Dialysis systems | A61M 1/14 |

**A61B 5/202**

{Assessing bladder functions, e.g. incontinence assessment}

**Definition statement**

This place covers:

```
  100  A pressure sensing catheter is inserted into a patient’s empty bladder

  110  A patient’s bladder is filled to 200 mL

  120  Patient is asked to voluntarily cough

  130  Results of voluntary cough are recorded

  140  A reflex cough test is performed and results are recorded
```

i.e. detect urine leakage

WO 2007/081626
Detection of urine flow:

Flow detector 30 is configured to detect the onset of urination. For example, flow detector 30 generates a flow signal 32 upon detecting a flow of urine.

References

Limiting references

This place does not cover:

- Electromyography of urinary organs
- Assessing bladder internal pressure

Informative references

Attention is drawn to the following places, which may be of interest for search:

- Electrical stimulation of urinary organs to alleviate incontinence
**A61B 5/204**

**{Determining bladder volume}**

**Definition statement**

*This place covers:*

System 10 determines the filling status of a urinary bladder 12 of a patient 14 based on electrical impedance of the bladder.

**References**

**Limiting references**

*This place does not cover:*

Measuring bladder volume using ultrasound imaging

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Measuring contraction of body parts
A61B 5/205
{Determining bladder or urethral pressure}

Definition statement

This place covers:

EP 258 690
A61B 5/208
{adapted to determine urine quantity, e.g. flow, volume}

Definition statement
This place covers:
Measuring quantity of urine

A61B 5/22
Ergometry; Measuring muscular strength or the force of a muscular blow
{(exercising apparatus A63B 21/00); measuring of work or force in general G01L}

References
Limiting references
This place does not cover:
Measuring contraction of parts of the body, e.g. organ, muscle A61B 5/1107

Informative references
Attention is drawn to the following places, which may be of interest for search:
Exercising apparatus A63B 21/00
Measuring of work or force in general G01L
A61B 5/228
{of masticatory organs, e.g. detecting dental force (measuring instruments for dentigraphy A61C 19/04)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring instruments for dentigraphy | A61C 19/04 |

A61B 5/40
{Detecting, measuring or recording for evaluating the nervous system (A61B 5/4806, A61B 5/4821, A61B 5/4824 take precedence)}

References
Limiting references
This place does not cover:

| Evaluation of sleep, anaesthesia, pain | A61B 5/4806, A61B 5/4821, A61B 5/4824 |

A61B 5/4005
{for evaluating the sensory system (A61B 5/12, A61B 5/4058 take precedence)}

Definition statement
This place covers:
Evaluate sensations, e.g.:
Temperature sensitivity:

![Diagram of a temperature sensor with heated/cooled test element and temperature indicator at 10°C]

References
Limiting references
This place does not cover:

| Diagnostic temperature sensing | A61B 5/01 |
Audiometry
Evaluating the central nervous system

A61B 5/4011

{Evaluating olfaction, i.e. sense of smell}

Definition statement

This place covers:

1) Manual odour test using odour samples

2) Automatic test device

- Dispensing a controlled amount of volatile fluid
- Determining if the patient has sensed the volatile fluid
- Dispensing an increased quantity of volatile fluid if the patient has not sensed the volatile fluid or a reduced quantity of volatile fluid if the patient has sensed the volatile fluid.
{Evaluating sense of taste}

Definition statement

This place covers:

1) Manual test using taste samples;

Each strip 22, 32 is comprised of a thin layer 23, 33 of material with a specific taste.

2) Automatic taste sensor
A61B 5/4023
{Evaluating sense of balance}

Definition statement
This place covers:
Evaluate forces applied by the patient to maintain balance, possibly while perturbing her balance

US 6 389 883

A61B 5/4029
{for evaluating the peripheral nervous systems (A61B 5/04001 takes precedence)}

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>For evaluating the sensory system</th>
<th>A61B 5/04001</th>
</tr>
</thead>
</table>
A61B 5/4035
{Evaluating the autonomic nervous system}

Definition statement

This place covers:
Evaluate sympathetic/parasympathetic activity

A61B 5/4058
{for evaluating the central nervous system (A61B 5/4806, A61B 5/4821 take precedence)}

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Method</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEG</td>
<td>A61B 5/0476</td>
</tr>
<tr>
<td>Sleep evaluation</td>
<td>A61B 5/4806</td>
</tr>
<tr>
<td>Pain perception evaluation</td>
<td>A61B 5/4821</td>
</tr>
<tr>
<td>Using MRI</td>
<td>G01R 33/4806, G01N 24/08</td>
</tr>
</tbody>
</table>
A61B 5/4064

{Evaluating the brain (A61B 5/031, A61B 5/0476, A61B 5/14553 take precedence)}

Definition statement

This place covers:
Various regions of the brain 108 may be colour coded according to a scale 112 to represent the cortical thickness, or deviation from normal thickness.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Intracranial pressure measurements</th>
<th>A61B 5/031</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEG</td>
<td>A61B 5/0476</td>
</tr>
<tr>
<td>Devices for psychotechnics</td>
<td>A61B 5/16</td>
</tr>
</tbody>
</table>
A61B 5/407
{Evaluating the spinal cord (A61B 5/4896 takes precedence)}

Definition statement
This place covers:

References

Limiting references
This place does not cover:

| Epidural space location | A61B 5/4896 |

A61B 5/4076
{Diagnosing or monitoring particular conditions of the nervous system (A61B 5/4821, A61B 5/4824 take precedence)}

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Determining level of anaesthesia</th>
<th>A61B 5/4821</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining pain perception</td>
<td>A61B 5/4824</td>
</tr>
</tbody>
</table>
A61B 5/4082
{Diagnosing or monitoring movement diseases, e.g. Parkinson, Huntington or Tourette}

Definition statement

This place covers:
**A61B 5/4088**

{Diagnosing of monitoring cognitive diseases, e.g. Alzheimer, prion diseases or dementia}

**Definition statement**

This place covers:

All types of diagnostic apparatus and methods for diagnosing or monitoring cognitive diseases. Includes objective type measurement apparatus, e.g. measuring a physical characteristic of the brain tissue and subjective type apparatus, e.g. for applying cognitive tests to the patient.

---

**US 6 485 417**
A61B 5/4094
{Diagnosing or monitoring seizure diseases, e.g. epilepsy}

Definition statement
This place covers:
Assess seizures based on detected movement patterns, heart rate variability, EEG etc.
A61B 5/411

{Detecting or monitoring allergy or intolerance reactions to an allergenic agent or substance}

Definition statement

This place covers:

Evaluation of allergies or intolerances, with or without sensors of physiological quantities:
A61B 5/412
{Detecting or monitoring sepsis}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 5/412

US 2008/091088
A61B 5/413
{Monitoring transplanted tissue or organ, e.g. for possible rejection reactions after a transplant}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 5/413

References
Limiting references
This place does not cover:
Monitoring explanted organs (i.e., between explantation and implantation) A01N 1/02
A61B 5/414
{Evaluating particular organs or parts of the immune or lymphatic systems}

Definition statement
This place covers: Illustrative example of subject matter classified in A61B 5/414

A61B 5/42
{Detecting, measuring or recording for evaluating the gastrointestinal, the endocrine or the exocrine systems (A61B 1/00, A61B 5/4857, A61B 5/486, A61B 5/4866, A61B 5/4869 take precedence)}

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastrointestinal endoscopy</td>
<td>A61B 1/00, A61B 8/12</td>
</tr>
<tr>
<td>Catheters for measuring non-vascular pressure</td>
<td>A61B 5/036</td>
</tr>
<tr>
<td>EMG in gastro-intestinal tract</td>
<td>A61B 5/04884</td>
</tr>
<tr>
<td>Biorhythm</td>
<td>A61B 5/4857</td>
</tr>
<tr>
<td>Measuring sweat production</td>
<td>A61B 5/486</td>
</tr>
<tr>
<td>Evaluating metabolism</td>
<td>A61B 5/4866</td>
</tr>
<tr>
<td>Determining consituents of the body</td>
<td>A61B 5/4869</td>
</tr>
</tbody>
</table>
A61B 5/4205

{Evaluating swallowing}

Definition statement

This place covers:
Evaluating swallow actions
A61B 5/4211
{Diagnosing or evaluating reflux}

Definition statement
This place covers:
Backflow detection from stomach to oesophagus, e.g. by impedance measurement with a balloon catheter:

A61B 5/4216
{Diagnosing or evaluating gastrointestinal ulcers}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 5/4216:
by pH measurement in the gastrointestinal system

A61B 5/4222

{Evaluating particular parts, e.g. particular organs}

Definition statement

This place covers:

Evaluating oesophagus, stomach, liver, pancreas, intestines, endocrine glands
**A61B 5/4227**

{endocrine glands, i.e. thyroid, adrenals, hypothalamic, pituitary}

**Definition statement**

*This place covers:*

Determining the activity of endocrine glands, e.g. determining the response of the hypothalamus to stimulation.
A61B 5/4233
{oesophagus}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [A61B 5/4233](#).

---

**US 2007/225613**

- **pressure sensors**
- **impedance sensors**
**A61B 5/4238**

{stomach}

**Definition statement**

*This place covers:*

Evaluating the function or state of the stomach, e.g. determining the amount of food or drink ingested.

**A61B 5/4244**

{liver}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 5/4244

US 2009/043251
A61B 5/425

{pancreas}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 5/425

For example, electropancreatography:

![Diagram of pancreas](image1)

A61B 5/4255

{Intestines, colon or appendix}

**Definition statement**

*This place covers:*

Evaluating the function or state of the intestines, colon or appendix, for example, identification of intestinal ischemia

![Diagram of intestines](image2)
A61B 5/4261
{Evaluating exocrine secretion production (A61B 3/101 takes precedence)}

Definition statement
This place covers:
Sweat, sebum, saliva, gastrointestinal secretions, mammary secretions, vaginal secretions

References
Limiting references
This place does not cover:

| Tear secretion | A61B 3/101 |

A61B 5/4266
{sweat secretion}

Definition statement
This place covers:
Detect, e.g., alcohol content in perspiration fluid

US 2009/212957
**A61B 5/4272**

**{sebum secretion}**

**Definition statement**

*This place covers:*

Reagent changing colour according to sebum concentration

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**US 2008/317628**

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**A61B 5/4277**

**{saliva secretion}**

**Definition statement**

*This place covers:*

Evaluation of saliva flow rate

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**WO 2005/072821**
A61B 5/4294
{vaginal secretions}

Definition statement
This place covers:
All types of evaluations of vaginal secretion including rate of production, viscosity etc.
For example, evaluating pH of vaginal secretions

A61B 5/4312
{Breast evaluation or disorder diagnosis (A61B 5/0091 takes precedence)}

Definition statement
This place covers:
All types of apparatus and methods for evaluating the breasts, including measurement of breast size and diagnosis of breast disorders, e.g. by detecting properties of the breasts
References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Method</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical mammography</td>
<td>A61B 5/0091</td>
</tr>
<tr>
<td>X-ray mammography</td>
<td>A61B 6/502, A61B 6/0435</td>
</tr>
<tr>
<td>Ultrasound mammography</td>
<td>A61B 8/0825</td>
</tr>
</tbody>
</table>

A61B 5/4318

{Evaluation of the lower reproductive system (A61B 5/4343 takes precedence)}

Definition statement

This place covers:

Evaluations of the uterus, fallopian tubes, ovaries, cervix, vagina

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Type</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy and labour monitoring</td>
<td>A61B 5/4343</td>
</tr>
</tbody>
</table>
**A61B 5/4331**

{of the cervix (**A61B 5/435** takes precedence)}

References

**Limiting references**

*This place does not cover:*

| Assessing cervix alteration | A61B 5/435 |

**A61B 5/4343**

{Pregnancy and labour monitoring, e.g. for labour onset detection}

Definition statement

*This place covers:*

Monitoring pregnancy and labour

References

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Detecting uterine fluid pressure | A61B 5/033 |
A61B 5/435
{Assessing cervix alteration or dilation}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 5/435

A61B 5/4356
{Assessing uterine contractions (A61B 5/033 takes precedence)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 5/4356
References

Limiting references

This place does not cover:

Measuring pressure of intrauterine fluid

A61B 5/033

A61B 5/4362

{Assessing foetal parameters}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 5/4362
A61B 5/4368

{Sexual arousal evaluation}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 5/4368

US 6 169 914
A61B 5/4381

{Prostate evaluation or disorder diagnosis}

Definition statement

This place covers:

Illustrative example of a device for examining the prostate

References

Limiting references

This place does not cover:

| Colonoscopes                      | A61B 1/00 |

A61B 5/4387

{Testicles, seminal vesicles or sperm ducts evaluation}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 5/4387
E.g. estimate drug dosage as a function of testicle size

**A61B 5/4393**

{Sexual arousal or erectile dysfunction evaluation, e.g. tumescence evaluation}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 5/4393

**WO 2006/092264**

NIRS HbO2 Changes in Erection Test
A61B 5/44

{Detecting, measuring or recording for evaluating the integumentary system, e.g. skin, hair or nails (A61B 5/117 takes precedence)}

References

Limiting references

This place does not cover:

| Identification of persons | A61B 5/117 |

A61B 5/441

{Skin evaluation, e.g. for skin disorder diagnosis}

References

Limiting references

This place does not cover:

| Evaluation of skin sensitivity | A61B 5/4827 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Determining colour for diagnostic purposes | A61B 5/1032 |
| Colour measurement in general | G01J 3/46 |

A61B 5/442

{Evaluating skin mechanical properties, e.g. elasticity, hardness, texture, wrinkle assessment}

Definition statement

This place covers:

Determining skin hardness, elasticity, tenderness, stiffness, pliability, laxity, mobility
References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring roughness of surfaces in general | G01B 11/30 |

A61B 5/443
{Evaluating skin constituents, e.g. elastin, melanin, water}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 5/443

US 2008/221406
A61B 5/444
{Evaluating skin marks, e.g. mole, nevi, tumour, scar}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 5/444

US 2011/040192

A61B 5/445
{Evaluating skin irritation or skin trauma, e.g. rash, eczema, wound, bed sore}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 5/445

WO 2007/133556

References
Limiting references
This place does not cover:

| Measuring contraction of wounds | A61B 5/1109 |
**A61B 5/446**

{Scalp evaluation or scalp disorder diagnosis, e.g. dandruff}

**Definition statement**

*This place covers:*

Evaluate scalp conditions:

---

**A61B 5/448**

{Hair evaluation, e.g. for hair disorder diagnosis}

**Definition statement**

*This place covers:*

All types of apparatus or methods for evaluating the hair and disorders of the hair or hair growth in-vivo.
For example, evaluating hair density:

Illustrative example, evaluating hair colour:

References

Limiting references
This place does not cover:

Detecting, measuring or recording using colour cards A61B 5/1034

Informative references
Attention is drawn to the following places, which may be of interest for search:

Colour evaluation in general A61B 5/1032
A61B 5/449

{Nail evaluation, e.g. for nail disorder diagnosis}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 5/449

References

Limiting references

This place does not cover:

Detecting, measuring or recording using colour cards

Informative references

Attention is drawn to the following places, which may be of interest for search:

Colour evaluation in general

A61B 5/45

{For evaluating or diagnosing the musculoskeletal system or teeth
(A61B 5/1036, A61B 5/1074, A61B 7/006 take precedence)}

References

Limiting references

This place does not cover:

Measuring for testing the shape, pattern, size or movement of the body or parts thereof for podologic studies

Foot measuring devices

Detecting skeletal, cartilage or muscle noise
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Particular body parts of the musculoskeletal system | A61B 5/4538 |
| Positioning the sensor in relation to a particular body part of the musculoskeletal system | A61B 5/68 |

A61B 5/4504
{Bones (A61B 5/4547 takes precedence)}

References

Limiting references
This place does not cover:

| Evaluating teeth | A61B 5/4547 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Examining bone tissue using radiation diagnosis | A61B 6/505 |
| Examination of bone material using ultrasonic, sonic or infrasonic waves | A61B 8/0875 |

A61B 5/4519
{Muscles (A61B 5/0488, A61B 5/224 take precedence)}

References

Limiting references
This place does not cover:

| Electromyography | A61B 5/0488 |
| Measuring muscular strength | A61B 5/224 |

A61B 5/4528
{Joints (A61B 5/4533, A61B 5/4538 take precedence)}

Definition statement
This place covers:
Testing joints for stability or strength, e.g. knee laxity.

References

Limiting references
This place does not cover:

| Evaluating or diagnosing ligaments | A61B 5/4533 |
**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Goniometers                                   | A61B 5/1071 |

**A61B 5/4547**

{Evaluating teeth}

**References**

**Limiting references**

This place does not cover:

| Measuring using light, adapted to oral or dental tissue | A61B 5/0088 |
| Testing vitality of teeth by means of electric currents or magnetic fields | A61B 5/0534 |
| Detecting tooth mobility                              | A61B 5/1111 |

**A61B 5/4561**

{Evaluating static posture, e.g. undesirable back curvature (**A61B 5/1116 takes precedence**)}

**Definition statement**

This place covers:

Determining a static posture of the body, e.g. whether a person is standing, sitting or lying. Includes also determination of spinal posture due to curvature or inclination

**References**

**Limiting references**

This place does not cover:

| Measuring movement of the entire body or parts thereof for determining posture transitions | A61B 5/1116 |

**A61B 5/48**

{Other medical applications}

**Definition statement**

This place covers:

Apparatus and methods for measuring, detecting, recording or evaluating medical applications conditions not otherwise provided for.

**Relationships with other classification places**

This group is the residual group of **A61B 5/00**.
A61B 5/4803
{Speech analysis specially adapted for diagnostic purposes}

Definition statement
This place covers:
Speech analysis for diagnostic purposes, e.g. evaluating speech disorders, evaluating speech for determining a subject's psychological state.

References
Limiting references
This place does not cover:

| Speech analysis for identification of individuals | A61B 5/117 and G07C 9/37 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Speech analysis per se | G10L |

A61B 5/4806
{Sleep evaluation (A61B 5/4821 takes precedence; devices for inducing sleep A61M 21/02)}

Definition statement
This place covers:
Apparatus or methods for monitoring or analysis of sleep.

References
Limiting references
This place does not cover:

| Determining level or depth of anaesthesia | A61B 5/4821 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Devices for inducing sleep | A61M 21/02 |

A61B 5/4815
{Sleep quality}

Special rules of classification
Determining sleep quality may comprise sleep detection as in A61B 5/4809 or detecting sleep stages as in A61B 5/4812. In this case also A61B 5/4809 and/or A61B 5/4812 should be given.
A61B 5/4818
{Sleep apnoea}

Definition statement
This place covers:
Monitoring or investigating sleep apnoea, e.g. multiparameter monitoring or polysomnography. Also for SIDS.

Glossary of terms
In this place, the following terms or expressions are used with the meaning indicated:

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDS</td>
<td>sudden infant death syndrome</td>
</tr>
</tbody>
</table>

A61B 5/4821
{Determining level or depth of anaesthesia (A61B 5/1106 takes precedence)}

Definition statement
This place covers:
Determining/detecting/monitoring the level of anaesthesia by measuring a physiological parameter, e.g. EEG, EMG, etc.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring movement of the entire body or parts thereof to assess neuromuscular blockade</td>
<td>A61B 5/1106</td>
</tr>
<tr>
<td>Electric apparatus for detecting reflex action</td>
<td>A61B 9/005</td>
</tr>
<tr>
<td>Introducing anaesthetics</td>
<td>A61M</td>
</tr>
</tbody>
</table>

A61B 5/4824
{Touch or pain perception evaluation (A61B 5/4821 takes precedence)}

Definition statement
This place covers:
Testing/indicating/recording/assessing level of pain for all parts of the body. Includes all types of apparatus, e.g. charts, expert systems, questionnaires etc.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining level or depth of anaesthesia</td>
<td>A61B 5/4821</td>
</tr>
</tbody>
</table>
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Evaluating the nervous system | A61B 5/40 |
| Testing skin sensitivity      | A61B 5/4827 |

A61B 5/4833

{Assessment of subject's compliance to treatment}

Definition statement

This place covers:

Measurement of any physiological parameter indicating subject's compliance with drug therapy or treatment regime. Includes detection of drug or marker in breath, blood, urine etc. by non-invasive measurements and fluid samples, but not for laboratory analysis.

A61B 5/4836

{Diagnosis combined with treatment in closed-loop systems or methods (A61B 5/0036 takes precedence)}

Definition statement

This place covers:

Closed-loop control of therapeutic treatment based on measuring a physiological parameter.

References

Limiting references

This place does not cover:

Features of imaging apparatus including treatment | A61B 5/0036 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Sensing and controlling the application of energy in surgical instruments. | A61B 2018/00636 |
| Heart stimulators controlled by a physiological signal | A61N 1/365 |

A61B 5/4839

{combined with drug delivery}

Definition statement

This place covers:

References

Limiting references

This place does not cover:

Delivery of contrast agents or dyes

Informative references

Attention is drawn to the following places, which may be of interest for search:

Details of apparatus for drug delivery/infusion
A61N 1/30, A61M 1/00, A61M 5/172, A61M 25/00, A61M 31/00, etc.

A61B 5/4842

{Monitoring progression or stage of a disease}

Definition statement

This place covers:
Measuring a physiological parameter to evaluate the progression or development of a disease over time.

References

Limiting references

This place does not cover:

Monitoring the effects of medication
A61B 5/4848

A61B 5/4848

{Monitoring or testing the effects of treatment, e.g. of medication}

Definition statement

This place covers:
Testing the efficacy or side effects of therapeutic medication.

References

Limiting references

This place does not cover:

Monitoring or testing the effects of anaesthetics
A61B 5/4821
A61B 5/4851
{Prosthesis assessment or monitoring}

**Definition statement**

*This place covers:*

Prosthesis assessment or monitoring based on physiological signals. Includes control of prostheses based on physiological signals.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostheses as such</td>
<td>A61F 2/00</td>
</tr>
<tr>
<td>Control means for non-implantable prostheses</td>
<td>A61F 2/68</td>
</tr>
</tbody>
</table>

A61B 5/4854

{Diagnosis based on concepts of traditional oriental medicine}

**Definition statement**

*This place covers:*

Includes, e.g. measurement/analysis of physiological parameter, e.g. pulse, according to oriental or other non-orthodox theories of medicine, e.g. Ayurvedic or Chinese

**References**

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Reference</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring skin impedance specially adapted for acupuncture</td>
<td>A61B 5/0532</td>
</tr>
</tbody>
</table>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acupuncture needles</td>
<td>A61H 39/086</td>
</tr>
</tbody>
</table>

A61B 5/4857

{Indicating the phase of biorhythm (clocks or watches with indicators for biological cycles [G04B 19/264])}

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clocks or watches with indicators for biological cycles</td>
<td>G04B 19/264</td>
</tr>
</tbody>
</table>
A61B 5/486
{Bio-feedback (A61B 5/0482 takes precedence)}

Definition statement

This place covers:
Providing a feedback signal to the subject of a physiological parameter measured from the subject for the purpose of informing the subject to maintain or modify his/her behaviour such that the measured parameter stays within a certain range, e.g. the subject maintains a certain breathing rate.

References

Limiting references

This place does not cover:

- Electroencephalography using biofeedback (A61B 5/0482)

A61B 5/4866
{Evaluating metabolism (A61B 5/083 takes precedence)}

Definition statement

This place covers:
Apparatus and methods for evaluating the metabolism of the body not involving breath test. Includes measuring basal metabolic rate, determining calorific or energy expenditure from physiological parameters, e.g. heart rate or activity, determining level of radioisotope excretion. Also includes evaluating metabolic syndrome.

References

Limiting references

This place does not cover:

- Measuring rate of metabolism by using breath test (A61B 5/083).

Special rules of classification

When evaluation is based on measuring movement, A61B 5/1118 should additionally be given.

A61B 5/4869
{Determining body composition}

Definition statement

This place covers:
Determination of tissue type or evaluating tissue characteristics not covered by other subgroups.

Evaluating a particular tissue type, e.g. for detection of cancer, is dealt with in the subgroups A61B 5/0088, A61B 5/0091, A61B 5/02007, A61B 5/40 - A61B 5/45.

Determination of blood, body fluid or tissue analytes, or blood constituents, e.g. red blood cells, is dealt with in A61B 5/145 and subgroups.
For example, evaluating bone is classified in A61B 5/4504; evaluating skin cells is found in A61B 5/441 and subgroups.

References

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC A61B 5/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using light to evaluate oral or dental tissue</td>
<td>0088</td>
</tr>
<tr>
<td>Using light for mammography, e.g. for tumour detection</td>
<td>0091</td>
</tr>
<tr>
<td>Evaluating blood vessel condition, e.g. elasticity, compliance</td>
<td>02007</td>
</tr>
<tr>
<td>Measuring body composition by impedance</td>
<td>0537</td>
</tr>
<tr>
<td>Measuring characteristics of blood, body fluids or tissues</td>
<td>1/145</td>
</tr>
<tr>
<td>Evaluating the nervous system</td>
<td>5/40</td>
</tr>
<tr>
<td>Evaluating the immune or lymphatic system</td>
<td>5/41</td>
</tr>
<tr>
<td>Evaluating the gastrointestinal, the endocrine or the exocrine system</td>
<td>5/42</td>
</tr>
<tr>
<td>Evaluating the reproductive system</td>
<td>5/43</td>
</tr>
<tr>
<td>Evaluating the integumentary system</td>
<td>5/44</td>
</tr>
<tr>
<td>Evaluating the musculoskeletal system</td>
<td>5/45</td>
</tr>
</tbody>
</table>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC A61B 5/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparatus for radiation diagnosis, clinical applications</td>
<td>6/50</td>
</tr>
<tr>
<td>Detecting organ movements or changes, e.g. tumours, cysts, swellings</td>
<td>8/08</td>
</tr>
<tr>
<td>Other methods or instruments for diagnosis, e.g. instruments for taking a cell sample</td>
<td>10/00</td>
</tr>
</tbody>
</table>

**A61B 5/4872**

**{Body fat}**

**Definition statement**

This place covers:

Apparatus and methods for determining the proportion of fat in the body. Includes determining the ratio of fat to fat free mass, e.g. using ultrasound, optical measurements, calipers, flotation tanks.

References

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC A61B 5/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin gauging</td>
<td>0053</td>
</tr>
</tbody>
</table>
A61B 5/4875
{Hydration status, fluid retention of the body}

Definition statement
This place covers:
Apparatus and methods for determining the proportion of fluid in the body or hydration status, includes water compartments, extracellular water, intercellular water.

A61B 5/4884
{Inducing physiological or psychological stress, e.g. applications for stress testing}

Definition statement
This place covers:
Patient is subjected to stress situation, e.g. exercise, change of posture, drugs or valsalva manoeuvre during measurement of physiological parameters. e.g. to determine rate of recovery/investigate regulatory mechanism (homeostasis).

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring heart rate variability | A61B 5/02405. |

A61B 5/489
{Blood vessels}

Definition statement
This place covers:
Locating blood vessels, e.g. for blood sampling. Applies also to ultrasound location.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Blood vessel location for injecting media | A61M 5/427. |

A61B 5/4893
{Nerves}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Examining nerves | A61B 5/04001, A61B 5/40 |
A61B 5/4896

{Epidural space}

Definition statement

This place covers:
Detect epidural space, e.g. by means of a pressure drop that occurs while introducing the needle of a syringe into the patient's body. When the needle reaches the epidural space the lower pressure in the space causes the pressure in the needle to drop, which is indicated by movement of the syringe plunger.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Measuring spinal fluid pressure | A61B 5/032 |
| Puncturing needles for the peridural or subarachnoid space or the plexus, e.g. for anaesthesia | A61B 17/3401 |

A61B 5/68

{Arrangements of detecting, measuring or recording means, e.g. sensors, in relation to patient}

Definition statement

This place covers:
Arrangements for ensuring the correct position for a sensor to detect a physiological quantity on a patient.

It relates to the position of the sensor, independently of the part of the body which is object of the diagnosis. For example, if impedance electrodes are placed on hands and feet to detect an impedance value of the whole body, the corresponding document must be classified in this group even if no diagnosis of hands and feet is carried out.

References

Limiting references

This place does not cover:

| Sensors provided on surgical tools for measuring tool-related quantities, e.g., contact between tool and tissue, tool penetration length | A61B 90/06 |
| Measuring instruments for implanting a prosthesis | A61F 2/4657 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Foot-measuring devices | A43D 1/02 |
| Attachments on the body, e.g. for measuring | A63B 69/3608 |
| Car sensors for detecting driver's condition | B60K 28/00 |
Computers with physiological sensor to allow interaction with the user

A61B 5/6801
{specially adapted to be attached to or worn on the body surface}

Definition statement
This place covers:
Means for attaching a sensor to a patient's body or for positioning a sensor in contact with a patient's body

A61B 5/6802
{Sensor mounted on worn items}

Definition statement
This place covers:
Any kind of clothing which is specially adapted to position a sensor in contact with the body

A61B 5/6803
{Head-worn items, e.g. helmets, masks, headphones or goggles}

Definition statement
This place covers:
Sensors for measurement on the head. Includes headbands, head straps, masks, spectacles, helmets and caps.
References

Limiting references

This place does not cover:

| Measurement on the eye               | A61B 3/00 |
| Sensors to be placed on foetus's head | A61B 5/0448 |

A61B 5/6804

{Garments; Clothes}

Definition statement

This place covers:

Sensor is mounted in a garment i.e. resembles clothing, not just straps.

Also for sensors in textiles and fabrics.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Garments adapted to accommodate electronic equipment | A41D 1/002 |
| Patients' vests with incorporated sensors           | A41D 13/1281 |
| Wearable computers, e.g. on a belt                  | G06F 1/163 |
A61B 5/6805

{Vests}

**Definition statement**

*This place covers:*
Sensor is mounted in a garment resembling a vest

---

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Garments; Clothes | A61B 5/6804 |

---

A61B 5/6806

{Gloves}

**Definition statement**

*This place covers:*
Sensors mounted in a glove/mitten (not all fingers have to be covered)
  - for measurement on the hand itself wearing the glove;
WO 2009/146142

• for measurement on the other hand, another body part or another person or animal:

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Hand-worn input devices | G06F 3/014 |
**A61B 5/6807**

{Footwear}

**Definition statement**

*This place covers:*

Sensor mounted in footwear, e.g. shoes, socks.

![Diagram of sensors in footwear](sensors.png)

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detecting podologic data, e.g. load distribution on feet</td>
<td>A61B 5/1036</td>
</tr>
<tr>
<td>Gait analysis</td>
<td>A61B 5/112</td>
</tr>
<tr>
<td>Footwear provided with electronic systems</td>
<td>A43B 3/0005</td>
</tr>
<tr>
<td>Pedometers</td>
<td>G01C 22/006</td>
</tr>
</tbody>
</table>
A61B 5/6808

{Diapers}

Definition statement

This place covers:
Sensors mounted on or in diapers

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Dressings provided with sensor</th>
<th>A61B 5/6833</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorbent pads, e.g. diapers, with wetness indicators</td>
<td>A61F 13/42</td>
</tr>
</tbody>
</table>

A61B 5/681

{Wristwatch-type devices}

Definition statement

This place covers:
Sensor is mounted in wristwatch type housing.
May not have time keeping function.
Also includes portable devices for receiving data from a sensor separated from the wristwatch housing, e.g. on finger, for data storage/display/further transmission.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Portable devices for measuring heart rate | A61B 5/02438 |
A61B 5/6811
{External prosthesis}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>Classification Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electromyography</td>
<td>A61B 5/0488</td>
</tr>
<tr>
<td>Control means for non-implantable prostheses</td>
<td>A61F 2/68</td>
</tr>
<tr>
<td>Measuring parameters relating to control or test of non-implantable prostheses</td>
<td>A61F 2002/7615</td>
</tr>
<tr>
<td>Input arrangements based on EEG, EMG, ECG, GSR</td>
<td>G06F 3/015</td>
</tr>
</tbody>
</table>

A61B 5/6812
{Orthopaedic devices}

Definition statement

This place covers:

Sensor is mounted on external orthopaedic device

US 2009/024062
**A61B 5/6813**

{Specially adapted to be attached to a specific body part (A61B 5/6802 takes precedence)}

**Definition statement**

*This place covers:*

The sensor is suitable for contact with a specific body part, but no particular arrangement is foreseen to provide contact. For example, electrodes to be attached to hands and feet in order to measure whole-body impedance, but no specific attaching means are provided.

**References**

**Limiting references**

*This place does not cover:*

| Arrangements to provide contact with a specific body part | A61B 5/6802 |

**A61B 5/6814**

{Head}

**References**

**Limiting references**

*This place does not cover:*

| Sensor attached to the head of a foetus | A61B 5/0448 |
| Headbands, head straps, masks, spectacles, helmets and caps. | A61B 5/6803 |

**A61B 5/6815**

{Ear}

**Definition statement**

*This place covers:*

Sensor attached to ear, e.g. as ear clip hooked over the pinna, attached to part of the pinna, not the ear lobe

**References**

**Limiting references**

*This place does not cover:*

| Sensor attached to ear canal or ear lobe | A61B 5/6816, A61B 5/6817 |

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Clips | A61B 5/6838 |
A61B 5/6816

{Ear lobe}

**Definition statement**

*This place covers:*

Sensor attached to ear lobe.

A61B 5/6817

{Ear canal}

**Definition statement**

*This place covers:*

Sensor is used for measurement in or close to the ear canal. Shape is adapted to fit in the ear canal. Includes measurement on the ear drum. Includes construction of ear canal probes for audiometry.

**References**

*Limiting references*

*This place does not cover:*

| Instruments for viewing inside the ear canal | A61B 1/227 |

A61B 5/6819

{Nose}

**Definition statement**

*This place covers:*

Sensor is attached to the nose.

**References**

*Limiting references*

*This place does not cover:*

| Instruments for viewing inside the nose | A61B 1/233 |

A61B 5/682

{Mouth, e.g., oral cavity; tongue; Lips; Teeth}

**Definition statement**

*This place covers:*

Sensor is held/mounted/fixed for measurement on and in the mouth, e.g. on the lips, tongue, gums and teeth, including snorkel-like mouthpieces.
References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Instrument or Device</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruments for viewing inside the mouth</td>
<td>A61B 1/24</td>
</tr>
<tr>
<td>Devices using light, specially adapted to mouth and teeth</td>
<td>A61B 5/0088</td>
</tr>
<tr>
<td>Impedance measurements for testing vitality of teeth</td>
<td>A61B 5/0534</td>
</tr>
<tr>
<td>Devices for collecting breath</td>
<td>A61B 5/097</td>
</tr>
<tr>
<td>Identification by dental data</td>
<td>A61B 5/1178</td>
</tr>
<tr>
<td>Measuring strength of masticatory organs</td>
<td>A61B 5/228</td>
</tr>
<tr>
<td>X-ray for dentistry</td>
<td>A61B 6/14</td>
</tr>
<tr>
<td>Depth control for dentistry instruments</td>
<td>A61C 5/44</td>
</tr>
<tr>
<td>Mouthpieces in ventilators</td>
<td>A61M 16/0488</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Instrument or Device</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring instruments adapted for dentistry</td>
<td>A61C 19/04</td>
</tr>
</tbody>
</table>

A61B 5/6821

{Eye}

Definition statement

This place covers:

Sensor is attached to or in the vicinity of the eye.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Instrument or Device</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparatus for testing the sight</td>
<td>A61B 3/00</td>
</tr>
</tbody>
</table>

US 2004/242976

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Instrument or Device</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparatus for testing the sight</td>
<td>A61B 3/00</td>
</tr>
</tbody>
</table>
A61B 5/6822

{Neck}

**Definition statement**

*This place covers:*
Includes necklaces for holding sensors

A61B 5/6823

{Trunk, e.g., chest, back, abdomen, hip}

**Special rules of classification**

A61B 5/6824

{Arm or wrist}

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Blood pressure cuffs</th>
<th>A61B 5/022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wristwatch-type devices with sensors</td>
<td>A61B 5/681</td>
</tr>
</tbody>
</table>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Portable devices for measuring heart rate | A61B 5/02438 |
A61B 5/6825

{Hand}

Definition statement

This place covers:
Sensor is attached/positioned for measurement on the hand. Includes resting hand on shaped surface.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand-held ECG devices</td>
<td>A61B 5/0404</td>
</tr>
<tr>
<td>Detecting hand motion</td>
<td>A61B 5/1125</td>
</tr>
<tr>
<td>Detecting hand force</td>
<td>A61B 5/225</td>
</tr>
<tr>
<td>Gloves with sensors</td>
<td>A61B 5/6806</td>
</tr>
</tbody>
</table>

A61B 5/6826

{Finger}

Definition statement

This place covers:
Sensor is used for measurement on the fingers. Includes clamps, wraps, finger receiving cavities, rings. Also for sensors worn by the physician on the fingertips.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure cuffs adapted for fingers</td>
<td>A61B 5/02241</td>
</tr>
<tr>
<td>Identification by finger prints</td>
<td>A61B 5/1172</td>
</tr>
<tr>
<td>Measuring finger strength</td>
<td>A61B 5/225</td>
</tr>
<tr>
<td>Gloves with sensors</td>
<td>A61B 5/6806</td>
</tr>
</tbody>
</table>

A61B 5/6828

{Leg}

Definition statement

This place covers:
Sensor is attached to the leg.
A61B 5/6829
{Foot or ankle}

Definition statement
This place covers:
Sensor is used for measurement on the foot.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring load distribution on feet</td>
<td>A61B 5/1036</td>
</tr>
<tr>
<td>Measuring dimensions of foot</td>
<td>A61B 5/1074</td>
</tr>
<tr>
<td>Identification by foot-printing</td>
<td>A61B 5/1174</td>
</tr>
<tr>
<td>Footwear with sensors</td>
<td>A61B 5/6807</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foot-measuring devices</td>
<td>A43D 1/02</td>
</tr>
</tbody>
</table>

A61B 5/683
{Means for maintaining contact with the body (A61B 5/6802 takes precedence)}

Definition statement
This place covers:
Means specially adapted for maintaining contact between different surfaces, specially adapted to maintain contact between a sensor and the human or animal body.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensors mounted on worn items</td>
<td>A61B 5/6802</td>
</tr>
</tbody>
</table>
A61B 5/6831
{Straps, bands or harnesses}

Definition statement
This place covers:
Sensor is attached to the body, e.g. chest, shoulders, by straps, bands, harnesses

A61B 5/6832
{using adhesives (A61B 5/04087 takes precedence)}

Definition statement
This place covers:
Sensors provided with an adhesive layer for attachment to the skin or body surface that is not a separable or detachable element from the sensor. Includes adhesive applied directly to the skin surface.

References
Limiting references
This place does not cover:
Using conductive adhesive means A61B 5/04087

A61B 5/6833
{Adhesive patches}

Definition statement
This place covers:
Separate adhesive patch or wrap for attaching the sensor to the patient's skin.
**A61B 5/6834**

{using vacuum}

**Definition statement**

*This place covers:*

Attaching sensor/probe to the skin surface by vacuum.

**References**

**Limiting references**

*This place does not cover:*

| Measurement carried out while applying suction | A61B 5/0055 |
| ECG electrodes attached by suction             | A61B 5/04082 |
| Foetal ECG electrodes attached by suction      | A61B 5/04485 |

**A61B 5/6835**

{Supports or holders, e.g., articulated arms}

**Definition statement**

*This place covers:*

Positioning or holding sensor relative to the body by mechanical arms, e.g. articulated, sliding, swivelling.

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Holding arrangements for endoscopes            | A61B 1/00147 |
| Holding arrangements for ultrasound probes     | A61B 8/00    |

**A61B 5/6837**

{Sutures}

**Definition statement**

*This place covers:*

Sensors attached to the surface of the body by means of sutures

**A61B 5/6838**

{Clamps or clips}

**Definition statement**

*This place covers:*

Sensors affixed to the body by means of clamp, e.g. by elastic force
**A61B 5/6839**

*{Anchoring means, e.g. barbs}*

**Definition statement**

*This place covers:*

Means for anchoring the sensor to the body, i.e. with tissue penetration/piercing. Includes prongs, coils, barbs.

---

**A61B 5/684**

*{Indicating the position of the sensor on the body}*

**Definition statement**

*This place covers:*

Means for indicating the correct position of a sensor on the body surface.

---

**WO 2008/097518**

---

**US 2011/237963**

---
A61B 5/6841
{by using templates}

Definition statement
This place covers:
Template/gauge to assist positioning of sensor on the measurement site.

References
Limiting references
This place does not cover:

| Sensors mounted on harnesses | A61B 5/6831 |

A61B 5/6842
{by marking the skin}

Definition statement
This place covers:
Site of sensor attachment is marked/referenced (e.g., by marker) so that the sensor may repositioned on the same site. Includes taking an anatomical reference, e.g. palm-print, photograph.

A61B 5/6843
{Monitoring or controlling sensor contact pressure}

Definition statement
This place covers:
Determining degree of contact between sensor and body surface by any means, e.g. spring bias, inflatable balloons, measuring impedance, measuring applied pressure etc.
A61B 5/6844
{Monitoring or controlling distance between sensor and tissue}

Definition statement
This place covers:
Determining, monitoring or controlling the distance between sensor and body surface in order to
ensure consistency of measurements taken by the sensor.

A61B 5/6846
{specially adapted to be brought in contact with an internal body part, i.e.
invasive}

Definition statement
This place covers:
Means for attaching or positioning a sensor in contact with an internal part of the patient's body

A61B 5/6847
{mounted on an invasive device}

Definition statement
This place covers:
Sensor is part of an implant (including short-term implants such as needles).

References
Limiting references
This place does not cover:

| Endoscopes | A61B 1/00 |
A61B 5/6848

{Needles}

Definition statement

This place covers:
The sensor is part of a piercing element introduced into the body, e.g. needle, cannula. The sensor is within the body or in the immediate vicinity of its surface.

A61B 5/6849

{in combination with a needle set}

Definition statement

This place covers:
The needle/canula is attached to the skin surface by a base plate.
A61B 5/685
{Microneedles}

Definition statement
This place covers:
Details of microneedle sensor construction. Includes multiple microneedles, e.g. arrays as electrodes/analyte sensors.

![Diagram of microneedle sensor construction](WO 2009/029044)

A61B 5/6851
{Guide wires}

Definition statement
This place covers:
Sensor mounted directly in a guidewire. Guidewire is usually introduced with a catheter.

![Diagram of guide wire sensor](US 2011/092783)

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Catheters with pressure sensors</th>
<th>A61M 2025/0001</th>
</tr>
</thead>
</table>


**A61B 5/6852**

{Catheters}

**Definition statement**

*This place covers:*

Sensor is mounted on a catheter

---

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Measuring blood pressure by means inserted into the body | A61B 5/0215 |
| Invasive optical probe | A61B 5/1459 |
| Catheters with pressure sensors | A61M 2025/0001 |

---

**A61B 5/6853**

{with a balloon}

**Definition statement**

*This place covers:*

The sensor is mounted on a balloon catheter
**A61B 5/6855**

{with a distal curved tip}

**Definition statement**

*This place covers:*

Sensor mounted on a catheter with a curved tip

**A61B 5/6856**

{with a distal loop}

**Definition statement**

*This place covers:*

Sensor is mounted on a catheter with a looped tip

**A61B 5/6857**

{with a distal pigtail shape}

**Definition statement**

*This place covers:*

Sensor is mounted on a catheter tip with one or more loops, the plane of the loop being perpendicular to the longitudinal axis of the catheter

**A61B 5/6858**

{with a distal basket, e.g. expandable basket}

**Definition statement**

*This place covers:*

Sensor is mounted on a catheter with an expandable basket or cage

**A61B 5/6859**

{with multiple distal splines}

**Definition statement**

*This place covers:*

Sensor is mounted on a catheter with multiple splines/prongs/tines/spines/arms not joined at their distal tips. Splines are usually expandable from a retracted position.
**A61B 5/686**

{Permanently implanted devices, e.g. pacemakers, other stimulators, biochips (A61B 5/6861 takes precedence)}

**Definition statement**

*This place covers:*

Specific details of sensors mounted on pacemakers...

---

**WO 2006/025770**

... or on implanted devices comprising a housing like that of a pacemaker

---

**US 2007/027494**
**A61B 5/6861**

{Capsules, e.g. for swallowing or implanting}

**Definition statement**

*This place covers:*

Sensor is mounted on ingestible or implantable capsule, excluding pacemakers.

**References**

**Limiting references**

*This place does not cover:*

| Ingestible capsules with imaging means | A61B 1/041 |
---|---|

**US 2009/318783**

[Diagram of capsule system with sensors and computer connections]
**A61B 5/6862**

{Stents}

**Definition statement**

*This place covers:*

Sensor is mounted on a device contacting internal blood vessel walls, e.g. stent.

---

**A61B 5/6864**

{Burr holes}

**Definition statement**

*This place covers:*

Sensor is mounted in a burr hole, e.g. by cranial bolt.
A61B 5/6865

{Access ports}

Definition statement

This place covers:

Implants for measuring a physiological parameter with an access port for any application. Includes ports for signal transmission, refilling/replenishing measuring fluid (e.g. enzyme), refilling medication.
A61B 5/6866

{Extracorporeal blood circuits, e.g. dialysis circuits}

Definition statement

This place covers:
Sensor is mounted on body fluid circuit external to the body. Measurement is carried out during fluid exchange with the body.

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Means for controlling media flow into the body | A61M 5/168 |

A61B 5/6867

{specially adapted to be attached or implanted in a specific body part (A61B 5/6847 takes precedence)}

Definition statement

This place covers:
Sensors suitable for contact with a specific internal body part, but no particular attachment means is foreseen.
References

Limiting references

This place does not cover:

| Mounted on an invasive device | A61B 5/6847 |

A61B 5/6874

{Bladder}

Definition statement

This place covers:

References

Limiting references

This place does not cover:

| Assessing bladder function | A61B 5/202 |
| Measuring pressure within urogenital tract | A61B 5/205 |
**A61B 5/6875**

**{Uterus}**

**Definition statement**

*This place covers:*

---

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Intra-uterine pressure sensors</th>
<th>A61B 5/035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy and labour monitoring</td>
<td>A61B 5/4343</td>
</tr>
</tbody>
</table>

---

**A61B 5/6879**

**{Means for maintaining contact with the body (A61B 5/6847 takes precedence)}**

**Definition statement**

*This place covers:*

Means specially adapted for maintaining contact between different surfaces, specially adapted to maintain contact between a sensor and internal parts of human or animal body.

**References**

**Limiting references**

*This place does not cover:*

| Mounted on an invasive device | A61B 5/6847 |
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Sensors mounted on worn items</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61B 5/6802</td>
</tr>
</tbody>
</table>

A61B 5/6882
{Anchoring means}

Definition statement
This place covers:
Means for anchoring the sensor to body tissue i.e. with tissue penetration/piercing. Includes prongs, coils, barbs

A61B 5/6883
{Sutures}

Definition statement
This place covers:
Sensors attached to internal body tissue by sutures
A61B 5/6884
{Clamps or clips}

Definition statement

This place covers:
Sensor is used for measurement on the blood vessel. Adapted to be clamped/fitted to the blood vessel.

---

A61B 5/6885
{Monitoring or controlling sensor contact pressure}

Definition statement

This place covers:
Monitoring contact between sensor and internal tissue by any means, e.g. spring bias, inflatable balloons, expanding baskets/arms, measuring impedance, measuring applied pressure etc. For all body cavities.
References

Limiting references

This place does not cover:

| Apply compression while taking measurements | A61B 5/0053 |

A61B 5/6886

{Monitoring or controlling distance between sensor and tissue}

Definition statement

This place covers:

Monitoring the spacing between a sensor/probe and internal tissue by any means, e.g. spacer, inflatable balloons.

A61B 5/6887

{mounted on external non-worn devices, e.g. non-medical devices}

Definition statement

This place covers:

Sensors which are mounted in or on external devices or apparatus. The sensor is not held continuously in contact with the body, e.g. the body or body part is applied to the sensor for taking a measurement, the sensor is adapted to make a non-contact measurement.
A61B 5/6888
{Cabins}

Definition statement

This place covers:

Sensor mounted in a cabin or booth to provide isolated measurement environment or privacy

WO 2009/034238

FIG. 1
**A61B 5/6889**

**{Rooms}**

**Definition statement**

*This place covers:*

Sensors arranged in a room

- **GB 2 426 851**

  detect situations where the occupants of a room may be ill, injured, dead or trapped

**A61B 5/6891**

**{Furniture}**

**Definition statement**

*This place covers:*

Sensors arranged on furniture, e.g. includes domestic and hospital furniture.

- **US 6 425 862**

  blood pressure sensor
  18 weight sensor
A61B 5/6892

{Mats}

Definition statement

This place covers:
Mat/pad/mattress/cushion with built in sensor for measuring pressure applied by a body part, e.g. used in bed/chair/prosthesis.

A61B 5/6893

{Cars}

Definition statement

This place covers:
Sensors arranged in car to monitor the driver
**A61B 5/6894**

{Wheel chairs}

**Definition statement**

*This place covers:*

Sensors arranged on a wheel chair

![Wheelchair Diagram](image1)

**A61B 5/6895**

{Sport equipment}

**Definition statement**

*This place covers:*

Sensors arranged in sports equipment

![Tennis Racket Diagram](image2)
References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Determining movement (e.g. motion capture)</th>
<th>A61B 5/1123</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensors arranged on footwear, garments</td>
<td>A61B 5/6804</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Evaluation of athletes</th>
<th>A61B 2503/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercising apparatus with means for tracking a movement path</td>
<td>A63B 69/0017</td>
</tr>
<tr>
<td>Exercising apparatus sensing physical parameters related to user's performance</td>
<td>A63B 2220/00</td>
</tr>
<tr>
<td>Exercising apparatus sensing physiological parameters of the user</td>
<td>A63B 2230/00</td>
</tr>
</tbody>
</table>

A61B 5/6896

{Toys}

Definition statement

This place covers:

Sensors arranged in a toy

US 2010/121162
A61B 5/6897
{Computer input devices, e.g. mice or keyboards}

Definition statement
This place covers:
Sensors arranged on computer input devices

Combined computer mouse and blood pressure sphygmomanometer

FIG. 5

WO 2007/130591

FIG. 7
**A61B 5/6898**

{Portable consumer electronic devices, e.g. music players, telephones, tablet computers}

**Definition statement**

*This place covers:*

Sensors arranged on a portable electronic device, e.g. a telephone adapted to sense a physiological parameter.

**References**

**Limiting references**

*This place does not cover:*

| Monitoring a patient using a global network for transmitting the physiological signals, e.g. telephone network | A61B 5/0022 |

WO 03/094720
A61B 5/70
{Means for positioning the patient in relation to the detecting, measuring or recording means}

Definition statement
This place covers:
Means for ensuring that the patient, or of a part of her body, assumes the correct position during the measurement

US 2011/237963

References
Limiting references
This place does not cover:

| Tables for x-ray examinations | A61B 6/04 |
**A61B 5/702**

**{Posture restraints}**

**Definition statement**

*This place covers:*

Means to restrain movement of the patient during the measurement, e.g. platforms, chairs, supports for limbs.

---

**A61B 5/704**

**{Tables}**

**Definition statement**

*This place covers:*

Measuring device comprising tables to aid patient positioning during examination. Special adaptations including windows, cut-outs, connections.

---

**US 4 109 646**

---

**WO 2004/107976**
References

Limiting references

This place does not cover:

Means for positioning patients (MRI, CT)  
A61B 5/0555, A61B 6/04

A61B 5/706

{Indicia not located on the patient, e.g. floor marking}

Definition statement

This place covers:

Indicia/markings to aid positioning of patient during examination. It may be on apparatus, support, floor.
**A61B 5/708**

{Breast positioning means}

**Definition statement**

This place covers:

![Diagram](image)

**US 7 254 851**

**References**

**Limiting references**

This place does not cover:


**A61B 6/00**

Apparatus for radiation diagnosis, e.g. combined with radiation therapy equipment (analysis of materials using radiation G01N 23/00, detecting hidden objects by radiation G01V 5/0008, radiodiagnostic or X-ray contrast preparations A61K 49/00; radiation therapy per se A61N 5/00; instruments measuring radiation intensity for application in the field of nuclear medicine, e.g. in vivo counting G01T 1/161; apparatus for taking X-ray photographs G03B 42/02; X-ray photographic processes G03C 5/16; irradiation devices G21K; X-ray apparatus or circuits therefor H05G 1/00)

**Definition statement**

This place covers:

Diagnostic equipments and / or methods involving the use of ionising radiation, e.g. X-ray or gamma ray. Other devices for radiation diagnosis can be found in:

| Electric currents or magnetic fields | A61B 5/05 |
| Magnetic resonance                | A61B 5/055 |
| Optical imaging                   | A61B 5/0059 |
Devices for radiation diagnosis generally consist of complex electro-mechanical arrangements of radiation source and detection units, controlled following a particular acquisition technique to obtain medical diagnostic data relating to a patient's body part. A complete characterization of these devices therefore requires the identification of both constructional and operational aspects according to the following rules.

**Relationships with other classification places**

Several subclasses, groups and subgroups provide for the different components or functional aspects constituting the devices for radiation diagnosis. It should be emphasized that documents describing these components should be classified in A61B 6/00 only if they disclose a radiation diagnostic device and the link between said components or functional aspects and the radiation diagnostic device is not trivial.

As an example, a document describing constructional details of a PET scanner should have the class A61B 6/037 and the corresponding class for said constructional details (a subclass of A61B 6/44). A document describing particular details of a radiation detector should be classified in the corresponding subclass of G01T 1/00, even if a clinical application of said detector is mentioned. However, if, e.g. details of the arrangement of said detector in a scanner for said particular clinical application are disclosed, then it should also be classified in A61B 6/037 and in the corresponding subclass of A61B 6/50.

The same principle applies to other neighbouring fields such as, e.g. image processing (G06T). A document disclosing an algorithm for image enhancement should be classified under the corresponding subclass of G06T, even if the document mentions that the images are x-ray images. However, if the algorithm requires particular constructional or functional details of the radiation diagnostic device, then the document should also be classified in the corresponding subclass of A61B 6/00. On the other hand, if is only mentioned that an algorithm for image enhancement is used but the disclosure deals mainly with details of the radiation diagnostic device, then it should only be classified in A61B 6/00.

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61B 5/0059</td>
<td>Diagnosis using light</td>
</tr>
<tr>
<td>A61B 5/0093</td>
<td>Diagnosis using opto-acoustic effect</td>
</tr>
<tr>
<td>A61B 5/055</td>
<td>Diagnosis using magnetic resonance imaging</td>
</tr>
<tr>
<td>A61B 34/20</td>
<td>Navigation during surgery</td>
</tr>
<tr>
<td>A61N 5/00</td>
<td>Radiation therapy</td>
</tr>
<tr>
<td>G01N 23/00</td>
<td>Investigation of materials using radiation</td>
</tr>
<tr>
<td>G01V 5/0008</td>
<td>Detecting hidden objects using radiation</td>
</tr>
</tbody>
</table>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61B 8/00</td>
<td>Diagnosis using sonic, infrasonic or ultrasonic waves</td>
</tr>
<tr>
<td>A61B 90/39</td>
<td>Radio-opaque markers</td>
</tr>
<tr>
<td>A61K 49/04</td>
<td>X-ray contrast preparations</td>
</tr>
</tbody>
</table>
Preparations containing radioactive substances A61K 51/00
Radiation therapy per se A61N 5/00
Nuclear Magnetic Resonance imaging systems G01R 33/48
Detectors for X-ray, gamma, etc radiation G01T 1/00
Apparatus for taking X-ray photographs G03B 42/02
X-ray photographic processes G03C 5/16
Image data processing G06T
Medical informatics G16H
Collimators G21K 1/02
X-ray tubes H01J 35/00
X-ray apparatus or circuits therefor H05G 1/00

Special rules of classification

Some of the sub-groups are related to more constructional aspects and some to more functional aspects. This classification is however not strict, its purpose is only indicative, to simplify the overview of the scheme.

Construction-oriented aspects:

- related to the generation of radiation A61B 6/40, A61B 6/06
- related to the detection of radiation A61B 6/42, A61B 6/06, A61B 6/08
- related to the patient support A61B 6/04

Operation-oriented aspects:

- related to the imaging technique A61B 6/48, A61B 6/02
- related to the clinical application A61B 6/50, A61B 6/12, A61B 6/14

Groups A61B 6/40 - A61B 6/58 do not correspond to former or current IPC groups.

Concordance ECLA - IPC for these groups is as follows:
- A61B 6/40 : A61B 6/00
- A61B 6/42 : A61B 6/00
- A61B 6/44 : A61B 6/00
- A61B 6/46 : A61B 6/00
- A61B 6/48 : A61B 6/00
- A61B 6/50 : A61B 6/00
- A61B 6/52 : A61B 6/00
- A61B 6/54 : A61B 6/00
- A61B 6/56 : A61B 6/00
- A61B 6/58 : A61B 6/00
Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

<table>
<thead>
<tr>
<th>(radiation) source</th>
<th>artificial or natural ionizing radiation emitting element per se, e.g. X-ray tube anode, tracer</th>
</tr>
</thead>
<tbody>
<tr>
<td>(radiation) source unit</td>
<td>constructional arrangement comprising a radiation source and housing, capable of emitting an oriented radiation beam, e.g. X-ray tube</td>
</tr>
<tr>
<td>Raw data</td>
<td>data output from the sensor/detector requiring pre-processing to be used for diagnostic purposes</td>
</tr>
<tr>
<td>Medical diagnostic data</td>
<td>data readable or interpretable by medical personnel, obtained after pre-processing of raw data</td>
</tr>
<tr>
<td>Image data</td>
<td>medical diagnostic data in the form of two- or three-dimensional data sets</td>
</tr>
</tbody>
</table>

A61B 6/02

Devices for diagnosis sequentially in different planes; Stereoscopic radiation diagnosis

Definition statement

This place covers:

Devices and imaging techniques for obtaining images of different planes, i.e. slices of the patient's body, in a sequential way.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Measuring radiation per se</th>
<th>G01T 1/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stereoscopic photography</td>
<td>G03B 35/00</td>
</tr>
</tbody>
</table>

Special rules of classification

The term "sequential" is used here for historical reasons, meaning that the device can be configured to obtain an image of a plane and subsequently, only by changing the device configuration and without moving the patient, to obtain a different plane. This aspect is not relevant anymore in the current definition, since a cone-beam CT would obtain images of different planes simultaneously but would still be classified under A61B 6/032.
A61B 6/022
{Stereoscopic imaging}

Definition statement

This place covers:

Acquisition and/or display of two offset images. Both functional (e.g. stereoscopic imaging technique) and constructional aspects (stereoscopic imaging scanners) of radiation-based stereoscopic imaging.

[US2007003007]

A61B 6/025
{Tomosynthesis}

Definition statement

This place covers:

Classical geometric tomography where opposing motion of the x-ray tube and film housing generate a focal plane. The tube emitted radiation continuously, and consequently the single film integrated x-ray exposure throughout the path of motion. Due to parallax, objects in planes above and below the fulcrum were blurred proportional to their distance from the plane of focus.
Modern tomosynthesis where a finite number of projection images are acquired at varying orientations of x-ray tube, patient and detector to reconstruct these arbitrary planes.


The class covers both functional (e.g. tomosynthesis imaging technique) and constructional aspects (tomosynthesis scanners) of radiation-based tomosynthesis imaging.

References

Limiting references

This place does not cover:

| Computed tomography | A61B 6/032 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Application mammography | A61B 6/502 |

Special rules of classification

In modern tomosynthesis the sequence of orientations defines an acquisition trajectory which, if relevant should be classified under A61B 6/027. In case of a circular trajectory of the source and the detector, said rotation is shorter than 180° + fan angle of the beam (acquisition of an incomplete dataset). Of longer then a complete dataset is acquired and the technique is a computerised tomography (A61B 6/032).

This technique is often used for breast imaging; in such a case it should be classified also in A61B 6/502.

A61B 6/027

{characterised by the use of a particular data acquisition trajectory, e.g. helical or spiral}

Definition statement

This place covers:

Relevant details concerning the sequence of positions of source and detector defining a trajectory along which X-ray images (projections of views) for a subsequent reconstruction are acquired.

Diagnostic techniques requiring data acquisition along a particular trajectory are typically:

Computed tomography A61B 6/032
Tomosynthesis A61B 6/025

Helical acquisition trajectory for computed tomography (A61B 6/032):

[US2003031290]

Partial isocentric motion with stationary detector in tomosynthesis (A61B 6/025):


References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Tomosynthesis</th>
<th>A61B 6/025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computed Tomography</td>
<td>A61B 6/032</td>
</tr>
</tbody>
</table>
Special rules of classification

This class also covers devices where a movement of the source unit is superimposed to e.g. a circular trajectory.

[WO2009128063]

A61B 6/03

Computerised tomographs (diagnosis by magnetic resonance imaging A61B 5/055; echo-tomography A61B 8/14)

Definition statement

This place covers:

Measuring from different angles and reconstructing (computing) a 2D image (slice) or a 3D image (set of slices).

This class includes tomography (system or function) which does not fall into the subgroups of transmission tomography (A61B 6/032) or emission tomography (A61B 6/037), or wherein the kind of tomography is not specified.

The class covers both functional (e.g. tomography) and constructional aspects (tomographs) of both transmission and emission tomography imaging.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Invention</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical tomography</td>
<td>A61B 5/0073</td>
</tr>
<tr>
<td>Diagnosis using magnetic resonance</td>
<td>A61B 5/055</td>
</tr>
<tr>
<td>Echo-tomography</td>
<td>A61B 8/14</td>
</tr>
<tr>
<td>Reconstruction from projections</td>
<td>G06T 11/003</td>
</tr>
<tr>
<td>Healthcare informatics</td>
<td>G16H</td>
</tr>
</tbody>
</table>
A61B 6/032

{Transmission computed tomography [CT]}

Definition statement

This place covers:

The source emits a radiation beam from outside the body and the attenuation of the beam is measured by a detector after the beam has traversed the patient's body. This measurement is carried out from different angles and an image (representing the values of the attenuation coefficient of the radiation at every position in space) is reconstructed (computed) from the measurements. A typical configuration consists of an X-ray source unit emitting a 2D dimensional beam in form of a fan (fan-beam) and a curved detector (1 line) which rotate around the patient along a circular trajectory to reconstruct (compute) a 2D image (slice) of the patient on the plane of said circular trajectory.

[US2005254621]

To obtain a 3D image (set of slices) the patient table can be moved steadily during acquisition so that the acquisition trajectory of source and detector with respect to the patient becomes a spiral or helix (see A61B 6/027).

The class covers both functional (e.g. computerized tomography) and constructional aspects (computerized tomographs) of transmission tomography imaging.

References

Limiting references

This place does not cover:

| Tomosynthesis | A61B 6/025 |

Special rules of classification

Transmission tomography as a technique that can be carried out with any device capable of acquiring views (projections) from different angles and can rotate at least 180° + fan angle around the patient. Devices with a more constrained rotational trajectory are not capable of performing tomographic imaging and are restricted to perform tomosynthesis (A61B 6/025). If the device is a CT scanner,
it should be classified here (A61B 6/032), otherwise said devices are classified according to their constructional features A61B 6/44, e.g. C-arm (A61B 6/4441), robotic arms (A61B 6/4458).

To obtain a 3D image (set of slices) the patient table is moved during acquisition so that the acquisition trajectory of source and detector with respect to the patient becomes a spiral or helix (see A61B 6/027).

Alternatively, a device with a source emitting a cone-beam (A61B 6/4085) combined with a two-dimensional detector (A61B 6/4233) is used. Or both, a particular acquisition trajectory (A61B 6/027) and a cone-beam with a 2D detector (A61B 6/4085 and A61B 6/4233, respectively) are combined.

**A61B 6/037**

{Emission tomography (detector details for PET G01T 1/2985, detector details for SPECT G01T 1/1644)}

**Definition statement**

This place covers:

The source (typically a radioactive tracer) emits radiation from inside the body which is measured outside the body with one or more detectors from different orientations and an image (representing the distribution of the tracer inside the body) is reconstructed (computed) from the measurements.

PET or SPECT scanners are classified under A61B 6/037

[US2011309252]

**References**

**Limiting references**

This place does not cover:

| Measuring radiation | G01T 1/00 |
| Radiation detection aspects of SPECT imaging | G01T 1/1642 |
| Radiation detection aspects of PET imaging | G01T 1/2985 |
**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Optical tomography</th>
<th>A61B 5/0073</th>
</tr>
</thead>
<tbody>
<tr>
<td>diagnosis using magnetic resonance tomography</td>
<td>A61B 5/055</td>
</tr>
<tr>
<td>Echo-tomography</td>
<td>A61B 8/14</td>
</tr>
</tbody>
</table>

**Special rules of classification**

This class covers devices for emission tomography, reconstruction of 2D images (slices) or 3D images (sets of slices). Other devices such as intra-operative gamma cameras should be classified under A61B 6/4258.

Documents concerning details of the detector should be classified under G01T 1/00, and only be classified under A61B 6/037 in the case where relevant details of the emission tomography scanner or the clinical application are disclosed.

**A61B 6/04**

**Positioning of patients; Tiltable beds or the like (operating tables A61G 13/00; operating chairs A61G 15/00)**

**Definition statement**

*This place covers:*

Any means, e.g. tables, beds, chairs, suitable for positioning the patient in the diagnostic device.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Means for positioning patients in magnetic resonance tomography | A61B 5/0555 |
| Positioning of patients in ultrasound diagnostic devices       | A61B 8/40   |
| Chairs, beds, mattresses                                       | A47C 1/00- A47C 31/00 |
| Operating tables or chairs                                     | A61G 13/00, A61G 15/00 |
**A61B 6/0407**

**{Tables or beds}**

**Definition statement**

*This place covers:*

![Diagram](image)

[US2012023671]

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means for positioning patients in magnetic resonance tomography</td>
<td>A61B 5/0555</td>
</tr>
<tr>
<td>Positioning of patients in ultrasound diagnostic devices</td>
<td>A61B 8/40</td>
</tr>
<tr>
<td>Hospital beds</td>
<td>A61G 7/00</td>
</tr>
<tr>
<td>Operating tables</td>
<td>A61G 13/00</td>
</tr>
</tbody>
</table>

**A61B 6/0414**

**{Tables or beds with compression means}**

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means for positioning patients in magnetic resonance tomography</td>
<td>A61B 5/0555</td>
</tr>
<tr>
<td>Application mammography</td>
<td>A61B 6/502</td>
</tr>
<tr>
<td>Hospital beds</td>
<td>A61G 7/00</td>
</tr>
</tbody>
</table>
A61B 6/0435

{Tables or beds with means for imaging suspended breasts}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Application mammography | A61B 6/502 |

A61B 6/045

{Tables or beds with heating or cooling means}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Means for cooling other parts of the device for radiation diagnosis | A61B 6/4488 |

A61B 6/0457

{Servo-controlled positioning}

Definition statement

This place covers:

Positioning of patients controlled by a motor.

[US2010020939]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Tracking apparatus position | A61B 6/547 |
A61B 6/0464

{Supports mounted to ceiling}

Definition statement

This place covers:

[EP0490107]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Source unit or detector unit mounted to ceiling | A61B 6/4464 |

A61B 6/0471

{Endless-band supports}

Definition statement

This place covers:

Conveyor bands or belts for transporting the patient.
Definition statement

This place covers:

Patient positioning chairs

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Operating chairs | A61G 15/00 |
**A61B 6/06**

Diaphragms {for particular diagnostic applications, e.g. tomography, i.e. not of general applicability (diaphragms, e.g. variable, or collimators in general G21K 1/02)}

**Definition statement**

*This place covers:*

Devices adapted to modify the confinement of the cross-section of the radiation beam, e.g. collimators. Situated between the source unit and the patient.

[US2011206185]

**References**

**Limiting references**

*This place does not cover:*

| Source combined with filter or grating | A61B 6/4035 |
| Detector combined with grid or grating | A61B 6/4291 |
| Multi-leaf collimators for intensity modulated radiation therapy | A61N 5/1045 |
| Diaphragms/collimators per se | G21K 1/02 |

**Special rules of classification**

Rules for classifying other devices situated on the beam path, used to modify properties of the beam:

Filters (A61B 6/4035): modify a property of the beam but not its spatial confinement, e.g. the spectrum, or the intensity distribution.

Gratings: cause diffraction and are used mainly for phase measurements.

Grids: arrangements of blades situated along the detector pixels and used to block scattered radiation.

Grids and gratings are classified depending on their position:

- **A61B 6/4035** when situated between source unit and patient,
- **A61B 6/4291** when situated between patient and detector.
A61B 6/08

Auxiliary means for directing the radiation beam to a particular spot, e.g. using light beams

Definition statement

This place covers:

Radiation diagnosis devices comprising means for assessing direction and / or extent of the radiation beam before acquisition. The auxiliary means typically consist in a light source (e.g. laser) projecting light from a point near the radiation source towards an imaging region. The projected beam can be point-like or reflect the spatial extent of the radiation beam and is typically used for monitoring / setting the alignment of the source unit with the detector unit (A61B 6/587) and/or the distance between the source unit and the patient (A61B 6/589) and / or detector unit (A61B 6/588).

[WO2011141763]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Radiation diagnosis devices with source and detector units movable relative to each other</th>
<th>A61B 6/4452</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alignment of source unit to detector unit</td>
<td>A61B 6/587</td>
</tr>
<tr>
<td>Setting distance between source unit and detector unit</td>
<td>A61B 6/588</td>
</tr>
<tr>
<td>Setting distance between source unit and patient</td>
<td>A61B 6/589</td>
</tr>
</tbody>
</table>

A61B 6/10

Application or adaptation of safety means (protection against dangerous radiation in general G21F)

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Protection against dangerous radiation | G21F |
A61B 6/102
{Protection against mechanical damage, e.g. anti-collision devices}

Definition statement

This place covers:

Any means for preventing collision between component parts of the device, or between the device and external objects, e.g. patient, other room equipments.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Mobile apparatus</th>
<th>A61B 6/4405</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracking apparatus position</td>
<td>A61B 6/547</td>
</tr>
</tbody>
</table>
A61B 6/107

{Protection against radiation, e.g. shielding (techniques for handling radiation not otherwise provided for G21K)}

Definition statement

This place covers:

![Image of medical equipment]

FIG. 7A

FIG. 8

[US2012132217]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Protection against effects of non-mechanical surgery | A61B 90/04 |
| Radiation shielding per se | G21F 1/00; G21F 7/00 |
| Techniques for handling radiation | G21K |
A61B 6/12

Devices for detecting or locating foreign bodies (A61B 6/02 takes precedence {; radio-opaque markers A61B 90/39})

Definition statement

This place covers:
Radiation diagnosis devices adapted for localisation or tracking of foreign bodies, i.e. any kind of instrument or tissue which does not belong to the patient body by nature, e.g. tumour, implant, surgical instrument.

[answers.com]

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Surgical navigation systems</th>
<th>A61B 34/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio-opaque markers</td>
<td>A61B 90/39</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Other imaging methods for locating foreign bodies</th>
<th>A61B 5/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generating a temporal series of data</td>
<td>A61B 6/486</td>
</tr>
<tr>
<td>Extracting a diagnostic parameter from medical diagnostic data</td>
<td>A61B 6/5217</td>
</tr>
<tr>
<td>Locating foreign bodies using ultrasound</td>
<td>A61B 8/0833</td>
</tr>
</tbody>
</table>
Special rules of classification

This class covers the use of radiation diagnostic devices to determine the position of a surgical instrument during an operation, e.g. using a C-arm (A61B 6/4441) for performing fluoroscopy (A61B 6/487). However, it does not cover path calculations and guiding of said instruments (A61B 34/20).

A61B 6/14

Applications or adaptations for dentistry

Definition statement

This place covers:
Radiation diagnosis devices specially adapted for dental examination, e.g. devices for panoramic imaging of the teeth.

References

Limiting references

This place does not cover:

| Radiation diagnosis of bone                  | A61B 6/505 |
| Dentistry per se                             | A61C 1/00- A61C 19/00 |
Informative references

Attention is drawn to the following places, which may be of interest for search:

| Analysis of teeth using light | A61B 5/0088 |
| Tomosynthesis                 | A61B 6/025  |
| Computed tomography           | A61B 6/032  |
| Multiple detectors            | A61B 6/4266 |

Special rules of classification

Due to their rotation capabilities needed to acquire panoramic images of the teeth, devices for panoramic radiography are often adapted to acquire projection data and generate computed tomographic images or tomosynthesis. In that case, they should be also classified under A61B 6/032 or A61B 6/025, respectively. If the device combines panoramic radiography and other imaging techniques, it might have different detectors for each imaging technique and it should be classified under A61B 6/42.

A61B 6/145

{by intraoral means (X-ray tubes having a small cross-section to facilitate introduction into small cavities H01J 35/32)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| X-ray tubes having a small cross-section to facilitate introduction into small cavities | H01J 35/32  |
A61B 6/40
{with arrangements for generating radiation specially adapted for radiation diagnosis (X-ray tubes or details thereof H01J 35/00)}

Definition statement
This place covers:
Radiation diagnostic devices comprising a radiation source for generating radiation and arrangements for manipulating said radiation by shaping the radiation beam, displacing it or modifying its characteristics.

Radiation sources cover both radiation source units to generate a radiation beam outside the patient oriented towards the patient (e.g. X-ray tubes) and radioactive tracers emitting radiation from inside the body due to radioactive decay (A61B 6/4057).

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Arrangements for focusing or moderating radiation | G21K 1/00 |

[biodex.com]
Special rules of classification


Documents should be classified in these subgroups only if:

- they explicitly relate to radiation diagnosis devices AND
- they comprise constructional details of the source unit(s).

Devices for modifying the spatial confinement of the beam (collimators) should be classified under A61B 6/06.

A61B 6/4007

{characterised by using a plurality of source units (circuit arrangements driving apparatuses comprising more than one X ray tube H05G 1/70)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Circuit arrangements driving apparatuses comprising more than one X-ray tube | H05G 1/70 |
**A61B 6/4014**

(arranged in multiple source-detector units)

**Definition statement**

*This place covers:*

Radiation diagnosis devices comprising a plurality of source unit and a plurality of detector units, each source unit being functionally associated with a detector unit.

---

**References**

**Limiting references**

*This place does not cover:*

- Devices for radiation diagnosis using a plurality of detector units [A61B 6/4266]

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

- Multiple energy imaging [A61B 6/482]
- Circuit arrangements driving apparatuses comprising more than one X-ray tube [H05G 1/70]

**Special rules of classification**

Devices where each source unit emits a ray with a different energy should be also classified under A61B 6/482.

Although these devices also have a plurality of DETECTORS THEY SHOULD NOT BE CLASSIFIED UNDER A61B 6/4266 since it is implicit that if the sources are arranged in source-detector units, the devices also have a plurality of detectors (i.e. A61B 6/4014 takes precedence).
A61B 6/4021

{involving movement of the focal spot}

Definition statement

This place covers:
Modification of focal spot position on the anode or between multiple anodes both in static imaging or in imaging modalities where source unit and detector unit perform data acquisition while following a certain trajectory (swing focus, spring focus, alternating focus, flying focus).

References

Limiting references

This place does not cover:

Radiation diagnosis devices characterised by the use of a certain trajectory

Informative references

Attention is drawn to the following places, which may be of interest for search:

Multiple energy imaging
A61B 6/4028

{resulting in acquisition of views from substantially different positions, e.g. EBCT}

**Definition statement**

*This place covers:*

Devices where the displacement of the radiation beam during the data acquisition process (scan) to obtain images or projection data from different angles is carried out by translation of the focal spot, as is typically done in electron beam computed tomography (EBCT).

![Diagram](image)

[DE102007036038]

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

Tubes wherein the point of impact of the cathode ray on the anode or anti-cathode is movable relative to the surface thereof

A61B 6/4035

{the source being combined with a filter or grating (filters for radiation per se G21K 1/10)}

**Definition statement**

*This place covers:*

Radiation diagnosis devices wherein the source unit is combined with a filtering means adapted to modify the spatial distribution of the intensity or the spectral characteristics of the radiation beam, e.g. bowtie filters.
Filters to modify a property of the beam but not its spatial confinement, e.g. the spectrum, or the intensity distribution, e.g. bowtie filters.

[WO2007120744]

This class also includes gratings to cause diffraction and are used mainly for phase measurements, and grids, i.e. arrangements of blades situated along the detector pixels and used to block scattered radiation, when they are situated between source unit and patient.

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Description</th>
<th>Class Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diaphragms/collimators for radiation diagnosis devices</td>
<td>A61B 6/06</td>
</tr>
<tr>
<td>Detector combined with grid or grating</td>
<td>A61B 6/4291</td>
</tr>
<tr>
<td>X-ray filters per se</td>
<td>G21K 1/10</td>
</tr>
</tbody>
</table>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Description</th>
<th>Class Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple energy imaging</td>
<td>A61B 6/482</td>
</tr>
<tr>
<td>X-ray phase contrast imaging</td>
<td>A61B 6/484</td>
</tr>
</tbody>
</table>

**Special rules of classification**

Rules for classifying other devices situated on the beam path, used to modify properties of the beam:

- collimators to modify the spatial confinement of the radiation beam should be classified under A61B 6/06.
- gratings or grids situated between the patient and the detector should be classified under A61B 6/4291.

Radiation devices using filters to modify the spectral characteristics of the beam (i.e. modify the energy of the radiation beam) should be also classified under A61B 6/482.

Grids for X-ray phase contrast imaging (A61B 6/484) should also be classified here, if they are positioned between the source and the patient.
A61B 6/405

{Source units adapted to modify characteristics of the beam during the data acquisition process (A61B 6/4021, A61B 6/4035 take precedence; arrangements changing the time structure of an already generated radiation beam G21K 1/043)}

Definition statement

This place covers:
Radiation diagnosis devices involving arrangements to modify characteristics such as voltage or tube current during the data acquisition process.

[US20122230466]

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Movement of the focal spot</th>
<th>A61B 6/4021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source unit combined with a filter</td>
<td>A61B 6/4035</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Multiple energy imaging</th>
<th>A61B 6/482</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control of exposure</td>
<td>A61B 6/542</td>
</tr>
<tr>
<td>Arrangements changing the time structure of an already generated radiation beam</td>
<td>G21K 1/043</td>
</tr>
<tr>
<td>Controlling X-ray tubes</td>
<td>H05G 1/30</td>
</tr>
</tbody>
</table>

Special rules of classification

Modifying the characteristics of the beam by moving the focal spot or using filter should be classified under A61B 6/4021 and A61B 6/4035, respectively.

Typically changing the voltage during image acquisition is used to modify the energy spectrum of the beam, which is related to multiple energy imaging (A61B 6/4021).
Modifying the tube current during data acquisition is typically used to control exposure to radiation (dose), hence A61B 6/542 might be relevant too.

**A61B 6/4057**

{by using a source unit in the interior of the body (A61B 6/037 takes precedence; X-ray tubes with small cross-section H01J 35/32)}

**Definition statement**

This place covers:

Radiation diagnostic devices where the radiation source is introduced into the body, as part of a probe or capsule, or as a radioactive tracer.

[FIG. 1B]

[WO 2005/058129]

**References**

**Limiting references**

This place does not cover:

| Capsule endoscopes          | A61B 1/041 |

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Diagnosis using light using a probe introduced into the body | A61B 5/0084 |
| Emission tomography (PET/SPECT)                           | A61B 6/037   |
| Radiation diagnosis with detectors for detecting non X-ray radiation | A61B 6/4258  |
| Ultrasound diagnosis in body cavities                     | A61B 8/12    |
| Detection of radiation                                   | G01T 1/00    |
| X-ray tubes with small cross-section                      | H01J 35/32   |

**Special rules of classification**

A document disclosing an diagnostic application of PET or SPECT scanner (A61B 6/037) does not need to be classified also under A61B 6/4057 to cover the radioactive tracer aspect since this is implicit in the A61B 6/037 code. Only in the case that the document discloses particular technical properties of said tracer that solve a technical problem (e.g. specific tracer injection protocol,
combination of tracers, tracer carried to a specific organ by a capsule before release) should the document be classified here.

Applications of intra-operative gamma cameras to detect rests of tumours labelled with a radioactive tracer should get the codes A61B 6/4057 and A61B 6/4258.

**A61B 6/4064**

*adapted for producing a particular type of beam*

**Definition statement**

*This place covers:*

Particular technical features of the radiation beam, e.g. geometrical properties or type of radiation.

[EP2036498]

**Special rules of classification**

This class also covers the use for radiation diagnosis of a source generating any radiation which is not X-ray or synchrotron (A61B 6/4092) radiation, e.g. a radioisotope source.

**A61B 6/42**

*with arrangements for detecting radiation specially adapted for radiation diagnosis (details of radiation detection G01T 1/00)*

**Definition statement**

*This place covers:*

Radiation diagnosis devices comprising a detection unit arrangement specially adapted for a particular acquisition technique or diagnostic application, and arrangements for modifying the beam prior to detection, e.g. anti-scatter grids.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Measuring radiation per se                  | G01T 1/00 |
| X-ray films                                 | G03B 42/00 |
| Packages for X-ray films                    | G03C 3/003 |
| Image intensifiers                          | G03C 3/003 |

Special rules of classification

Documents should be classified in these subgroups only if:
- they explicitly relate to radiation diagnosis devices AND
- they comprise constructional details of the detector unit(s).

A document describing particular details of a radiation detector should be classified in the corresponding subclass of G01T 1/00, even if a clinical application of said detector is mentioned. However, if e.g. details of the arrangement of said detector in a PET scanner for said particular clinical application are disclosed, then it should also be classified in A61B 6/037 and in the corresponding subclass of A61B 6/50.

A61B 6/4208

{characterised by using a particular type of detector}

Definition statement

This place covers:
Radiation devices comprising a detector with special features not covered by any of the subgroups below.

A61B 6/4216

{using storage phosphor screens (details of stimulable phosphor sheets G01T 1/2012)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Details of stimulable phosphor sheets        | G01T 1/2012 |
A61B 6/4225
{using image intensifiers}

Definition statement
This place covers:
Radiation devices using an image intensifier for radiation detection.

[W02005006257]

References
Limiting references
This place does not cover:

| Image intensifiers per se | H04N 5/32 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Matrix detectors | A61B 6/4233 |
| Fluoroscopy      | A61B 6/487  |

Special rules of classification
Image intensifiers in radiation diagnostics are typically used for real-time intra-operative imaging using fluoroscopy (A61B 6/487). Currently (2012) they have been substituted by flat panel detectors which should be classified under A61B 6/4233.

A61B 6/4233
{using matrix detectors (for semiconductor radiation detectors G01T 1/24, G01T 1/2928)}

Definition statement
This place covers:
Radiation devices using an array of pixel detectors which generates an output in digital format. The array might have different geometries, 1 dimensional like in a CT scanner with a line detector, 2
dimensional and flat like a flat panel detector for radiography, 2 dimensional and cylindrical like in some multi-slice CT scanners, etc.

[WO2005037075]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| semiconductor radiation detectors | G01T 1/24, G01T 1/2928 |

A61B 6/4241

{using energy resolving detectors, e.g. photon counting (detectors for nuclear medicine G01T 1/16, G01T 1/29)}

Definition statement

This place covers:

Radiation devices using detectors capable of discerning several levels of energy of the detected beam.

References

Limiting references

This place does not cover:

| multiple energy imaging as an imaging technique | A61B 6/482 |
| detectors for nuclear medicine | G01T 1/16, G01T 1/29 |
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contrast agents in radiation diagnosis</td>
<td>A61B 6/481</td>
</tr>
<tr>
<td>Radiation angiography</td>
<td>A61B 6/504</td>
</tr>
<tr>
<td>Radiation diagnosis of bone</td>
<td>A61B 6/505</td>
</tr>
</tbody>
</table>

Special rules of classification
Typically combined with the combination of radiation data acquired at different energies to extract a particular diagnostic information (A61B 6/482).

Multiple energy in radiation diagnostics is typically used to produce enhanced angiographic images (A61B 6/504) combined with a contrast agent (A61B 6/481) or for the diagnosis of bone (A61B 6/505).

A61B 6/425
{using detectors specifically adapted to be used in the interior of the body (detector details for in vivo counting G01T 1/161)}

Definition statement
This place covers:
Radiation diagnostic devices where the radiation detector is introduced into the body, as part of a probe or capsule.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capsule endoscopes</td>
<td>A61B 1/041</td>
</tr>
<tr>
<td>Diagnosis using light using a probe introduced into the body</td>
<td>A61B 5/0084</td>
</tr>
</tbody>
</table>

[WO2005058129]
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Radiation diagnosis with detectors for detecting non X-ray radiation</th>
<th>A61B 6/4258</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasound diagnosis in body cavities</td>
<td>A61B 8/12</td>
</tr>
<tr>
<td>Detector details for in vivo counting</td>
<td>G01T 1/161</td>
</tr>
</tbody>
</table>

A61B 6/4258
(for detecting non x-ray radiation, e.g. gamma radiation (A61B 6/037 takes precedence))

Definition statement
This place covers:
Radiation diagnostic devices comprising a detector to detect radiation other than X-ray radiation, e.g. gamma or beta radiation.

References
Limiting references
This place does not cover:
Detecting radiation | G01T 1/00 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Emission tomography</th>
<th>A61B 6/037</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiation source for the interior of the body</td>
<td>A61B 6/4057</td>
</tr>
</tbody>
</table>

Special rules of classification
Applications of PET or SPECT (A61B 6/037) do not require this class, since these techniques already imply the detection of non X-ray radiation. If the radiation is emitted by a radioactive tracer or in general a source inside the body (e.g. in a capsule) the class A61B 6/4057 should be given.
A61B 6/4266
{characterised by using a plurality of detector units (A61B 6/4014 takes precedence)}

Definition statement
This place covers:

References
Limiting references
This place does not cover:

| Devices for radiation diagnosis using a plurality of source-detector units | A61B 6/4014 |

Special rules of classification
An array of pixels is considered to be a single detector unit. If the device has more than one array, they are considered to be a single detector unit if there is no independent control of each of the arrays. Otherwise, if each array is controlled independently, each array is considered to be a single detector unit. Devices with multiple source-detector units should only be classified under A61B 6/4007.
A61B 6/4275

{using a detector unit almost surrounding the patient, e.g. more than 180°}

Definition statement

This place covers:

Radiation diagnosis devices comprising a detector unit forming a closed or almost closed structure around the patient, e.g. 4th generation CT scanners.

[US2004081277]
A61B 6/4283
{characterised by a detector unit being housed in a cassette}

Definition statement
This place covers:
Both matrix and film detectors.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Film cassette holder construction | G03B 42/02 |

[US2012097860]
**A61B 6/4291**

{the detector being combined with a grid or grating}

**Definition statement**

*This place covers:*

Radiation diagnosis devices comprising a detector unit combined with a grid, such as an anti-scatter grid or with a grating, as used in X-ray phase contrast imaging ([A61B 6/484]).

![Diagram of detector and grid](image)

[US2011274252]

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Collimators for radiation diagnosis devices</th>
<th>A61B 6/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source combined with a filter or grating</td>
<td>A61B 6/4035</td>
</tr>
<tr>
<td>Reduction of scatter by image processing in devices for radiation diagnosis</td>
<td>A61B 6/5282</td>
</tr>
</tbody>
</table>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>X-ray phase contrast imaging</th>
<th>A61B 8/486</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-ray filters per se</td>
<td>G21K 1/10</td>
</tr>
</tbody>
</table>

**Special rules of classification**

Rules for classifying other devices situated on the beam path, used to modify properties of the beam:
• collimators to modify the spatial confinement of the radiation beam should be classified under A61B 6/06.
• filters or gratings situated between the source and the patient should be classified under A61B 6/4035.

A61B 6/44

{Constructional features of the device for radiation diagnosis}

Definition statement
This place covers:
Diagnostic devices comprising structural or mechanical arrangements allowing a specific usage or property, e.g. movement, modularity.

Special rules of classification
This class covers all details concerning constructional aspects not covered by any of the subgroups below.

A61B 6/4405

{the device being mobile or portable, e.g. mounted on a trolley or handheld}

Definition statement
This place covers:
Mobile radiation diagnosis device, e.g. mounted on casters or rollers or small handheld devices, e.g. handheld intra-operative gamma cameras.
A61B 6/4405 (continued)

References
Informative references

Attention is drawn to the following places, which may be of interest for search:

| With anti-collision devices or braking systems | A61B 6/102- A61B 6/105 |
| Ultrasound diagnostic devices mounted on a trolley | A61B 6/4405 |

A61B 6/4411
{the device being modular}

Definition statement

This place covers:
Modular construction of radiation diagnosis device allowing part to be exchanged or replaced either for mounting different types of components or for simpler disassembling and reassembling.

[EP2382922]
A61B 6/4417
{related to combined acquisition of different diagnostic modalities}

Definition statement
This place covers:
Constructional arrangements for facilitating the combined use of different imaging modalities including translation from one device to the other or integration of different modalities in one device. At least one modality relates to X-ray imaging.

[US2011297834]

References

Limiting references
This place does not cover:
Post-acquisition processing for combination of images from different modalities A61B 6/5229 and lower

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Optical diagnosis</th>
<th>A61B 5/0059</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetic resonance imaging</td>
<td>A61B 5/055, G01R 33/48</td>
</tr>
<tr>
<td>Transmission tomography</td>
<td>A61B 6/032</td>
</tr>
<tr>
<td>Emission tomography</td>
<td>A61B 6/037</td>
</tr>
<tr>
<td>C-arms</td>
<td>A61B 6/4441</td>
</tr>
<tr>
<td>Diagnosis with ultrasound</td>
<td>A61B 8/00</td>
</tr>
</tbody>
</table>

Special rules of classification
This class covers all details concerning constructional aspects to combine different diagnostic modalities in one device.

(Ionising) radiation - (ionising) radiation: e.g. PET/CT
(Ionising) radiation - other type of diagnostics: e.g. CT/ultrasound (A61B 8/00), X-ray/optical (A61B 5/0059), CT/MRI (A61B 5/055, G01R 33/48), etc.

This class does not cover the combination of images coming from the different modalities per se, said combination should be classified under A61B 6/5229 and its subclasses.

**A61B 6/4423**

{related to hygiene or sterilisation}

**Definition statement**

*This place covers:*

[WO2004081867]

**A61B 6/4429**

{related to the mounting of source units and detector units (A61B 6/02 takes precedence)}

**Definition statement**

*This place covers:*

Details of the mounting arrangement of the source units and/or detector units.

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Devices for diagnosis sequentially in different planes; Stereoscopic radiation diagnosis | A61B 6/02 |

**Special rules of classification**

Imaging devices under A61B 6/02 should only be classified here if the document describes particular details of the arrangement. E.g. a computed tomography scanner should be classified under A61B 6/032 but not under A61B 6/4435, since it is implicit in such a device that source and detector unit are coupled by a rigid structure. However, a radiation device where source and detector unit are coupled by a rigid structure and which is capable of performing tomographic imaging should be classified both under A61B 6/4435 and A61B 6/032 (in such a case A61B 6/032 code the functional aspect “computerised tomography” and not the constructional aspect “computerised tomograph”).
**A61B 6/4435**

{the source unit and the detector unit being coupled by a rigid structure}

**Definition statement**

*This place covers:*

Devices wherein the relative position and orientation of the source and detector units is fixed. Open structures such as C-frames and closed structures such as gantries.

**Special rules of classification**

Devices where the distance between source and detector or the orientation can be modified should be classified under A61B 6/4452.

**A61B 6/4441**

{the rigid structure being a C-arm or U-arm}

**Definition statement**

*This place covers:*

Devices wherein the source and the detector are fixed on a c or u-shaped frame.

[WO2010128417]

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Data acquisition trajectories in radiation diagnosis devices</th>
<th>A61B 6/027</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission tomography</td>
<td>A61B 6/032</td>
</tr>
</tbody>
</table>
Special rules of classification

C-arms are usually used for fluoroscopy (A61B 6/487) or for computerised tomography (A61B 6/032). Due to their flexibility they can acquire projection data (views) along different trajectories for tomographic reconstruction (A61B 6/027).

**A61B 6/4447**

{Tiltable gantries}

**Definition statement**

*This place covers:*

Devices wherein the source and the detector are fixed to a rigid frame forming a closed loop which can be tilted to image planes tilted with respect to the axial direction of the patient.

![Diagram of tiltable gantries](us2003235266)
A61B 6/4452
{the source unit and the detector unit being able to move relative to each other}

Definition statement

This place covers:

Devices wherein the relative position and orientation of the source and detector units can be changed, e.g. device for performing tomosynthesis (A61B 6/025) of the breast where source and detector units are shifted along a linear trajectory but the source always points to the detector unit.


A61B 6/4458
{the source unit or the detector unit being attached to robotic arms}

Definition statement

This place covers:

[US 2005/0234327]
A61B 6/4464
{the source unit or the detector unit being mounted to ceiling}

Definition statement

This place covers:

[US 2011/0182408]
A61B 6/447
{the source unit or the detector unit being mounted to counterpoise or springs}

Definition statement
This place covers:
Mechanical arrangements of the source and detector where their displacement is controlled by a counter balance or a spring.

[US20090040333]

A61B 6/4476
{related to servo controlled movement of the source unit}

Definition statement
This place covers:
Radiation devices where the movement of the source unit is controlled via a servomechanism, i.e. a feedback control to correct deviations in position (usually an electric or electronic motor).

A61B 6/4488
{Means for cooling (A61B 6/045 takes precedence)}

Definition statement
This place covers:
Means for cooling in general, e.g. cooling of anode in the radiation source, cooling of the detector, etc.

References
Limiting references
This place does not cover:

| Tables or beds provide with heating or cooling means | A61B 6/045 |
Special rules of classification

This class covers all aspects related to cooling in a radiation diagnostic device except for tables or beds with heating or cooling means (A61B 6/045).

A61B 6/4494

{Means for identifying the diagnostic device}

Definition statement

This place covers:
Any means for identifying X-ray apparatus or component parts thereof, e.g. removable filters, detectors. Includes bar codes, memory chips or RFIDs.

A61B 6/46

{with special arrangements for interfacing with the operator or the patient}

Definition statement

This place covers:
Radiation diagnosis devices comprising input and/or output means structurally or functionally designed for allowing a specific interaction with the device user or the patient.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| ICT specially adapted for the operation of medical equipment or devices | G16H 40/60 |

Special rules of classification

Documents should be classified in these subgroups only if:
• they explicitly relate to radiation diagnosis devices AND
• they comprise details of the user interface.

A61B 6/461

{Displaying means of special interest}

Definition statement

This place covers:
Displays with special properties not covered by any of the subclasses.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Displays for electrocardiography | A61B 5/044 |
| Displays in magnetic or electric diagnosis | A61B 5/742 |
| Displays for ultrasound diagnosis | A61B 8/461 |
Special rules of classification

Touch screens should be classified here and as special input means (A61B 6/467).

A61B 6/462

{characterised by constructional features of the display}

Definition statement

This place covers:
Portable displays, supports for displays.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Viewing apparatus for X-ray images | G02B 27/023 |

A61B 6/463

{characterised by displaying multiple images or images and diagnostic data on one display}

Definition statement

This place covers:
Display of images obtained by all types of X-ray imaging apparatus, combinations of images, e.g. side-by-side, superimposed, tiled. Also for combination of images and other data, e.g. graphs, ECG curves, pulse waveforms, alphanumeric data.

[EP1421913]
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Radiation diagnosis devices comprising processing means for combining image data of a patient

A61B 6/5229

A61B 6/464

{involving a plurality of displays}

Definition statement

This place covers:

[EP2391292]
A61B 6/465
{adapted to display user selection data, e.g. icons or menus}

Definition statement

This place covers:

![Diagram](image)

[US2007064864]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

- ICT specially adapted for the operation of medical equipment or devices

A61B 6/466

{adapted to display 3D data (3D image rendering \texttt{G06T 15/00}; manipulating 3D models for computer graphics \texttt{G06T 19/00})}

References

Limiting references

This place does not cover:

- 3D image rendering per se

Informative references

Attention is drawn to the following places, which may be of interest for search:

- manipulating 3D models for computer graphics
**A61B 6/467**

{characterised by special input means}

**Definition statement**

*This place covers:*

Both constructional (e.g. touch-screen, trackball) and functional aspects (e.g. specific purpose) of input means.

[WO2011066486]

[US2012093298]
A61B 6/468
{allowing annotation or message recording}

Definition statement
This place covers:
All types of message recording associated with radiation diagnosis imaging, e.g. annotation on image, sound recording.

A61B 6/469
{for selecting a region of interest [ROI]}

Definition statement
This place covers:
Operator selection of region of interest or specific organs to be imaged, e.g. by touch screen, keyboard or switch. Also for definition of ROI after image analysis.

Special rules of classification
This class does not cover automatic selection of a region of interest using image processing which should be classified under A61B 6/5211.

A61B 6/48
{Diagnostic techniques (A61B 6/022, A61B 6/032, A61B 6/037 take precedence)}

Definition statement
This place covers:
Diagnostic devices involving a specific use of ionising radiation to perform a particular type of diagnosis. Imaging techniques are independent of the device used for implementing them.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Imaging technique</th>
<th>CPC Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stereoscopic imaging</td>
<td>A61B 6/022</td>
</tr>
<tr>
<td>Tomosynthesis</td>
<td>A61B 6/025</td>
</tr>
<tr>
<td>Transmission computed tomography</td>
<td>A61B 6/032</td>
</tr>
<tr>
<td>Emission tomography</td>
<td>A61B 6/037</td>
</tr>
</tbody>
</table>

Special rules of classification
Imaging techniques not found under A61B 6/02 and not covered by any of the subclasses should be classified as A61B 6/48.
A61B 6/481

{involving the use of contrast agents}

**Definition statement**

*This place covers:*

Radiation diagnosis imaging based on or improved using an agent with particular properties for the absorption of radiation.

**References**

**Limiting references**

*This place does not cover:*

| Diagnosis of haemodynamic parameter | A61B 6/032 |
| Radiation diagnosis with radioactive tracer | A61B 6/4057 |
| Diagnosis of blood vessels | A61B 6/504 |

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Acquisition of a temporal series of data | A61B 6/486 |
| Contrast agents in ultrasound diagnosis | A61B 8/481 |
| Contrast agents in magnetic resonance imaging | G01R 33/5601 |

**Special rules of classification**

Mainly related to angiography (see also diagnosis of blood vessels A61B 6/504), but not exclusively.

The diagnostic of hemodynamic parameters (e.g. perfusion) by acquiring a temporal series of images should be classified under A61B 6/507 and A61B 6/486.

Radioactive tracers are not considered to be a contrast agent but a source to be introduced into the body (A61B 6/4057).
A61B 6/482
{involving multiple energy imaging}

Definition statement
This place covers:
Radiation diagnostics using different radiation energy levels.

References
Limiting references
This place does not cover:

| Source unit with multiple anodes | A61B 6/4021 |
| Source unit combined with a filter | A61B 6/4035 |
| Energy resolving detectors for radiation diagnosis | A61B 6/4241 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Filters for multiple energy imaging | A61B 6/4042 |
| Angiography | A61B 6/504 |
| Diagnosis or bone | A61B 6/505 |
| Measuring spectral distribution of X-rays | G01T 1/36 |

Special rules of classification
Radiation diagnostic devices based on multiple energy imaging should be classified under A61B 6/482 and additionally according to the technique used to acquire the data at different energy levels, for example:

- A source with several anodes for producing beams with different energy (A61B 6/4021).
- One beam with a certain energy spectrum which is filtered after leaving the source unit (A61B 6/4035).
- One beam with a certain energy spectrum which is separated into several energy bands at the detector (A61B 6/4241).
- A dual source-detector scanner with source units emitting radiation beams of different energies (A61B 6/4014 and A61B 6/4266).
Multiple energy imaging is typically used for examining bone (A61B 6/505) or with contrast agents (A61B 6/481), where two energy bands, one above and one under the K-edge of the contrast material are used to enhance the effect of the contrast agent in angiography (A61B 6/504).

A61B 6/483

{involving scattered radiation}

Definition statement

This place covers:
Radiation diagnostics using information from scattered radiation (non-ballistic photons).

Special rules of classification

This class does not cover reduction of artefacts caused by scatter from images (A61B 6/5282) or scatter correction performed in projection data before image reconstruction (A61B 6/5205).
A61B 6/484
{involving phase contrast X-ray imaging}

Definition statement
This place covers:

A61B 6/485
{involving fluorescence X-ray imaging}

Definition statement
This place covers:
Radiation diagnostics using characteristic "secondary" (or fluorescent) X-rays from an object that has been excited by bombarding with high-energy X-rays or gamma rays.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Investigating material by X-ray fluorescence  G01N 23/223
A61B 6/486
{involving generating temporal series of image data}

Definition statement

This place covers:
Dynamic imaging techniques, e.g. wherein a plurality of images of the same region are acquired during a predetermined amount of time.

[DE102010041443]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>ECG</th>
<th>A61B 5/0402</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission tomography</td>
<td>A61B 6/032</td>
</tr>
<tr>
<td>Contrast agents in radiation diagnosis</td>
<td>A61B 6/481</td>
</tr>
<tr>
<td>Diagnosis of heart</td>
<td>A61B 6/503</td>
</tr>
<tr>
<td>Haemodynamic parameters</td>
<td>A61B 6/507</td>
</tr>
<tr>
<td>Extracting a diagnostic parameter from image data</td>
<td>A61B 6/5217</td>
</tr>
<tr>
<td>Retrospective matching to a physiological signal</td>
<td>A61B 6/5288</td>
</tr>
</tbody>
</table>

Special rules of classification

Typically used for
- real-time imaging, e.g. fluoroscopy (A61B 6/487),
- acquisition of a series (A61B 6/486) of CT images (A61B 6/032) for the analysis (A61B 6/5217) of hemodynamic parameters, e.g. perfusion (A61B 6/507), with contrast agents (A61B 6/481),
- concurrent acquisition of data of the beating heart (A61B 6/503) with a CT (A61B 6/032) scanner and an ECG (A61B 5/0402) for retrospectively matching the CT data to phases of the cardiac cycle (A61B 6/5288) and reconstruct a series of CT images of the heart in different cardiac phases (A61B 6/486).
A61B 6/487
{involving fluoroscopy}

Definition statement
This place covers:
Real-time X-ray imaging during an intervention.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Image intensifiers in radiation diagnosis | A61B 6/4225 |
| Flat panel detectors in radiation diagnosis | A61B 6/4233 |
| C-arms | A61B 6/4441 |

Special rules of classification
Initially fluoroscopy was carried out using a fluoroscope, i.e. using a fluorescent screen as a detector. Later image intensifiers (A61B 6/4225) were used, and nowadays (2012) typically flat panel detectors are used (A61B 6/4233).

Very often fluoroscopy is carried out using a C-arm (A61B 6/4441).

A61B 6/488
{involving pre-scan acquisition}

Definition statement
This place covers:
Diagnostic techniques in which a first acquisition is performed prior to the actual examination.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Exposure control based on patient thickness | A61B 6/544 |
| Automatic setup of acquisition parameters | A61B 6/545 |
| Calibration | A61B 6/582 |

Special rules of classification
Typically used to identify the boundaries of the zone to be scanned and automatically adjust acquisition parameters (A61B 6/545) or to adjust the X-ray dose according to the size of the patient (A61B 6/544). The pre-scan acquisition might be carried out using a different device than the radiation diagnostic device, e.g. an optical camera.
A61B 6/50

{Clinical applications (dentistry A61B 6/14 takes precedence)}

Definition statement

This place covers:
Classification in this group depends on the body part or organ which is to be diagnosed. This class covers clinical applications not provided for in the subgroups.

References

Limiting references

This place does not cover:

| Applications or adaptations for dentistry | A61B 6/14 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Diagnosis by electrical, magnetic, pressure, sensing means, of particular parts of the body | A61B 5/40 - A61B 5/48 |

A61B 6/501

{involving diagnosis of head, e.g. neuroimaging, craniography}

Definition statement

This place covers:

[radiologyinfo.org]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Electroencephalography</th>
<th>A61B 5/0476</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasonic brain imaging</td>
<td>A61B 8/0808</td>
</tr>
</tbody>
</table>
A61B 6/502
{involving diagnosis of breast, i.e. mammography}

Definition statement

This place covers:

[wikipedia.org]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammography by transillumination</td>
<td>A61B 5/0091</td>
</tr>
<tr>
<td>Patient immobilizing means for mammography</td>
<td>A61B 6/0414</td>
</tr>
<tr>
<td>Ultrasonic mammography</td>
<td>A61B 8/0825</td>
</tr>
</tbody>
</table>
A61B 6/503
{involving diagnosis of heart}

Definition statement
This place covers:

[medical.siemens.com]

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Electrocardiography</th>
<th>A61B 5/0402</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasonic heart imaging</td>
<td>A61B 8/0883</td>
</tr>
</tbody>
</table>

A61B 6/504
{involving diagnosis of blood vessels, e.g. by angiography}

Definition statement
This place covers:

[wikipedia]
A61B 6/505 (continued)

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating blood vessels</td>
<td>A61B 5/489</td>
</tr>
<tr>
<td>Radiation imaging using contrast agents</td>
<td>A61B 6/481</td>
</tr>
<tr>
<td>Radiation diagnosis using multiple energy</td>
<td>A61B 6/482</td>
</tr>
<tr>
<td>Ultrasonic blood vessels imaging</td>
<td>A61B 8/0891</td>
</tr>
</tbody>
</table>

A61B 6/505

{involving diagnosis of bone}

Definition statement

This place covers:

[link to an image of a hand X-ray]

[radiologyinfo.org]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone monitoring in general</td>
<td>A61B 5/4504</td>
</tr>
<tr>
<td>Radiation diagnosis using multiple energy</td>
<td>A61B 6/482</td>
</tr>
<tr>
<td>Bone diagnosis using ultrasound</td>
<td>A61B 8/0875</td>
</tr>
</tbody>
</table>

Special rules of classification

This class covers bone analysis such as quantitative analysis of bone structure or imaging of bone, e.g. for the diagnostic of fractures.
A61B 6/506
{involving diagnosis of nerves}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Nerves diagnosis</th>
<th>A61B 5/04001, A61B 5/40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating nerves</td>
<td>A61B 5/4896</td>
</tr>
</tbody>
</table>

A61B 6/507
{involving determination of haemodynamic parameters, e.g. perfusion CT}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Detecting heart rate, blood pressure or blood blow | A61B 5/02   |
| Radiation diagnosis imaging techniques involving the generation of a temporal sequence of image data | A61B 6/486  |
| Extracting physiological parameters from image data | A61B 6/5217 |

A61B 6/508
{for non-human patients}

Definition statement
This place covers:
Animal imaging and pre-clinical research. Also for veterinary imaging.

A61B 6/52
{Devices using data or image processing specially adapted for radiation diagnosis (image processing per se G06T)}

Definition statement
This place covers:
Radiation diagnosis devices involving any kind of processing of data (raw data or diagnostic data) or image processing for enhancement purposes, e.g. artefacts reduction or resolution improvement.
This class covers data or image processing in radiation diagnostics not provided for in the subgroups.

References
Limiting references
This place does not cover:
| Signal processing of physiological signals | A61B 5/72   |
Data/image processing in ultrasound diagnosis  A61B 8/52
Image processing per se  G06T
Image analysis per se  G06T 7/00
Image reconstruction from projection  G06T 11/003

Special rules of classification

Documents should be classified in these subgroups only if:
- they explicitly relate to radiation diagnosis devices AND
- they comprise details of data or image processing.

Image processing alone should not be classified in A61B 6/52, except when the processing is clearly adapted to a particular diagnostic device (e.g. removal of patient table from a CT image) or a specific diagnostic application (e.g. assessment of breast tumour size evolution from subsequent mammography acquisitions).

The subgroups are separated into processing of raw data (data output from the sensor requiring pre-processing to be used for diagnostic purposes) and diagnostic data (data readable or interpretable by medical personnel, obtained after pre-processing raw data).

A61B 6/5205
{involving processing of raw data to produce diagnostic data}

Definition statement

This place covers:
Pre-processing of data measured out of the detector, e.g. sinogram filtering or combination of detector rows, columns.

References

Limiting references

This place does not cover:

| Detectors calibration                      | A61B 6/585 |
| Processing of raw ultrasound data         | A61B 8/5207 |
| Image reconstruction from projection      | G06T 11/003 |

A61B 6/5211
{involving processing of medical diagnostic data}

Definition statement

This place covers:
Processing of data readable or interpretable by medical personnel, obtained after pre-processing raw data.
A61B 6/5217
{extracting a diagnostic or physiological parameter from medical diagnostic data (details of algorithms to analyse biomedical images G06T 7/0012)}

Definition statement
This place covers:
Acquired data is used to derive a particular diagnostic index, e.g. tumour size or perfusion rate.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Diagnostic ultrasound image processing for generating planar views in a user selectable plane</th>
<th>A61B 8/523</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algorithms for biomedical image analysis</td>
<td>G06T 7/0012</td>
</tr>
<tr>
<td>Segmentation algorithms</td>
<td>G06T 7/10</td>
</tr>
<tr>
<td>ICT specially adapted for medical diagnosis, medical simulation or medical data mining</td>
<td>G16H 50/00</td>
</tr>
</tbody>
</table>

Special rules of classification
This class includes also extracting a region of an image representing a certain organ or body part by segmentation.

A61B 6/5223
{generating planar views from image data, e.g. extracting a coronal view from a 3D image}

Definition statement
This place covers:
Generation of user selected planar views not coincident with CT slice images from CT data, e.g. sagittal or coronal slice images. Usually combined with 3D imaging.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Radiation diagnosis devices adapted to display 3D data</th>
<th>A61B 6/466</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D image rendering</td>
<td>G06T 15/00</td>
</tr>
</tbody>
</table>

Special rules of classification
This class also covers specific medical imaging processing such as:
• generating a planar view from a 3D data set, e.g. DRR (digitally reconstructed radiographs),
• generating a planar view from a temporal series of 2D data, e.g. MIP (maximum intensity projection).
A61B 6/5229

{combining image data of a patient, e.g. combining a functional image with an anatomical image (details of algorithms for image registration G06T 7/30)}

Definition statement

This place covers:

Means for combining images of one or several imaging modalities, e.g. merging of contiguous sub-images to obtain a larger image or multi-modality image registration.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Constructional details concerning the combination of different modalities in a device | A61B 6/4417 |
| Algorithms for image registration | G06T 3/0068 |

A61B 6/5235

{combining images from the same or different radiation imaging techniques, e.g. PET and CT}

Definition statement

This place covers:

Combining images of the patient obtained by a diagnostic technique classified under A61B 6/00 (ionising radiation).

A61B 6/5241
{combining overlapping radiation images, e.g. by stitching}

Definition statement

This place covers:

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angiography in radiation diagnosis</td>
<td>A61B 6/504</td>
</tr>
<tr>
<td>Spatial compounding in ultrasound diagnosis</td>
<td>A61B 8/5253</td>
</tr>
</tbody>
</table>

Special rules of classification

Typically used in angiography A61B 6/504.
A61B 6/5247

{combining images from different diagnostic modalities, e.g. X-ray and ultrasound}

Definition statement

This place covers:

Combining images of the patient obtained by a A61B 6/00 diagnostic technique (ionising radiation) and a non A61B 6/00 diagnostic technique.

A61B 6/5252

{removing objects from field of view, e.g. removing patient table from a CT image}

Definition statement

This place covers:

Objects such as patient table, headrest, markers are eliminated from the diagnostic data. Does not apply to artefacts i.e. unpredictable features determined by heat, dust, light.

A61B 6/5258

{involving detection or reduction of artifacts or noise (details of algorithms for image enhancement G06T 7/97)}

Definition statement

This place covers:

Data or image processing for noise or artefact reduction in radiation diagnostic images.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Algorithms for image de-noising</th>
<th>G06T 5/002</th>
</tr>
</thead>
</table>
A61B 6/5264
{due to motion}

Definition statement
This place covers:
Data or image processing for artefact reduction wherein the artefacts are caused by motion.

A61B 6/527
{using data from a motion artifact sensor (A61B 6/5276 takes precedence)}

Definition statement
This place covers:
A motion sensor is used to detect motion and information from said sensor is used in the processing to remove motion artefacts.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Motion derived by measuring table sag</th>
<th>A61B 6/5276</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retrospective matching to a physiological signal</td>
<td>A61B 6/5288</td>
</tr>
<tr>
<td>Acquisition triggered by a physiological signal</td>
<td>A61B 6/541</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Patient motion evaluation per se | A61B 5/11 |

Special rules of classification
This class does not cover triggering data acquisition based on a physiological signal (A61B 6/541) or retrospectively associating acquired data to a physiological signal which has been acquired simultaneously with the data (A61B 6/5288).
A61B 6/5276
{involving measuring table sag}

Definition statement
This place covers:
Correction of misalignment errors caused by lack of rigidity of the patient table, where measurements of table sag are used.

[US2007003020]

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Patient positioning supports | A61B 6/04 |

A61B 6/5288
{involving retrospective matching to a physiological signal}

Definition statement
This place covers:
Post-acquisition synchronization of image and physiological data (e.g. heart rate, breathing rate), the latter being either acquired in parallel with the image acquisition, or extracted from the acquired data.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Heart rate measurement per se | A61B 5/024 |
| Electrocardiograms | A61B 5/0402 |
| Evaluating respiratory organs | A61B 5/08 |
| Monitoring thoracic expansion occurring during breathing | A61B 5/113 |
A61B 6/5288 (continued)

<table>
<thead>
<tr>
<th>Diagnostic technique involving the generation of a temporal series of image data</th>
<th>A61B 6/486</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraction of physiological parameters from medical diagnostic data</td>
<td>A61B 6/5217</td>
</tr>
<tr>
<td>Radiation diagnosis devices where acquisition is triggered by a physiological signal</td>
<td>A61B 6/541</td>
</tr>
</tbody>
</table>

**Special rules of classification**

The physiological signal is typically an electrocardiogram (ECG) A61B 5/0402 or a device to measure the cardiac cycle A61B 5/0803.

As an example, a radiation diagnostic device with synchronous acquisition of projection data with a C-arm (A61B 6/4441) and an ECG (A61B 5/0402) wherein the projection data is retrospectively associated to a certain cardiac phase (A61B 6/5288) to reconstruct a temporal series of images (A61B 6/486) of the heart (A61B 6/503) in different cardiac phases.

![Diagram of cardiac C-Arm CT](image)


**A61B 6/5294**

{involving using additional data, e.g. patient information, image labeling, acquisition parameters}

**Definition statement**

*This place covers:*

Processing of data using non measured data, such as patient name or age, or image identification. Typically data can be found in the header of a digital image file (e.g. a DICOM header).

![Diagram of DICOM header](image)

[US2006257040]
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

ICT specially adapted for the handling or processing of patient-related medical or healthcare data

A61B 6/54

{Control of devices for radiation diagnosis}

Definition statement

This place covers:

Aspects of radiation diagnostic devices concerning control of the device or parts of the device. All control aspects not covered by the subgroups should be classified in A61B 6/54.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

ICT specially adapted for the operation of medical equipment or devices

A61B 6/541

{involving acquisition triggered by a physiological signal}

Definition statement

This place covers:

Acquisition control wherein a signal of physiological origin (heart rate, breathing rate) is used to initiate data acquisition.

References

Limiting references

This place does not cover:

Retrospective matching to a physiological signal
Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Heart rate measurement per se</th>
<th>A61B 5/024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring thoracic expansion occurring during breathing</td>
<td>A61B 5/113</td>
</tr>
<tr>
<td>Circuit arrangements for obtaining X-ray photography at predetermined instants in the movement of an object, e.g. part of a human body</td>
<td>H05G 1/62</td>
</tr>
</tbody>
</table>

A61B 6/542

{involving control of exposure}

Definition statement

This place covers:

Control of exposure parameters, e.g. to optimize exposure of different body thicknesses, to reduce patient dose, to avoid oversaturation of detector.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Source units adapted to modify characteristics of the beam during the data acquisition process</th>
<th>A61B 6/405</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic setup of acquisition parameters</td>
<td>A61B 6/545</td>
</tr>
<tr>
<td>Controlling X-ray tubes</td>
<td>H05G 1/30</td>
</tr>
</tbody>
</table>

Special rules of classification

In X-ray imaging, exposure is typically controlled by modifying characteristics of the source unit such as intensity or voltage (A61B 6/405). This class covers control of exposure during data acquisition. Automatic setup of the exposure parameters based on information about the patient or the diagnostic application should be classified under A61B 6/545.
A61B 6/544
{dependent on patient size}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Based on pre-scan | A61B 6/488 |

Special rules of classification

Exposure control dependent on patient size is often carried out by performing a pre-scan (A61B 6/488) to estimate the dimensions of the patient.

A61B 6/545
{involving automatic set-up of acquisition parameters}

Definition statement

This place covers:

Automatic setup of apparatus parameters using patient specific information, e.g. weight, height and/or diagnostic specific information, e.g. perfusion CT acquisition protocol.

[US2010232573]

References

Limiting references

This place does not cover:

Control of exposure during data acquisition A61B 6/542
Special rules of classification

This class does not cover dynamic control of acquisition parameters to minimise patient exposure to radiation A61B 6/542.

A61B 6/547

{involving tracking of position of the device or parts of the device (using an image of a phantom A61B 6/584)}

Definition statement

This place covers:

Means for tracking position of any part of the radiation diagnosis device (e.g. table, C-arm). Includes optical markers, ultrasound sensors, visual linear scales.

References

Limiting references

This place does not cover:

Locating a surgical device in the body with a radiation diagnosis device A61B 6/12
Surgical navigation systems A61B 34/20

Special rules of classification

This class does not cover tracking the position of a surgical device (A61B 6/12) or guiding a surgical device (A61B 34/20).
**A61B 6/548**

{Remote control of radiation diagnosis devices}

**Definition statement**

*This place covers:*

Remote control of any operational aspect (data acquisition, configuration, etc) of radiation diagnosis devices.

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Transmission of radiation diagnosis data via a network</th>
<th>A61B 6/56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission of radiation diagnosis images via a network</td>
<td>A61B 6/563</td>
</tr>
</tbody>
</table>

**Special rules of classification**

Remote control is often carried out through a data network and involves transmission of data A61B 6/56 or image data A61B 6/563.

[US2011073769]

**A61B 6/56**

{Details of data transmission or power supply, e.g. use of slip rings}

**Definition statement**

*This place covers:*

Radiation diagnosis devices comprising:

- means for transmitting / receiving data to / from an external device or between components of the device, e.g. image transmission to a remote physician workstation for diagnosis; or
- means for supplying power to any component of the device, e.g. between stationary and moving parts.
[US2011066022]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Flexible or turnable line connectors | H01R 35/00 |
| Details of X-ray tube power supply arrangements | H05G 1/10 |

Special rules of classification

This class covers aspects of data transmission or aspects of power supply. Sometimes these are combined like in slip rings (H01R 39/08), where power and data are transmitted from a stationary to a rotating structure.
A61B 6/563

{involving image data transmission via a network}

Definition statement

This place covers:

Transmission of diagnostic image data via a network, e.g. transmission of image data from a radiation diagnosis device to a server for archiving.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>ICT specially adapted for the handling or processing of medical images</th>
</tr>
</thead>
<tbody>
<tr>
<td>G16H 30/00</td>
</tr>
</tbody>
</table>

Special rules of classification

This class cover transmission of images via a PACS (Picture Archiving and Communication System) or a HIS (Hospital Information System).
A61B 6/566
{involving communication between imaging systems}

Definition statement
This place covers:
Details of radiation diagnosis devices related to the transfer of data between two imaging systems.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Constructional details related to combined acquisition of different diagnostic modalities | A61B 6/4417 |

A61B 6/58
{Testing, adjusting or calibrating devices for radiation diagnosis}

Definition statement
This place covers:
Means for assessing and adjusting the parameters of the device as a function of the system geometry.
A61B 6/581

{Remote testing of the device}

**Definition statement**

This place covers:

![Diagram](image)

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Communication between imaging systems</th>
<th>A61B 6/566</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT specially adapted for the remote operation of medical equipment or devices</td>
<td>G16H 40/67</td>
</tr>
</tbody>
</table>

**Special rules of classification**

Typically involves data transmission over a network (A61B 6/56). However, the class A61B 6/56 should only be given if said data transmission is not merely mentioned but technical details therefore are disclosed.

A61B 6/582

{Calibration}

**Definition statement**

This place covers:

Includes methods or devices for determining particular properties (geometrical or other type) of radiation diagnosis device.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Algorithms for calibration | G06T 7/80 |

A61B 6/583

{using calibration phantoms (models for medical purposes G09B 23/28)}

Definition statement

This place covers:

Methods or devices for calibration where a reference object (phantom) is used to determine particular properties of the radiation diagnosis device.

Special rules of classification

This class covers e.g. determining the distortion caused by the acquisition geometry of a C-arm (A61B 6/4441) or using a reference object to calculate quantitative values from an image.

A61B 6/584

{determining position of components of the device using images of the phantom}

Definition statement

This place covers:

Methods or devices where a reference object is used to determine the absolute or relative position of components of the device.
Special rules of classification

This class covers e.g. the determination of the position of the source unit and detector unit of a C-
arm (A61B 6/4441) at every angular position during rotation to be used in the reconstruction algorithm
(G06T 11/003) to generate CT images (A61B 6/032).

A61B 6/585

{Calibration of detector units}

Definition statement

This place covers:

All types of calibration, correction or compensation, e.g. compensation for non-linear response of X-
ray detectors, electric noise, saturation, charge leakage offset, temperature, crosstalk, defective pixels.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Processing of raw data | A61B 6/5205 |
**A61B 6/586**

{Detection of faults or malfunction of the device}

**Definition statement**

*This place covers:*

Any means for determining or identifying a fault or failure in X-ray apparatus or component parts thereof.

![Flowchart](Image)

[US2011129067]

**A61B 6/587**

{Alignment of source unit to detector unit}

**Definition statement**

*This place covers:*

Any means for aligning the source and detector unit or any use of a radiation diagnostic device involving the alignment of source and detector units.

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Radiation diagnostic devices comprising source and detector units movable relative to each other</th>
<th>A61B 6/4452</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration in radiation diagnostic devices</td>
<td>A61B 6/582</td>
</tr>
</tbody>
</table>
Calibration using phantoms to determine position of parts of a device

Informative references

Attention is drawn to the following places, which may be of interest for search:

Means for directing the radiation beam to a particular spot

Special rules of classification

A calibration method for aligning the source and detector units should also be classified under A61B 6/582 or A61B 6/584 (if a phantom is used).

A61B 6/588

{Setting distance between source unit and detector unit}

Definition statement

This place covers:

Any means for setting the distance between source and detector unit or any use of a radiation diagnostic device involving the modifying said distance.

A61B 6/589

{Setting distance between source unit and patient}

Definition statement

This place covers:

Any means for setting the distance between source and patient or any use of a radiation diagnostic device involving the modifying said distance, e.g. to modify the magnification of an X-ray image.
A61B 7/00
Instruments for auscultation

Definition statement
This place covers:
Any instrument allowing to detect a sound generated within the body:

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Methods or devices for transmitting, conducting or directing sound in general G10K 11/00

Special rules of classification
• Stethoscopes, i.e. devices allowing to listen to the sound, classified in sub-groups A61B 7/02 - A61B 7/045;
• Devices were sound patterns are only displayed and no listening takes place, classified in sub-groups A61B 7/001 - A61B 7/00 - A61B 7/006

A61B 7/001
{Detecting cranial noise, e.g. caused by aneurism}

Definition statement
This place covers:
Instruments comprising patient's head-mounted sensors which detect acoustic signals generated from pulsing blood flow through the patient's brain.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Detecting intracranial pressure A61B 5/031

A61B 7/003
{Detecting lung or respiration noise}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Detecting, measuring or recording devices for evaluating the respiratory organs A61B 5/08
Monitoring sleep apnoea A61B 5/4818
Devices for preventing snoring A61F 5/56
A61B 7/005

{Detecting noise caused by implants, e.g. cardiac valves}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Prostheses implantable into the body | A61F 7/02 |

A61B 7/006

{Detecting skeletal, cartilage or muscle noise (A61B 7/003 and A61B 7/008 take precedence)}

References

Limiting references

This place does not cover:

| Detecting lung or respiration noise | A61B 7/003 |
| Detecting noise of gastric tract | A61B 7/008 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Diagnosing the musculoskeletal system or teeth | A61B 5/45 |

A61B 7/008

{Detecting noise of gastric tract, e.g. caused by voiding}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Diagnosing the gastrointestinal system | A61B 5/42 |

A61B 7/02

Stethoscopes {(acoustic details thereof G10K 11/00)}

Definition statement

This place covers:

Any instrument allowing to listen to sound/noise emitted by the body.
References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Methods or devices for transmitting, conducting or directing sound in general | G10K 11/00 |

A61B 7/023
{for introduction into the body, e.g. into the oesophagus (oesophageal ECG probes A61B 5/0421)}

References

Limiting references
This place does not cover:

| Oesophageal ECG probes | A61B 5/0421 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Endoscopes | A61B 1/00 |

A61B 7/04
Electric stethoscopes (microphones, acoustic transducers therefor H04R)

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Details of microphones and acoustic transducers | H04R 1/46 |

A61B 7/045
{Detection of Korotkoff sounds (A61B 5/0225 takes precedence; measuring blood pressure A61B 5/021)}

References

Limiting references
This place does not cover:

| Deriving pressure in blood vessels from Korotkoff sounds | A61B 5/0225 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring blood pressure | A61B 5/021 |
A61B 8/00

Diagnosis using ultrasonic, sonic or infrasonic waves (imaging of objects using sonar G01S 15/00)

Definition statement

This place covers:

Diagnostic equipment and / or method which involves the use of ultrasonic, sonic or infrasonic waves.

A complete characterization of the equipment or method requires the identification of both constructional and operational aspects according to the following rules.

Relationships with other classification places

Several subclasses, groups and subgroups provide for the different components or functional aspects constituting the devices for diagnosis using ultrasonic, sonic or infrasonic waves. It should be emphasized that documents describing these components should be classified in A61B 8/00 only if they disclose a device for diagnosis using ultrasonic, sonic or infrasonic waves and the link between said components or functional aspects and the clinical application is not trivial.

The preceding image includes references to A61B 5/00, A61B 6/00, A61B 8/00, G06T, G16H, G06K 9/00, G01S15/89D, G01S7/52S, G01N 29/00, B06B 1/00, G10K 11/00, H01L 41/00.

Techniques for short-range imaging with ultrasound per se (both devices and methods) are classified under G01S 15/8906 and G01S 7/52017. These techniques should only be classified under A61B 8/00 when the link between the use of a particular technique and a clinical application is not obvious. The fact that the device is a medical diagnostic device is not a sufficient criterion for classifying in A61B 8/00 and not in G01S. As an example, a document disclosing an ultrasonic device adapted to calculate cardiac output using Doppler would be classified under A61B 8/00. If on the other hand the document discloses the sequence of pulses and their processing to obtain the Doppler measurements, then it should be classified under G01S 15/8906 or G01S 7/52017, even if the document mentions that the device is a diagnostic device. However, if there is a link between the particular implementation of the Doppler measurements and the clinical application, it should be classified in both A61B 8/00 and G01S 15/8906. Similarly, a modular medical diagnostic device wherein the probe can be exchanged to choose among a set of probes according to several clinical applications would be classified under A61B 8/00. However, a modular medical diagnostic device with exchangeable circuit boards to provide for easier upgrade would be classified under G01S. Only if the choice of a particular board was related to a clinical application should it be classified under A61B 8/00.

The same principle applies to other neighbouring fields such as, e.g. image processing (G06T). A document disclosing an algorithm for image enhancement should be classified under the corresponding subclass of G06T, even if the document mentions that the images are x-ray images.
However, if there is a link between details of the algorithm and a particular clinical application, then the document should also be classified in the corresponding subclass of A61B 8/00. On the other hand, if it is only mentioned that an algorithm for image enhancement is used but the disclosure deals mainly with details of the radiation diagnostic device, then it should only be classified in A61B 8/00.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61B 5/0095</td>
<td>Diagnosis using photo-acoustic measurements</td>
</tr>
<tr>
<td>A61B 5/0097</td>
<td>Diagnosis using acousto-optic measurements</td>
</tr>
<tr>
<td>A61B 7/00</td>
<td>Instruments for auscultation, e.g. stethoscopes</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61N 7/00</td>
<td>Ultrasound therapy</td>
</tr>
<tr>
<td>B06B 1/00</td>
<td>Ultrasound transducers per se</td>
</tr>
<tr>
<td>G01S 15/00</td>
<td>Details of systems according to G01S 15/00</td>
</tr>
<tr>
<td>G01S 15/00</td>
<td>Systems using the reflexion or re-radiation of acoustic waves, e.g. acoustic imaging</td>
</tr>
<tr>
<td>G01S 15/8906</td>
<td>Short-range imaging using acoustic waves</td>
</tr>
</tbody>
</table>

Special rules of classification

Function-oriented aspects:
- related to the clinical application A61B 8/02-A61B 8/12
- related to the imaging technique A61B 8/13-A61B 8/15, A61B 8/48
- related to the device control or setup A61B 8/46, A61B 8/52, A61B 8/54, A61B 8/56, A61B 8/58

Construction-oriented aspects:
- related to patient positioning A61B 8/40
- related to probe positioning A61B 8/42
- related to the device in general A61B 8/44

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasound transducer</td>
<td>sound generating and / or receiving element</td>
</tr>
<tr>
<td>Probe</td>
<td>combination of at least one ultrasound transducer and its housing</td>
</tr>
<tr>
<td>Raw data</td>
<td>data output from the sensor/detector/transducer requiring pre-processing to be used for diagnostic purposes</td>
</tr>
<tr>
<td>Diagnostic data</td>
<td>data readable or interpretable by medical personnel, obtained after pre-processing of raw data</td>
</tr>
<tr>
<td>Image data</td>
<td>medical diagnostic data in the form of two- or three-dimensional data sets</td>
</tr>
</tbody>
</table>
Synonyms and Keywords

In patent documents, the following abbreviations are often used:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>ultrasound</td>
</tr>
</tbody>
</table>

A61B 8/02

Measuring pulse or heart rate

Definition statement

This place covers:

Apparatus for detecting, measuring or recording pulse rate or heart rate, e.g. given in beats per minute.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring pulse or heart rate in general</td>
<td>A61B 5/024</td>
</tr>
<tr>
<td>Measuring pulse or heart rate for foetuses</td>
<td>A61B 5/02411</td>
</tr>
<tr>
<td>Ultrasonic heart imaging</td>
<td>A61B 8/0883</td>
</tr>
<tr>
<td>US blood vessel imaging</td>
<td>A61B 8/0891</td>
</tr>
<tr>
<td>Diagnosis using US Doppler signals</td>
<td>A61B 8/488</td>
</tr>
<tr>
<td>Pulse or heart rate derived from US image</td>
<td>A61B 8/5223</td>
</tr>
</tbody>
</table>
**Special rules of classification**
Typically done by analysis of Doppler signals ([A61B 8/488](#)) or derived from ultrasonic images ([A61B 8/5223](#)). For foetus heart rate, classify here and in [A61B 8/0866](#).

### A61B 8/04
**Measuring blood pressure**

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Measuring blood pressure in general</th>
<th>A61B 5/021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasonic blood vessels imaging</td>
<td>A61B 8/0891</td>
</tr>
<tr>
<td>Blood pressure derived from US image</td>
<td>A61B 8/5223</td>
</tr>
</tbody>
</table>

### A61B 8/06
**Measuring blood flow (measuring volume flow in general [G01F](#), e.g. [G01F 1/66](#), [G01F 1/72](#); measuring speed of fluids in general [G01P 5/00](#))**

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Measuring blood flow in general</th>
<th>A61B 5/026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasonic blood vessels imaging</td>
<td>A61B 8/0891</td>
</tr>
<tr>
<td>Ultrasonic Doppler imaging</td>
<td>A61B 8/488</td>
</tr>
<tr>
<td>Measuring volume flow</td>
<td>G01F 1/00- G01F 25/00</td>
</tr>
<tr>
<td>Measuring speed of fluids</td>
<td>G01P 5/00</td>
</tr>
</tbody>
</table>

**Special rules of classification**
Typically done by analysis of Doppler signals ([A61B 8/488](#)) or derived from ultrasonic images ([A61B 8/5223](#)).

### A61B 8/065
{to determine blood output from the heart (in general [A61B 5/029](#))}

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Determination of blood output from the heart in general</th>
<th>A61B 5/029</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart imaging using ultrasound</td>
<td>A61B 8/0883</td>
</tr>
</tbody>
</table>
A61B 8/08
Detecting organic movements or changes, e.g. tumours, cysts, swellings (A61B 8/02 - A61B 8/06 take precedence)

Definition statement
This place covers:
Clinical application of the diagnosis device or method. Classification in the subgroups depends on the body part or organ which is to be diagnosed. Group A61B 8/08 covers clinical applications not otherwise provided.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Subgroup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring heart rate</td>
<td>A61B 8/02</td>
</tr>
<tr>
<td>Measuring blood pressure</td>
<td>A61B 8/04</td>
</tr>
<tr>
<td>Measuring blood flow</td>
<td>A61B 8/06</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Diagnosis method</th>
<th>Subgroup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis by electrical, magnetic, pressure, light,...sensing means, of particular parts of the body</td>
<td>A61B 5/40- A61B 5/48</td>
</tr>
<tr>
<td>Diagnosis by radiation devices of particular parts of the body</td>
<td>A61B 6/50</td>
</tr>
<tr>
<td>Extraction of a diagnostic parameter from ultrasound images</td>
<td>A61B 8/5223</td>
</tr>
</tbody>
</table>

A61B 8/0808
{for diagnosis of the brain}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Diagnosis method</th>
<th>Subgroup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head diagnosis using radiation</td>
<td>A61B 6/501</td>
</tr>
</tbody>
</table>

A61B 8/0816
{using echo-encephalography}

Definition statement
This place covers:
Use of ultrasound to study the intracranial structures of the brain, wherein pulse of ultrasonic waves are beamed through the head and echoes reflected by midline structures are recorded and analysed.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Diagnosis using electro-encephalography | A61B 5/0476 |

Special rules of classification

A typical application is Trans-Cranial Doppler (TCD) imaging wherein a Doppler acquisition (A61B 8/488) allows evaluation of blood flow in a variety of intracranial arteries by applying ultrasound to areas or windows of the skull where the bone is relatively thin. The Doppler acquisition may be combined (A61B 8/5246) with a B-mode acquisition for locating the arteries (A61B 8/085).

A61B 8/0825

{for diagnosis of the breast, e.g. mammography}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Mammography by transillumination | A61B 5/0091 |
| X-ray mammography | A61B 6/502 |
| Patient support for imaging suspended breast | A61B 8/406 |
| Detection of breast cancer using biopsy | A61B 10/0041 |

Special rules of classification

May involve the use of specific positioning means (A61B 8/40), e.g. compression means (A61B 8/403) or means for positioning the patient in prone position (A61B 8/406). May also be used in combination with biopsy needles (A61B 10/0041), wherein the needle is attached to an ultrasound probe (A61B 8/4455) and / or tracked by the probe (A61B 8/0841).

A61B 8/0833

{involving detecting or locating foreign bodies or organic structures}

Definition statement

This place covers:

Ultrasound diagnosis devices for localisation or tracking of organic structures (e.g. blood vessels) or foreign bodies, i.e. any kind of instrument or tissue which does not belong to the patient body by nature, e.g. tumour, implant, surgical instrument.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Other imaging methods for locating foreign bodies | A61B 5/06 |
| Locating foreign bodies using radiation | A61B 6/12 |
| Surgical navigation systems | A61B 34/20 |
A61B 8/0841
{for locating instruments}

Definition statement
This place covers:
Instruments like biopsy needles, catheters.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Echogenic markers</th>
<th>A61B 90/39</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biopsy needles</td>
<td>A61B 10/0038-10/02</td>
</tr>
<tr>
<td>Surgical navigation systems</td>
<td>A61B 34/20</td>
</tr>
</tbody>
</table>

Special rules of classification
For example, a biopsy needle (A61B 10/0041) attached to an ultrasound probe (A61B 8/4455), wherein movement of the needle is tracked by the probe, would be classified here.

A61B 8/085
{for locating body or organic structures, e.g. tumours, calculi, blood vessels, nodules}

Definition statement
This place covers:
Detection of tumours, calculi, blood vessels, nodules for anatomical localization (e.g. detection of arteries as a support to Trans-cranial Doppler ultrasound) or diagnosis (evaluation of tumour size) purposes.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Locating particular structures in or on the body in general</th>
<th>A61B 5/4887</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processing for extracting a physiological parameter</td>
<td>A61B 8/5223</td>
</tr>
</tbody>
</table>

A61B 8/0866
{involving foetal diagnosis; pre-natal or peri-natal diagnosis of the baby}

Definition statement
This place covers:
Pregnancy detection, foetal ultrasound monitoring in general (e.g. foetal imaging or foetal heart rate determination).
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foetal pulse or heart rate determination in general</td>
<td>A61B 5/02411</td>
</tr>
<tr>
<td>Pregnancy and labour monitoring</td>
<td>A61B 5/4343</td>
</tr>
<tr>
<td>Foetal pulse or heart rate determination using (ultra/infra) sonic waves</td>
<td>A61B 8/02</td>
</tr>
</tbody>
</table>

A61B 8/0875

{for diagnosis of bone (A61B 5/4504 takes precedence)}

Definition statement

This place covers:
Includes both quantitative analysis of bone material and visualization of bone structure.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detecting, measuring or recording devices for testing the shape, pattern, colour, size or movement of the body or parts thereof, for diagnostic purposes</td>
<td>A61B 5/103</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone monitoring in general</td>
<td>A61B 5/4504</td>
</tr>
<tr>
<td>Bone diagnosis using radiation</td>
<td>A61B 6/505</td>
</tr>
<tr>
<td>Measuring interfaces by ultrasound</td>
<td>A61B 8/0858</td>
</tr>
</tbody>
</table>

A61B 8/0883

{for diagnosis of the heart}

Definition statement

This place covers:
Includes both functional (e.g. heart-related physiological parameters) and anatomical (e.g. visualization of heart structure) analysis of the heart.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrocardiography</td>
<td>A61B 5/0402</td>
</tr>
<tr>
<td>X-ray heart imaging</td>
<td>A61B 6/503</td>
</tr>
<tr>
<td>Retrospective matching to a physiological signal</td>
<td>A61B 8/5284</td>
</tr>
</tbody>
</table>
Acquisition triggered by a physiological signal  A61B 8/543

Special rules of classification

Documents relating to heart rate (A61B 8/02) and/or blood output monitoring (A61B 8/065) should be classified here only if they describe other features pertaining to heart diagnosis. The same applies to documents relating to blood vessels analysis (A61B 8/0891).

As the heart is a permanently moving organ, diagnostic devices or methods are often adapted to take into account the dynamic aspects. In particular, retrospective (A61B 8/5284) or prospective (A61B 8/543) synchronization to a physiological signal may be used to obtain motion-free images. M-mode (A61B 8/486) or Doppler signals (A61B 8/488) may be used to visualize motion.

A61B 8/0891

{for diagnosis of blood vessels}

Definition statement

This place covers:

Mainly related to the structural diagnosis of blood vessels (since blood flow assessment is dealt with in A61B 8/06).

References

Limiting references

This place does not cover:

Measuring blood flow  A61B 8/06

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Locating blood vessels</th>
<th>A61B 5/489</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiation imaging using contrast agents</td>
<td>A61B 6/481</td>
</tr>
<tr>
<td>X-ray blood vessels imaging</td>
<td>A61B 6/504</td>
</tr>
<tr>
<td>Use of ultrasound contrast agents, e.g. microbubbles</td>
<td>A61B 8/481</td>
</tr>
</tbody>
</table>

Special rules of classification

Documents relating to heart, brain or blood flow analysis should be classified here only if they describe other features pertaining to blood vessels diagnosis.

Blood vessels diagnosis is often performed using Doppler signals (A61B 8/488), due to the high accuracy of this technique to visualize blood moving inside the vessels.

A typical example of blood vessel diagnosis is compression ultrasonography, wherein venous compression (A61B 8/403) is applied and B-mode images are acquired to detect and locate (A61B 8/085) deep vein thrombosis.
A61B 8/10
Eye inspection

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Apparatus for testing the eyes in general | A61B 3/00 |

A61B 8/12
in body cavities or body tracts, e.g. by using catheters (catheters per se A61M 25/00)

Definition statement

This place covers:

[US2010063401]

References

Limiting references

This place does not cover:

| Details of catheter construction | A61B 8/445 |
| Catheters per se               | A61M 25/00 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Medical endoscopes | A61B 1/00 |
| Wireless probes    | A61B 8/4472 |
Special rules of classification
Details of catheter construction (e.g. use of balloons, pigtails or splines) can be found in A61B 8/445. Scanning mechanisms for moving the transducers are classified in A61B 8/4461.

A61B 8/13
Tomography (A61B 8/10, A61B 8/12 take precedence; tomography for radiation diagnosis A61B 6/02)

Definition statement
This place covers:
Acquisition of a plurality of slices or planes (e.g. B-modes or C-mode images) for reconstruction of 2D or 3D images.

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>For eye inspection</th>
<th>A61B 8/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using catheters</td>
<td>A61B 8/12</td>
</tr>
<tr>
<td>Acquisition of a 3D volume of data</td>
<td>A61B 8/483</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Tomography for radiation diagnosis | A61B 6/02 |

A61B 8/14
Echo-tomography

Definition statement
This place covers:
Tomography based on the measurement of waves reflected from the inspected structures, e.g. B-mode or C-mode images.
A61B 8/145

{characterised by scanning multiple planes}

Definition statement

This place covers:

Simultaneous acquisition of a plurality of planes.

[US2009082674]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Using several separate transducers or probes</th>
<th>A61B 8/4477</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using a specific transducer arrangement</td>
<td>A61B 8/4494</td>
</tr>
</tbody>
</table>
A61B 8/15
Transmission-tomography

Definition statement
This place covers:
Tomography based on the measurement of attenuation of waves transmitted or diffracted through the inspected structures.


A61B 8/40
{Positioning of patients, e.g. means for holding or immobilising parts of the patient's body}

Definition statement
This place covers:
Any means for supporting (e.g. tables, beds) or positioning (e.g. support position control, movement restraining devices) the patient, including immobilising part of the patient body.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Positioning of patients in radiation diagnosis devices | A61B 6/04 |
A61B 8/403
{using compression means}

Definition statement

This place covers:

[WO2012036106]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Patient supports using compression means in radiation diagnosis devices | A61B 6/0414 |
| Diagnosis of breasts                                                | A61B 8/0825 |
| Diagnosis of blood vessels                                          | A61B 8/0891 |
**A61B 8/406**

{using means for diagnosing suspended breasts}

**Definition statement**

This place covers:

![Diagram of patient and probe positioning](image)

[WO2012053518]

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Patient supports for imaging suspended breasts using radiation | A61B 6/0435 |
| Ultrasonic mammography | A61B 8/0825 |

**A61B 8/42**

{Details of probe positioning or probe attachment to the patient}

**Definition statement**

This place covers:

Any means for positioning and / or determining the position of the probe with respect to the patient.
References

Limiting references

This place does not cover:

| Particular shape of the probe for better grip | A61B 8/4455 |
| Details of transducer steering | A61B 8/4461 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Supports, positioning and alignment in fixed situation for ultrasound inspection of materials | G01N 29/223 |
| Supports, positioning and alignment in moving situation for ultrasound inspection of materials | G01N 29/225 |

A61B 8/4209

{by using holders, e.g. positioning frames}

Definition statement

This place covers:

Any means for positioning the probe on the patient

[US2004087851]
A61B 8/4218
{characterised by articulated arms}

Definition statement
This place covers:
Articulated arm (including sliding, pivoting) for holding the probe. May be provided with position encoders.

References
Limiting references
This place does not cover:

| Catheter with a probe at the tip | A61B 8/12 |

A61B 8/4227
{characterised by straps, belts, cuffs or braces}

Definition statement
This place covers:
Attachment of the probe with a strap, belt, cuff, brace. Probes mounted in a fitting attached to a strap.

A61B 8/4236
{characterised by adhesive patches}

Definition statement
This place covers:
Adhesive patch for attaching the probe to the skin surface. May be combined with a swivelling/pivoting mount to allow change in probe position.
**A61B 8/4245**

{involving determining the position of the probe, e.g. with respect to an external reference frame or to the patient}

**Definition statement**

This place covers:

Any means for determining the position of the probe with respect to the patient or to an external reference, e.g. imaging or therapy system. Typically involves the use of a position and/or movement sensing unit provided either on/in the probe (A61B 8/4254) or outside the probe (A61B 8/4263).

![Diagram of probe positioning](image)

**FIG. 2**

[WO2012018851]

**References**

**Application-oriented references**

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

| Determination of probe position or applied pressure used to compress the tissue in sonoelastography | A61B 8/485 |

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Radiation devices for locating probes | A61B 6/12 |
| Locating instruments by ultrasound | A61B 8/0841 |
| Determining the quality of coupling between the probe and the tissue | A61B 8/429 |
| Surgical navigation systems | A61B 34/20 |
A61B 8/4254
{using sensors mounted on the probe}

Definition statement
This place covers:
Any kind of sensor within or attached to the ultrasound probe, providing information on the current position of the probe (e.g. accelerometer, coils sensing external magnetic fields, GPS-type position sensor).

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position encoders part of an articulated arm</td>
<td>A61B 8/4218</td>
</tr>
<tr>
<td>Sensing the position of the probe from an external sensor</td>
<td>A61B 34/20</td>
</tr>
</tbody>
</table>

Application-oriented references
Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intracavitary probe positioning</td>
<td>A61B 8/12</td>
</tr>
</tbody>
</table>

A61B 8/4263
{using sensors not mounted on the probe, e.g. mounted on an external reference frame}

Definition statement
This place covers:
Any kind of probe position tracking means not attached to or part of the probe, e.g. tracking LED markers on the probe, tracking the probe position with a camera, probe emitting ultrasound signal for localisation purpose.

References
Application-oriented references
Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intracavitary probe positioning</td>
<td>A61B 8/12</td>
</tr>
</tbody>
</table>

A61B 8/4272
{involving the acoustic interface between the transducer and the tissue}

Definition statement
This place covers:
Any means for facilitating, regulating or monitoring the quality of coupling between the transducer and the tissue.
**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Methods and devices for transmitting, directing or conducting sound in general | G10K 11/00 |

**A61B 8/4281**

{characterised by sound-transmitting media or devices for coupling the transducer to the tissue}

**Definition statement**

This place covers:

Any means used as interface between the transducer and the tissue, e.g. coupling pad, special conformable shape of the probe, fluid filled reservoir. The mere application of a layer of conducting gel between the probe and the skin does not require a classification in A61B 8/4281, unless specific details of this application are described, e.g. gel containment structure on surface of the probe or particular gel mixture having specific viscosity.

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Probe holders | A61B 8/4209 |

**A61B 8/429**

{characterised by determining or monitoring the contact between the transducer and the tissue}

**Definition statement**

This place covers:

Any means for monitoring the quality of coupling between the transducer and the tissue. Also for the purpose of triggering/initiating image acquisition or for monitoring applied pressure in elastic imaging (A61B 8/485).

**References**

*Limiting references*

This place does not cover:

| Measuring the position of the probe per se | A61B 8/4245 |

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Sonoelastography | A61B 8/485 |
A61B 8/44

{Constructional features of the ultrasonic, sonic or infrasonic diagnostic device}

Definition statement
This place covers:
Structural and mechanical features of the ultrasound device specially adapted for diagnostic use.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Constructional features of devices for short-range imaging with acoustic waves

A61B 8/4405

{Device being mounted on a trolley}

Definition statement
This place covers:
Apparatus mounted on casters or rollers, often resembling a cart / trolley and comprising a sonic probe. May include battery supply, telemetry means and display.

[US2012/0108965]
A61B 8/4411

{Device being modular}

Definition statement

This place covers:

Modular construction of the device allowing parts to be exchanged or replaced either for mounting different types of components or for simpler disassembling and reassembling.

[EP1935343]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Modular devices for short-range imaging with acoustic waves

Q01S 7/52082
A61B 8/4416

{related to combined acquisition of different diagnostic modalities, e.g. combination of ultrasound and X-ray acquisitions}

Definition statement

This place covers:

Constructional arrangements for facilitating the combined use of different imaging modalities including translation from one device to the other or integration of different modalities in one device. At least one modality relates to ultrasound imaging.

[US2011/0295115: Combination of gamma-ray detector (112) and ultrasound probe (103)]

References

Limiting references

This place does not cover:

Using several separate ultrasound transducers or probes

A61B 8/4477

A61B 8/4422

{related to hygiene or sterilisation}

Definition statement

This place covers:

Any means for protecting the probe from outside environment, e.g. hygienic cover.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Sanitary sheaths for endoscopes | A61B 1/00142 |

A61B 8/4427

{Device being portable or laptop-like}

Definition statement

This place covers:

[US2012083693]

A61B 8/4433

{Involving a docking unit}

Definition statement

This place covers:

Docking unit or station for power or data transfer, either for connecting the probe or the monitoring unit

A61B 8/4438

{Means for identifying the diagnostic device, e.g. barcodes}

Definition statement

This place covers:

Any means for identifying the diagnostic apparatus or component parts thereof, e.g. replaceable components. Includes barcodes, memory chips or RFIDs.
A61B 8/4444
{related to the probe}

Definition statement
This place covers:
Constructional details of sonic diagnostic devices relating to the probe itself.

A61B 8/445
{Details of catheter construction}

Definition statement
This place covers:
Particular construction of catheter devices, e.g. balloons, pigtails, basket.

[US2003208119]

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Use of catheters for ultrasound diagnosis</th>
<th>A61B 8/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catheters per se</td>
<td>A61M 25/00</td>
</tr>
</tbody>
</table>
A61B 8/4455

{Features of the external shape of the probe, e.g. ergonomic aspects}

**Definition statement**

*This place covers:*

Any constructional related to the specific design of the external probe shape for a particular purpose, e.g. special grip, attachment for auxiliary devices, connectors.

[EP1935343]
**Definition statement**

This place covers:

Probes or catheters provided with a mechanical scanning mechanism allowing to move the transducer with respect to the probe housing, e.g. for beam steering.

---

**References**

**Limiting references**

This place does not cover:

| Electrical steering mechanisms | A61B 8/4488 |

**Application-oriented references**

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

| Intra-cavitary probes with motor driven transducer elements | A61B 8/12 |

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Dynamic transducer configuration in devices for short-range imaging with acoustic waves | G01S 15/8934 |
A61B 8/4466
{involving deflection of the probe}

Definition statement

This place covers:
Probes comprising a scanning mechanism involving a deflection of the probe or part of the probe. Typically used by intracavitary probes (A61B 8/12).

A61B 8/4472
{Wireless probes}

Definition statement

This place covers:
Probes comprising wireless data and/or power transmission means. Includes pill-like cameras

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Details of data transmission</th>
<th>A61B 8/56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wireless probes for inspecting or analysing materials</td>
<td>G01N 29/2481</td>
</tr>
</tbody>
</table>
A61B 8/4477
{using several separate ultrasound transducers or probes}

Definition statement
This place covers:
Simultaneous use of multiple probes or transducers in similar or different modes for scanning of one or a plurality of patient body parts.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Using separate transducers for transmission and reception in devices for short-range imaging with acoustic waves

A61B 8/4483
{characterised by features of the ultrasound transducer}

Definition statement
This place covers:
Specific details or configuration of the transducer adapted for medical imaging application, e.g. particular transducer shape

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

Static transducer configuration in short-range imaging systems

A61B 8/4488
{the transducer being a phased array}

Definition statement
This place covers:
Use of phased array transducers for electrical steering of the sound beam.
A61B 8/4494

{characterised by the arrangement of the transducer elements (devices for short-range imaging using particular transducer elements arrangements under G01S 15/8909; arrangements of transducers in generation of mechanical vibrations of infrasonic, sonic or ultrasonic frequency B06B 1/0607)}

Definition statement

This place covers:

Particular arrangement of the transducer elements for facilitating the diagnostic technique, e.g. annular array on intracavitary probes (A61B 8/12) or T-shaped arrangement allowing to scan perpendicular planes simultaneously (A61B 8/145).

[WO2012127737]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Arrangements of transducers in generation of mechanical vibrations of infrasonic, sonic or ultrasonic frequency | B06B 1/0607 |
| Devices for short-range imaging using particular transducer elements arrangements | G01S 15/8909 |

A61B 8/46

{Ultrasonic, sonic or infrasonic diagnostic devices with special arrangements for interfacing with the operator or the patient}

Definition statement

This place covers:

Ultrasound diagnostic devices comprising input and / or output means structurally or functionally designed for allowing a specific interaction with the device user.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| ICT specially adapted for the operation of medical equipment or devices | G16H 40/60 |

Special rules of classification

Documents should be classified in these subgroups only if:

• they explicitly relate to ultrasound diagnosis devices AND
• they relate to details of the user interface.

A61B 8/461

{Displaying means of special interest}

Definition statement

This place covers:

Displays with special properties not covered by any of the subgroups.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Displays for electrocardiography | A61B 5/044 |
| Displays in magnetic or electric diagnostics | A61B 5/742 |
| Displays for radiation diagnostic | A61B 6/461 |

Special rules of classification

Touch screens should be classified here and as special input means (A61B 8/467).
A61B 8/462
{characterised by constructional features of the display}

Definition statement
This place covers:
Construction or arrangement of display. Also for goggle-like or head up displays. Supports for display.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Display arrangements for sonar systems | G01S 7/52053 |

A61B 8/463
{characterised by displaying multiple images or images and diagnostic data on one display (composite display in devices for short-range imaging with acoustic waves G01S 7/52074)}

Definition statement
This place covers:
Combination of images, e.g. side-by-side, superimposed.
Combination of images and other data type, e.g. ECG waveforms or alphanumeric information.

[EP2415401]

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Processing means adapted for combining images | A61B 8/5238 |
| Composite display in devices for short-range imaging with acoustic waves | G01S 7/52074 |
A61B 8/464
{involving a plurality of displays}

Definition statement
This place covers:

[US2011/0208050]

A61B 8/465
{adapted to display user selection data, e.g. icons or menus}

Definition statement
This place covers:

[EP0833266]
A61B 8/466

{adapted to display 3D data (3D imaging and stereoscopic displays in devices for short-range imaging with acoustic waves G01S 15/8993 and G01S 7/52068, respectively; 3D image rendering G06T 15/00; manipulating 3D models for computer graphics G06T 19/00)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>3D image rendering per se</th>
<th>G06T 15/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D imaging and stereoscopic displays in devices for short-range imaging with acoustic waves</td>
<td>G01S 15/8993, G01S 7/52068</td>
</tr>
</tbody>
</table>

A61B 8/467

{characterised by special input means}

Definition statement

This place covers:
Both constructional (e.g. touch screen, trackball) and functional aspects (e.g. specific purpose) of input means.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Particular user interfaces in devices for short-range imaging with acoustic waves | G01S 7/52084 |

A61B 8/468

{allowing annotation or message recording}

Definition statement

This place covers:
All types of message recording associated with ultrasound imaging, e.g. annotation on image, sound recording.

A61B 8/469

{for selection of a region of interest}

Definition statement

This place covers:
Operator selection of region of interest or specific organs to be imaged, e.g. by touch screen, keyboard or switch. Also for definition of ROI after image analysis.
A61B 8/48

{Diagnostic techniques (A61B 8/13 takes precedence)}

Definition statement

This place covers:

Use of a particular imaging technique or protocol involving ultrasonic waves to obtain a specific image type.

References

Limiting references

This place does not cover:

| Ultrasound tomography | A61B 8/13 |

A61B 8/481

{involving the use of contrast agent, e.g. microbubbles introduced into the bloodstream (analysis of echo signal exploiting properties of a contrast enhancer in devices for short-range imaging with acoustic waves G01S 7/52039)}

Definition statement

This place covers:

Use of substance, typically introduced into the body, which presents echogenic properties and can therefore be identified and/or tracked by the diagnostic device. Also for surgical instruments coated with echogenic materials to allow them to be tracked (A61B 8/0841).

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Diagnosis of blood vessels | A61B 8/0891 |
| Echographic preparations; ultrasound imaging preparation | A61K 49/22 |
| Analysis of echo signal exploiting properties of a contrast enhancer in devices for short-range imaging with acoustic waves | G01S 7/52039 |
A61B 8/483

{involving the acquisition of a 3D volume of data}

Definition statement

*This place covers:*

Direct acquisition of a 3 dimensional image, e.g. a combination of B-mode and C-mode images.


A61B 8/485

{involving measuring strain or elastic properties}

Definition statement

*This place covers:*

Imaging elastic properties (e.g. strain, elastic modulus, stiffness) of tissue by exciting the tissue (by direct mechanical means or ultrasonic radiation force) and detecting the resulting displacement, motion or deformation.
**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Determining or monitoring contact between transducer and tissue | A61B 8/429 |
| Extracting elastic properties in devices for short-range imaging with acoustic waves | G01S 7/52042 |

**Special rules of classification**

Detection of the effects of tissue excitation can be performed by Doppler measurement (A61B 8/488) or pulse-echo methods. Resultant information is usually displayed as images (called elastograms), representing the spatial distribution of strains, shear waves, elastic moduli or tissue stiffness. Elastograms are often fused with B-mode images (A61B 8/5246) to facilitate identification of the anatomical structures to which they relate.

**A61B 8/486**

{involving arbitrary m-mode}

**Definition statement**

*This place covers:*

Motion-mode ultrasound wherein pulses are emitted in quick succession along the same path to visualize the spatial variation (e.g. movement) of a reflecting structure as a function of time. May be directly acquired or reconstructed from arbitrary line (straight, curved or polygonal) defined by a user on a B-mode image.
A61B 8/488
{involving Doppler signals}

Definition statement

This place covers:

Ultrasound imaging technique using the wavelength (or frequency) shift of ultrasound waves reflected from moving structures. Typically used for the diagnosis of dynamic structures function, e.g. heart movement or blood flow.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>For measuring pulse or heart rate</th>
<th>A61B 8/02</th>
</tr>
</thead>
<tbody>
<tr>
<td>For measuring blood flow</td>
<td>A61B 8/06</td>
</tr>
<tr>
<td>For heart diagnosis</td>
<td>A61B 8/0883</td>
</tr>
<tr>
<td>For blood vessels diagnosis</td>
<td>A61B 8/0891</td>
</tr>
</tbody>
</table>

Special rules of classification

Often fused with B-mode images (A61B 8/5246) to facilitate identification of the anatomical structures to which Doppler signals relate.

A61B 8/52

{Devices using data or image processing specially adapted for diagnosis using ultrasonic, sonic or infrasonic waves (image processing per se G06T)}

Definition statement

This place covers:

Ultrasound diagnosis devices involving any kind of data or image processing for enhancement purposes, e.g. artefacts reduction of resolution improvement.

References

Limiting references

This place does not cover:

| Image processing per se                   | G06T     |

Special rules of classification

Documents should be classified in these subgroups only if:
- they explicitly relate to ultrasound diagnosis devices AND
- they relate to details of data or image processing.

Image processing alone should not be classified in A61B 8/00, except when it consists in straightforward steps (e.g. thresholding, filtering) directed to an explicit diagnostic application.
A61B 8/5207
{involving processing of raw data to produce diagnostic data, e.g. for generating an image (reconstruction G06T 11/00)}

Definition statement
This place covers:
Pre-processing of data output from sensor to derive data usable for diagnostic purpose, e.g. filtering, phase modification.

A61B 8/5215
{involving processing of medical diagnostic data}

Definition statement
This place covers:
Any kind of post-acquisition image processing

A61B 8/5223
{for extracting a diagnostic or physiological parameter from medical diagnostic data (for algorithms to analyse biomedical images G06T 7/0012)}

Definition statement
This place covers:
Acquired data is used to derive a particular diagnostic index, e.g. tumour size.

References
Limiting references
This place does not cover:

| Algorithms for biomedical image analysis | G06T 7/0012 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| ICT specially adapted for computer-aided diagnosis | G16H 50/00 |

A61B 8/523
{for generating planar views from image data in a user selectable plane not corresponding to the acquisition plane}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Ultrasound diagnosis devices adapted to display 3D data | A61B 8/466 |
**A61B 8/5238**

{for combining image data of patient, e.g. merging several images from different acquisition modes into one image (for image registration algorithms G06T 7/30)}

**Definition statement**

*This place covers:*

Means for combining images of one or several imaging modalities, e.g. merging of contiguous sub-images to obtain a larger image or multi-modality image registration.

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Determination of transform parameters for the alignment of images, i.e. image registration | G06T 7/30 |

**A61B 8/5246**

{combining images from the same or different imaging techniques, e.g. color Doppler and B-mode}

**Definition statement**

*This place covers:*

Combining images of the patient obtained by a diagnostic technique classified under A61B 8/00.

**A61B 8/5253**

{combining overlapping images, e.g. spatial compounding}

**Definition statement**

*This place covers:*

Compilation of multiple views acquired at different angles.

![Diagram of B-scans and compounded image](image)

[Rohling, PhD Thesis : 3D Freehand Ultrasound: Reconstruction and spatial compounding]
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Spatial compounding for short range imaging systems | G01S 15/8995 |

A61B 8/5261

{combining images from different diagnostic modalities, e.g. ultrasound and X-ray}

Definition statement

This place covers:


A61B 8/5269

{involving detection or reduction of artifacts (for image enhancement algorithms G06T 5/00)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Elimination of unwanted signals in devices for short-range imaging using acoustic waves | G01S 7/52077 |
| Determining parameters from multiple pictures | G06T 7/97 |
A61B 8/5276
{due to motion}

**Definition statement**

*This place covers:*

Data or image processing for artefact reduction wherein the artefacts are caused by motion.

---

A61B 8/5284

{involving retrospective matching to a physiological signal}

**Definition statement**

*This place covers:*

Arranging or processing an image or a plurality of images after acquisition for synchronization purpose. Includes synchronization based on an independently acquired signal (e.g. ECG) or on a feature derived from the image(s).

**References**

*Limiting references*

*This place does not cover:*

| Synchronizing the ultrasound measurement to a physiological event | A61B 8/543 |
| Retrospective scan-line arrangements in devices for short-range imaging using acoustic waves | G01S 7/52088 |

---

A61B 8/5292

{using additional data, e.g. patient information, image labeling, acquisition parameters}

**Definition statement**

*This place covers:*

Processing of data using non measured data, such as patient name and age, or image identification. Non measured data can be typically found in the header of a digital image file (e.g. a DICOM header).

**References**

*Informative references*

*Attention is drawn to the following places, which may be of interest for search:*

| ICT specially adapted for the handling or processing of patient-related medical or healthcare data | G16H 10/00 |
A61B 8/54
{Control of the diagnostic device}

Definition statement
This place covers:
Ultrasound diagnosis devices comprising means for adapting the operation of the device during acquisition.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:
ICT specially adapted for the operation of medical equipment or devices

A61B 8/543
{involving acquisition triggered by a physiological signal}

Definition statement
This place covers:
Acquisition control wherein a signal of physiological origin (heart rate, breathing rate) is used to initiate acquisition.

References
Limiting references
This place does not cover:
Retrospective matching to a physiological signal

Informative references
Attention is drawn to the following places, which may be of interest for search:
Synchronization techniques in devices for short-range imaging using acoustic waves

A61B 8/546
{involving monitoring or regulation of device temperature}

Definition statement
This place covers:
Any means for controlling or assessing the temperature of the diagnosis device, e.g. cooling means for preventing skin burn
A61B 8/56
{Details of data transmission or power supply}

Definition statement
This place covers:
Ultrasound diagnosis devices comprising:
• means for transmitting or receiving data to or from an external device or between components of the device, e.g. image transmission to a remote physician workstation for diagnosis; or
• means for supplying power to any component of the device, e.g. between stationary and moving parts.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Docking units for ultrasound devices</th>
<th>A61B 8/4433</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wireless diagnostic ultrasound probes</td>
<td>A61B 8/4472</td>
</tr>
</tbody>
</table>

A61B 8/565
{involving data transmission via a network}

Definition statement
This place covers:
Transmission of diagnostic image data via a network, e.g. from a diagnostic device to a server for archiving.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| ICT specially adapted for the handling or processing of patient-related medical or healthcare data | G16H 10/00 |

A61B 8/58
{Testing, adjusting or calibrating the diagnostic device}

Definition statement
This place covers:
Any calibration related features or methods, including phantoms.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Means for monitoring or calibrating in devices for short-range imaging using acoustic waves | G01S 7/5205 |
A61B 8/582

{Remote testing of the device}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| ICT specially adapted for the remote operation of medical equipment or devices | G16H 40/67 |

A61B 8/585

{Automatic set-up of the device}

Definition statement

This place covers:

Automatic setup of data acquisition parameters (diagnostic protocol) using patient specific information, e.g. weight, height and/or diagnostic specific information.

A61B 8/587

{Calibration phantoms (models for medical purposes G09B 23/28)}

Definition statement

This place covers:

Methods or devices for calibration where a reference object (phantom) is used to determine particular properties of the diagnosis device.

![FIG. 1](image_url)

[US2008139933]

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Calibration phantoms for radiation diagnosis devices | A61B 6/583 |
| Models for medical purposes | G09B 23/28 |
A61B 9/00

Instruments for examination by percussion; Pleximeters

Definition statement

This place covers:
Any device used for tapping on a surface of a body area in order to determine the underlying structure condition, e.g. reflex hammer.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Percussion or vibration massage

A61H 23/00

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| Pleximeter | Plate to be struck in mediate percussion, generally by a reflex hammer |

A61B 9/005

{Electric apparatus for detecting reflex action, e.g. monitoring depth of anaesthesia (detection of movements A61B 5/11)}

References

Limiting references

This place does not cover:

Determining the level of anaesthesia by measuring a physiological parameter, e.g. EEG, EMG

A61B 5/4821

Informative references

Attention is drawn to the following places, which may be of interest for search:

Detection of movement

A61B 5/11

A61B 10/00

Other methods or instruments for diagnosis, e.g. instruments for taking a cell sample, for biopsy, for vaccination diagnosis (vaccination prophylaxis, vaccination therapy A61B 17/20); Sex determination; Ovulation-period determination (menstruation tables G06C 3/00); Throat striking implements

Definition statement

This place covers:
instruments for taking a sample from a body:
• devices for taking fluid samples or cell samples;
• biopsy devices;
• devices for taking faeces samples;
• containers for storing such samples;
• devices for determining ovulation;
• devices for detection of breast cancer;
• vaccination diagnosis (allergy test patches);
• devices for sex determination

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Vaccination instruments</th>
<th>A61B 17/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menstruation tables</td>
<td>G06C 3/00</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Surgical instruments in general</th>
<th>A61B 17/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical cutting instruments</td>
<td>A61B 17/32</td>
</tr>
</tbody>
</table>

Special rules of classification

The breakdown symbols (i.e. the non "parallel" or non "mirror" symbols) and "orthogonal" symbols are to be used for classifying the invention information (in addition to the invention symbols) in case the invention is insufficiently classified by an invention information symbol. They are also to be used for classifying the additional information. They are stored in the additional information field.

A61B 10/0012

{Ovulation-period determination (for animals A61D 17/002)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Ovulation determination for animals</th>
<th>A61D 17/002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menstruation tables</td>
<td>G06C 3/00</td>
</tr>
</tbody>
</table>
A61B 10/0038

{Devices for taking faeces samples; Faecal examination devices (anal receptacles A61F 5/451)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Anal receptacles | A61F 5/451 |

A61B 10/0041

{Detection of breast cancer (mammography by transillumination A61B 5/0091, by X-rays A61B 6/502, by ultrasonic means A61B 8/0825)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Mammography by transillumination | A61B 5/0091 |
| Mammography by X-rays | A61B 6/502 |
| Mammography by ultrasonic means | A61B 8/0825 |

A61B 10/0045

{Devices for taking samples of body liquids (devices for taking blood samples A61B 5/15)}

References
Limiting references
This place does not cover:

| Devices for taking blood samples | A61B 5/15 |

A61B 10/0051

{for taking saliva or sputum samples (devices for receiving spittle A61J 9/00)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Devices for receiving spittle | A61J 9/00 |
A61B 10/0058
{for taking sperm samples (artificial insemination A61B 17/43; for animals A61D 19/021; genital receptacles for the male member A61F 5/453; massage of the genitals A61H 19/00)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Artificial insemination</th>
<th>A61B 17/43</th>
</tr>
</thead>
<tbody>
<tr>
<td>For animals</td>
<td>A61D 19/021</td>
</tr>
<tr>
<td>Genital receptacles for the male member</td>
<td>A61F 5/453</td>
</tr>
<tr>
<td>Massage of the genitals</td>
<td>A61H 19/00</td>
</tr>
</tbody>
</table>

A61B 10/0064
{for taking sweat or sebum samples (measuring sweat production A61B 5/4266)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring sweat production | A61B 5/4266 |

A61B 10/007
{for taking urine samples (measuring urological functions A61B 5/20; genital receptacles A61F 5/451; urinals for bed-ridden persons A61G 9/006)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Measuring urological functions</th>
<th>A61B 5/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genital receptacles</td>
<td>A61F 5/451</td>
</tr>
<tr>
<td>Urinals for bed-ridden persons</td>
<td>A61G 9/006</td>
</tr>
</tbody>
</table>
A61B 10/0096

{Casings for storing test samples (A61B 10/0038 and A61B 10/0045 take precedence; preservation of living parts of the human or animal body A01N 1/02; containers for retaining a material to be analysed B01L 3/50; containers for enzymology or microbiology C12M 1/16; swab-sampler being part of enzymology or microbiology container C12M 1/30)}

References

Limiting references

This place does not cover:

| Devices for taking faeces samples          | A61B 10/0038 |
| Devices for taking samples of body liquids | A61B 10/0045 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Preservation of living parts of the human or animal body | A01N 1/02 |
| Containers for retaining a material to be analysed       | B01L 3/50 |
| Containers in general                                     | B65D      |
| Apparatus for microbiology                               | C12M 1/00 |
| Containers for enzymology or microbiology                | C12M 1/16 |
| Swab-sampler being part of enzymology or microbiology container | C12M 1/30 |

A61B 10/02

Instruments for taking cell samples or for biopsy (A61B 10/0038 and A61B 10/0045 take precedence; needle locating or guiding means A61B 17/3403; samplers for enzymology or microbiology C12M 1/26; sampling or preparing biological specimens G01N 33/48)}

References

Limiting references

This place does not cover:

| Devices for taking faeces samples          | A61B 10/0038 |
| Devices for taking samples of body liquids | A61B 10/0045 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Surgical Instruments                      | A61B 17/00 - A61B 17/42 |
| Surgical cutting instruments with sample retaining means | A61B 2017/320064 |
| Needle location or guiding means          | A61B 17/3403 |
| Accessories for Surgery and Diagnosis     | A61B 90/00 |
### A61B 10/0241

**{for prostate}**

#### References

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

Minimally invasive operation on prostate:  
A61B 2017/00274

### A61B 10/025

**{for taking bone, bone marrow or cartilage samples}**

#### References

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

- Trocars for bone  
  A61B 17/3472
- Filters for solid matter  
  A61M 1/0056

### A61B 10/0266

**{means for severing sample}**

#### Definition statement

*This place covers:*

e.g. with a cutter

### A61B 10/0275

**{with sample notch, e.g. on the side of inner stylet}**

#### Definition statement

*This place covers:*

devices with a sample notch, which may be, e.g. on an inner stylet or on an outer cannula
### A61B 10/0283

{with vacuum aspiration, e.g. caused by retractable plunger or by connected syringe (A61B 10/025, A61B 10/0266 take precedence)}

#### References

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruments for taking bone, bone marrow or cartilage samples</td>
<td>A61B 10/025</td>
</tr>
<tr>
<td>Instruments with means for severing sample</td>
<td>A61B 10/0266</td>
</tr>
</tbody>
</table>

### A61B 10/0291

{for uterus (A61B 10/0045 takes precedence)}

#### Definition statement

This place covers:

devices used in or near the uterus, includes devices for cervix

#### References

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devices for taking samples of body liquids</td>
<td>A61B 10/0045</td>
</tr>
</tbody>
</table>

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gynecological or obstetrical instruments</td>
<td>A61B 17/42</td>
</tr>
</tbody>
</table>

### A61B 10/04

Endoscopic instruments

#### References

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>General surgery devices to be introduced in the working channel of an endoscope</td>
<td>A61B 2017/0034</td>
</tr>
</tbody>
</table>
A61B 10/06
Biopsy forceps {, e.g. with cup-shaped jaws}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| General surgical forceps | A61B 17/28 |

A61B 13/00
Instruments for depressing the tongue (combined with illuminating and viewing instruments A61B 1/24)

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 13/00

References

Limiting references
This place does not cover:

| Stomatoscopes when combined with illuminating and viewing instruments: | A61B 1/24 |
A61B 16/00

Devices specially adapted for vivisection or autopsy (similar devices for medical purposes, see the relevant groups for such devices {; autopsy tables A61G 13/0027})

Definition statement

This place covers:

Instruments or appliances used in connection with autopsy

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

similar devices for medical purposes, see the relevant groups for such devices, e.g.

<table>
<thead>
<tr>
<th>General Surgical Instruments</th>
<th>A61B 17/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autopsy tables</td>
<td>A61G 13/0027</td>
</tr>
</tbody>
</table>

A61B 17/00

Surgical instruments, devices or methods, e.g. tourniquets (A61B 18/00 takes precedence; contraceptive devices, pessaries, or applicators therefor A61F 6/00; eye surgery A61F 9/007; ear surgery A61F 11/00)

References

Limiting references

This place does not cover:

| Surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body | A61B 18/00 |
| Eye surgery                                               | A61F 9/007 |
| Ear surgery                                               | A61F 11/00 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Contraceptive devices, pessaries, or applicators therefor | A61F 6/00 |

Special rules of classification

T The use of the CPC indexing codes (2000-series symbols which include both breakdown and orthogonal symbols) for classifying the additional information is mandatory in this field.

The breakdown and the orthogonal symbols of A61B 17/00 are also used for documents classified in the main trunk of A61B 18/00 to index relevant aspects for which no suitable symbol is available under A61B 18/00, A61B 2018/00005 or A61B 2218/00.
A61B 17/02
for holding wounds open; Tractors (specula A61B 1/32; drainage appliances for wounds A61M 27/00)

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/02

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Specula</th>
<th>A61B 1/32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drainage appliances for wounds</td>
<td>A61M 27/00</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>With illuminating arrangements</th>
<th>A61B 1/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devices for opening or enlarging the visual field, e.g. of a tube of the body</td>
<td>A61B 1/32</td>
</tr>
<tr>
<td>Device for performing tracheotomy</td>
<td>A61M 16/0472</td>
</tr>
<tr>
<td>Dilators</td>
<td>A61M 29/00</td>
</tr>
</tbody>
</table>
A61B 17/0206
{with antagonistic arms as supports for retractor elements}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/0206
A61B 17/0218


Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/0218
**References**

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>For abdominal wall lifters</td>
<td>A61B 17/0281</td>
</tr>
<tr>
<td>Suturing instruments for use in minimally invasive surgery, e.g.</td>
<td>A61B 17/0469</td>
</tr>
<tr>
<td>endoscopic surgery</td>
<td></td>
</tr>
<tr>
<td>For ligaturing or otherwise compressing tubular parts of the body</td>
<td>A61B 17/12013</td>
</tr>
<tr>
<td>For applying or removing clamps or clips</td>
<td>A61B 17/1285</td>
</tr>
<tr>
<td>Forceps for minimally invasive surgery</td>
<td>A61B 17/29</td>
</tr>
<tr>
<td>Endoscopic cutting instruments in general</td>
<td>A61B 17/320016</td>
</tr>
</tbody>
</table>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>For minimally invasive surgery in general</td>
<td>A61B 17/00234</td>
</tr>
</tbody>
</table>
A61B 17/0231
{for eye surgery}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/0231

A61B 2017/0237
{for heart surgery (endoscopic heart surgery A61B 2017/00243; endoscopic access devices, i.e. trocars, A61B 17/34)}

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Subject Matter</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endoscopic heart surgery</td>
<td>A61B 2017/00243</td>
</tr>
<tr>
<td>Endoscopic access devices, i.e. trocars</td>
<td>A61B 17/34</td>
</tr>
</tbody>
</table>
A61B 2017/0243
{for immobilizing local areas of the heart, e.g. while it beats (trocars attached to inner organs or inner body tissue A61B 2017/3488)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 2017/0243
References

Limiting references

This place does not cover:

| Trocars attached to inner organs or inner body tissue | A61B 2017/3488 |


**A61B 17/025**

**(Joint distractors)**

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **A61B 17/025**

![Fig. 6](image)

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Subject</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone surgery</td>
<td>A61F 2/30</td>
</tr>
<tr>
<td>Hip</td>
<td>A61F 2/32</td>
</tr>
<tr>
<td>Knee</td>
<td>A61F 2/38</td>
</tr>
<tr>
<td>Shoulder</td>
<td>A61F 2/40</td>
</tr>
<tr>
<td>Small joints</td>
<td>A61F 2/42</td>
</tr>
<tr>
<td>Spine</td>
<td>A61F 2/44, A61F 2/442</td>
</tr>
<tr>
<td>Instruments in general for implant</td>
<td>A61F 2/46</td>
</tr>
<tr>
<td>Materials for bone surgery</td>
<td>A61L2/76</td>
</tr>
</tbody>
</table>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>For intervertebral joint distraction by acting on anchors embedded in vertebrae</td>
<td>A61B 17/7077</td>
</tr>
<tr>
<td>For restoring the shape of collapsed bones by injecting cement into them</td>
<td>A61B 17/8802</td>
</tr>
<tr>
<td>For restoring the shape of collapsed bones by expanding devices inside them</td>
<td>A61B 17/885</td>
</tr>
</tbody>
</table>
A61B 17/0281
{Abdominal wall lifters}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/0281


FIG. 1
A61B 17/0293
{with ring member to support retractor elements}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/0293

FIG. 12
A61B 17/04
for suturing wounds; Holders or packages for needles or suture materials (suture materials A61L 17/00)

References

Limiting references
This place does not cover:

| Suture materials | A61L 17/00 |
A61B 17/0401

{Suture anchors, buttons or pledgets, i.e. means for attaching sutures to bone, cartilage or soft tissue; Instruments for applying or removing suture anchors (A61B 17/0642 takes precedence; fixation devices for tendons or ligaments A61F 2/0811)}

Definition statement

This place covers:
See patent # US2004138707

---

References

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Surgical staples for bones</th>
<th>A61B 17/0642</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixation devices for tendons or ligaments</td>
<td>A61F 2/0811</td>
</tr>
</tbody>
</table>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Purse-string suturing                           | A61B 2017/1142 |

---

---
A61B 2017/0403

{Dowels (other bone dowels A61B 17/68; dowels for connecting prosthetic parts A61F 2002/30433)}

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Other bone dowels</th>
<th>A61B 17/68</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dowels for connecting prosthetic parts</td>
<td>A61F 2002/30433</td>
</tr>
</tbody>
</table>

A61B 2017/0408

{Rivets (other bone rivets A61B 17/68; rivets for connecting prosthetic parts A61F 2002/30433, A61F 2220/0041)}

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Other bone rivets</th>
<th>A61B 17/68</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rivets for connecting prosthetic parts</td>
<td>A61F 2002/30433, A61F 2220/0041</td>
</tr>
</tbody>
</table>

A61B 2017/0409

{Instruments for applying suture anchors (for applying suture clamps, clips or locks A61B 2017/0488)}

References

Limiting references

This place does not cover:

| For applying suture clamps, clips or locks | A61B 2017/0488 |

A61B 2017/0411

{Instruments for removing suture anchors (for removing suture clamps, clips or locks A61B 2017/049)}

References

Limiting references

This place does not cover:

| For removing suture clamps, clips or locks | A61B 2017/049 |
A61B 2017/0412
{having anchoring barbs or pins extending outwardly from suture anchor body}

Definition statement
This place covers:
Intended to encompass "large" barbs, e.g. ribs going around at least 1/2 of the diameter on the anchor

References
Informative references
Attention is drawn to the following places, which may be of interest for search:
| For "thin" barbs (seen in a transversal cross section) | A61B 2017/0427 |

A61B 2017/0414
{having a suture-receiving opening, e.g. lateral opening (lateral eyelet for attaching suture to needle A61B 2017/06019)}

References
Limiting references
This place does not cover:
| Lateral eyelet for attaching suture to needle | A61B 2017/06019 |

A61B 2017/0427
{having anchoring barbs or pins extending outwardly from the anchor body}

Definition statement
This place covers:
Rigid barbs

A61B 2017/0438
{slotted, i.e. having a longitudinal slot for enhancing their elasticity}

Definition statement
This place covers:
Slotted shaft, i.e. distal part
A61B 2017/044

{with a threaded shaft, e.g. screws}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Threaded staples | A61B 2017/0648 |

A61B 2017/0441

{the shaft being a rigid coil or spiral}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Coil staples | A61B 2017/0649, A61B 2017/0647 |

A61B 2017/0443

{the shaft being resilient and having a coiled or helical shape in the released state}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Coil staples | A61B 2017/0649 |

A61B 2017/0445

{cannulated, e.g. with a longitudinal through-hole for passage of an instrument}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| For passage of suture | A61B 2017/0458 |
A61B 2017/045

{snug fit within the anchor}

**Definition statement**

*This place covers:*

Includes caps or covers pressed inside or outside the body anchor. It does also includes snap fit (e.g. connection by tab and recess)

<table>
<thead>
<tr>
<th>References</th>
<th>Informative references</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attention is drawn to the following places, which may be of interest for search:</strong></td>
<td></td>
</tr>
<tr>
<td>Increasing friction between anchor and suture; hence if ribs are present to increase snug fit between an additional element and the anchor only this class is given</td>
<td>A61B 2017/045</td>
</tr>
</tbody>
</table>

A61B 2017/0461

{Surface features on the anchor, e.g. ribs increasing friction between the suture and the anchor}

<table>
<thead>
<tr>
<th>References</th>
<th>Informative references</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attention is drawn to the following places, which may be of interest for search:</strong></td>
<td></td>
</tr>
<tr>
<td>Barbed sutures</td>
<td>A61B 2017/06176</td>
</tr>
</tbody>
</table>

A61B 2017/0462

{One way system, i.e. also tensioning the suture}

**Definition statement**

*This place covers:*

Triangular barbs on the suture which lock in a hole of the anchor or biased locking means in the hole of the anchor locking on protrusions of the suture

<table>
<thead>
<tr>
<th>References</th>
<th>Informative references</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attention is drawn to the following places, which may be of interest for search:</strong></td>
<td></td>
</tr>
<tr>
<td>Means for tensioning the suture as such</td>
<td>A61B 2017/0496</td>
</tr>
</tbody>
</table>
A61B 17/0466
{Suture bridges}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/0466

U.S. Patent July 7, 1992 Sheet 2 of 10 5,127,412
A61B 17/0467
{Instruments for cutting sutures (surgical cutting instruments A61B 17/32)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/0467

References
Limiting references
This place does not cover:

| Surgical cutting instruments | A61B 17/32 |
**A61B 17/0469**

{Suturing instruments for use in minimally invasive surgery, e.g. endoscopic surgery}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/0218

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Shuttle needle with sharp tips at both ends</th>
<th>A61B 2017/0609</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIS ligaturing</td>
<td>A61B 17/12013</td>
</tr>
</tbody>
</table>
A61B 2017/047
{having at least one proximally pointing needle located at the distal end of the instrument, e.g. for suturing trocar puncture wounds starting from inside the body (J-shaped suture needles A61B 2017/0608)}

References
Limiting references
This place does not cover:

| J-shaped suture needles | A61B 2017/0608 |

A61B 2017/048
{for reducing heart wall tension, e.g. sutures with a pad on each extremity}

References
Limiting references
This place does not cover:

| Reshaping the heart with bags, strips, bands | A61F 2/2481 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Cushions encircling the heart | A61F 2/2487 |
| Blood pumps                  | A61M 1/1068 |
A61B 17/0482
{Needle or suture guides (guides for drills, pins or wire A61B 17/17; for puncturing needles A61B 17/3403)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/0482

Fig. 9
References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Guides for drills, pins or wire (bone)</th>
<th>A61B 17/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>For puncturing needles</td>
<td>A61B 17/3403</td>
</tr>
</tbody>
</table>
A61B 17/0483

{Hand-held instruments for holding sutures (A61B 17/0469 takes precedence; other holders for needles or sutures A61B 17/06061; surgical forceps A61B 17/28; surgical pincettes A61B 17/30)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/0483

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Subject Matter</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suturing instruments for use in minimally invasive surgery, e.g. endoscopic surgery</td>
<td>A61B 17/0469</td>
</tr>
<tr>
<td>Other holders for needles or sutures</td>
<td>A61B 17/06061</td>
</tr>
<tr>
<td>Surgical forceps</td>
<td>A61B 17/28</td>
</tr>
<tr>
<td>Forceps</td>
<td>A61B 17/28; A61B 17/29</td>
</tr>
<tr>
<td>Surgical pincettes</td>
<td>A61B 17/30</td>
</tr>
</tbody>
</table>
A61B 17/0485

{Devices or means, e.g. loops, for capturing the suture thread and threading it through an opening of a suturing instrument or needle eyelet}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/0485
A61B 17/0487

{Suture clamps, clips or locks, e.g. for replacing suture knots; Instruments for applying or removing suture clamps, clips or locks (suture anchors A61B 17/0401; wound clamps or clips A61B 17/08; ligaturing clamps or clips A61B 17/122)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/0487

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Subject Matter</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suture anchors</td>
<td>A61B 17/0401</td>
</tr>
<tr>
<td>Wound clamps or clips</td>
<td>A61B 17/08</td>
</tr>
<tr>
<td>Ligaturing clamps or clips</td>
<td>A61B 17/122</td>
</tr>
<tr>
<td>Clamps comprising opposed elements which grasp one vertebra between them</td>
<td>A61B 17/7047</td>
</tr>
</tbody>
</table>
A61B 2017/0488

{Instruments for applying suture clamps, clips or locks (for applying suture anchors A61B 2017/0409; for applying wound clamps A61B 17/10; for applying ligaturing clamps or clips A61B 17/128)}

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>For applying suture anchors</th>
<th>A61B 2017/0409</th>
</tr>
</thead>
<tbody>
<tr>
<td>For applying wound clamps</td>
<td>A61B 17/10</td>
</tr>
<tr>
<td>For applying ligaturing clamps or clips</td>
<td>A61B 17/128</td>
</tr>
</tbody>
</table>

A61B 2017/049

{Instruments for removing suture clamps, clips or locks (for removing suture anchors A61B 2017/0411; for removing wound clamps A61B 17/10; for removing ligaturing clamps or clips A61B 17/128)}

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>For removing suture anchors</th>
<th>A61B 2017/0411</th>
</tr>
</thead>
<tbody>
<tr>
<td>For removing wound clamps</td>
<td>A61B 17/10</td>
</tr>
<tr>
<td>For removing ligaturing clamps or clips</td>
<td>A61B 17/128</td>
</tr>
</tbody>
</table>
A61B 17/0491
{Sewing machines for surgery}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/0491
A61B 17/0493

{Protective devices for suturing, i.e. for protecting the patient's organs or the operator}

Definition statement

This place covers:
See patent # US3878848

References

Limiting references

This place does not cover:

| Blunt suture needles                        | A61B 2017/06085 |
| Other devices for protecting against accidental cutting or pricking | A61B 2090/0801 |

A61B 2017/0495

{Reinforcements for suture lines}

References

Limiting references

This place does not cover:

| Reinforcement for staple lines               | A61B 17/07292 |
A61B 17/06

Needles {; Sutures; Needle-suture combinations}; Holders or packages for needles or suture materials (puncturing needles A61B 17/34; hypodermic needles A61M 5/32 {; sewing needles D05B 85/00})

Definition statement

This place covers:
Essentially flexible elements

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Essentially rigid suture like elements are “staples”</th>
<th>A61B 17/064</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nerve needles for teeth</td>
<td>A61C 5/40</td>
</tr>
<tr>
<td>Sewing needles</td>
<td>D05B 85/00</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:
A61B 17/06004
{Means for attaching suture to needle (tipping A61B 17/06195; connecting wire to other metallic objects B21F 15/00)}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/06004
References

Limiting references
This place does not cover:

| Tipping | A61B 17/06195 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Connecting wire to other metallic objects | B21F 15/00 |

A61B 2017/06019
{by means of a suture-receiving lateral eyelet machined in the needle (lateral opening for attaching suture to suture anchor A61B 2017/0414)}

References

Limiting references
This place does not cover:

| Lateral opening for attaching suture to suture anchor | A61B 2017/0414 |

A61B 2017/06033
{using adhesives (glue applicators A61B 17/00491; for connecting prosthetic parts A61F 2002/30448)}

References

Limiting references
This place does not cover:

| Glue applicators | A61B 17/00491 |
| For connecting prosthetic parts | A61F 2002/30448 |

A61B 2017/06038
{soldered or brazed or welded (for connecting prosthetic parts A61F 2002/30451, A61F 2220/0058)}

References

Limiting references
This place does not cover:

| For connecting prosthetic parts | A61F 2220/0058 |
A61B 2017/06052

{Needle-suture combinations in which a suture is extending inside a hollow tubular needle, e.g. over the entire length of the needle (hollow suture needles A61B 2017/061)}

References
Limiting references
This place does not cover:

| Hollow suture needles | A61B 2017/061 |

A61B 17/06061

{Holders for needles or sutures, e.g. racks, stands (hand-held holding instruments A61B 17/0483; holders for articles A61B 50/20; racks for syringes or for hypodermic or infusion needles A61M 5/008)}

Definition statement
This place covers:

See patent # GB2011259
References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Category</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand-held holding instruments</td>
<td>A61B 17/0483</td>
</tr>
<tr>
<td>Holders for articles</td>
<td>A61B 50/20</td>
</tr>
<tr>
<td>Racks for syringes or for hypodermic or infusion needles</td>
<td>A61M 5/008</td>
</tr>
</tbody>
</table>
A61B 17/06066
{Needles, e.g. needle tip configurations (making needles B21G 1/00)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/06066

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximally pointing needle at distal end of MIS suturing instrument</td>
<td>A61B 2017/047</td>
</tr>
<tr>
<td>Multiple-needled MIS suturing instruments</td>
<td>A61B 2017/0472</td>
</tr>
<tr>
<td>Attaching suture to needle</td>
<td>A61B 17/06004</td>
</tr>
<tr>
<td>Suture placed inside a tubular needle</td>
<td>A61B 2017/06052</td>
</tr>
<tr>
<td>Double-armed sutures</td>
<td>A61B 2017/06057</td>
</tr>
<tr>
<td>Puncturing needles</td>
<td>A61B 17/34</td>
</tr>
<tr>
<td>Hypodermic needles</td>
<td>A61M 5/32</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>CPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making needles used for surgical purposes; needle tips</td>
<td>B21G 1/00</td>
</tr>
</tbody>
</table>
A61B 2017/06076
{helically or spirally coiled (for sutures A61B 2017/06171)}

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>For sutures</th>
<th>A61B 2017/06171</th>
</tr>
</thead>
</table>

A61B 2017/06085
{having a blunt tip (blunt dissectors A61B 2017/320044)}

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Bunt dissectors</th>
<th>A61B 2017/320044</th>
</tr>
</thead>
</table>

A61B 2017/0609
{having sharp tips at both ends, e.g. shuttle needle alternately retained and released by first and second facing jaws of a suturing instrument (MIS suturing instruments A61B 17/0469; jaws of MIS forceps A61B 2017/2926)}

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>MIS suturing instruments</th>
<th>A61B 17/0469</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaws of MIS forceps</td>
<td>A61</td>
</tr>
</tbody>
</table>

A61B 2017/061
{hollow or tubular (suture extending inside a hollow needle A61B 2017/06052; hollow sutures A61B 2017/06185)}

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Suture extending inside a hollow needle</th>
<th>A61B 2017/06052</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hollow sutures</td>
<td>A61B 2017/06185</td>
</tr>
</tbody>
</table>
A61B 17/06109

{Big needles, either gripped by hand or connectable to a handle}

**Definition statement**

*This place covers:*

![Image of a needle and handle]

Fig. 4C

A61B 17/06114

{Packages or dispensers for needles or sutures (packages for sharps A61B 50/3001; for dental floss A61C 15/043; packages for needles in general B65D 85/24)}

**References**

*Limiting references*

*This place does not cover:*

<table>
<thead>
<tr>
<th></th>
<th>A61B 2017/0416</th>
<th>A61B 2017/0479</th>
<th>A61B 50/3001</th>
<th>A61C 15/043</th>
</tr>
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<tbody>
<tr>
<td>For suture anchors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For MIS suturing instruments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packages for sharps</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For dental floss</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Informative references

Attention is drawn to the following places, which may be of interest for search:

| Packaging in general | B65D 83/00, B65B85/00 |
| Packages for needles in general | B65D 85/24 |

A61B 17/06119

{of cylindrical shape}

Definition statement

*This place covers:*

See patent # DE930771
**A61B 17/06123**

{Flat cylinders, e.g. including an inner reel}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [A61B 17/06123](#)
A61B 17/06128
{Elongate cylinders, i.e. tubes}

Definition statement

This place covers:
See patent # BE693850
A61B 17/06133
{of parallelepipedal shape, e.g. made of rectangular or slightly oval panels}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/06133


FIG. 2
A61B 17/06138
{including a retainer comprising three or more foldable panels}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/06138
A61B 17/06161

{Devices for removing or collecting used needles or sutures (A61B 17/0467 takes precedence; for sharps A61B 50/362)}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/06161

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Instrument for cutting sutures</th>
<th>A61B 17/0467</th>
</tr>
</thead>
<tbody>
<tr>
<td>For sharps</td>
<td>A61B 50/362</td>
</tr>
</tbody>
</table>
A61B 17/06166
{Sutures (suture materials A61L 17/00; manufacture of artificial threads D01D; treatment of threads D06M)}

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>With a slip knot</td>
<td>A61B 2017/0475</td>
</tr>
<tr>
<td>Pre-tied sutures</td>
<td>A61B 2017/0477</td>
</tr>
<tr>
<td>Attaching suture to needle</td>
<td>A61B 17/06004</td>
</tr>
<tr>
<td>Suture placed inside a tubular needle</td>
<td>A61B 2017/06052</td>
</tr>
<tr>
<td>Double-armed sutures</td>
<td>A61B 2017/06057</td>
</tr>
<tr>
<td>Purse-string sutures</td>
<td>A61B 2017/1142</td>
</tr>
<tr>
<td>Suture materials</td>
<td>A61L 17/00</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacture of artificial threads</td>
<td>D01D</td>
</tr>
<tr>
<td>Treatment of threads</td>
<td>D01D; D06M</td>
</tr>
</tbody>
</table>
A61B 17/06195

{Apparatus or means for preparing the cut end of the suture thread to be attached to the needle, e.g. tipping to prevent brooming (A61B 17/06004 takes precedence)}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/06195

References

Limiting references

This place does not cover:

| Means for attaching suture to needle | A61B 17/06004 |
A61B 17/062

Needle manipulators

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/062
**A61B 17/0625**

{the needle being specially adapted to interact with the manipulator, e.g. being ridged to snap fit in a hole of the manipulator (A61B 17/06109 takes precedence)}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in A61B 17/0625

---

**References**

**Limiting references**

This place does not cover:

| Big needles, either gripped by hand or connectable to a handle | A61B 17/06109 |
A61B 17/064
Surgical staples, {i.e. penetrating the tissue}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/064
References

Limiting references

This place does not cover:

| Completely embedded in the heart wall for tensioning it | A61F 2/2478 and A61F 2002/249 |

A61B 17/0642

{for bones, e.g. for osteosynthesis or connecting tendon to bone}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/0642
A61B 17/0643
{with separate closing member, e.g. for interlocking with staple}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/0643

A61B 17/0644
{penetrating the tissue, deformable to closed position}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/0644
A61B 17/068

Surgical staplers (e.g. containing multiple staples or clamps) (staplers containing only one staple A61B 17/10; magazines or containers for staples A61B 17/105; for performing anastomosis A61B 17/115; staplers in general B25C 5/00))

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/068

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Staplers containing only one staple</th>
<th>A61B 17/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magazines or containers for staples</td>
<td>A61B 17/105</td>
</tr>
<tr>
<td>For performing anastomosis</td>
<td>A61B 17/115</td>
</tr>
<tr>
<td>Forceps</td>
<td>A61B 17/28, A61B 17/29</td>
</tr>
</tbody>
</table>
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Staplers in general | B25C 5/00 |

A61B 17/0682
{for applying U-shaped staples or clamps, e.g. without a forming anvil}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/0682
A61B 17/0684
{having a forming anvil staying above the tissue during stapling}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/0684
A61B 17/0686
{having a forming anvil staying below the tissue during stapling}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/0686

U.S. Patent Nov. 17, 1992 Sheet 10 of 13 5,163,598

FIG_22

FIG_23
A61B 17/072
for applying a row of staples in a single action {, e.g. the staples being applied simultaneously}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/072
**A61B 17/07207**

{the staples being applied sequentially}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in A61B 17/07207
A61B 2017/07221
{curved}

Definition statement
This place covers:
Curved in longitudinal direction or curved in the transversal direction

References
Limiting references
This place does not cover:

Circular staplers

A61B 17/1155

A61B 17/07292
{Reinforcements for staple line, e.g. pledgets}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/07292

Fig. 2

Fig. 3

Fig. 4
A61B 17/076
for removing surgical staples (or wound clamps)

Special rules of classification
Illustrative example of subject matter classified in A61B 17/076
A61B 17/08

Wound clamps (or clips, i.e. not or only partly penetrating the tissue (suture bridges A61B 17/0466); Devices for bringing together the edges of a wound)

**Definition statement**

*This place covers:*

Devices for bringing together the edges of a wound

---

**FIG. 1**
References

Limiting references

This place does not cover:

| Suture bridges | A61B 17/0466 |
A61B 2017/081
{Tissue approximator (A61B 2017/1103, A61B 17/8866 take precedence)}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 2017/081

[Fig. 1]

[Fig. 2]

[Fig. 3]
References

Limiting references

This place does not cover:

Approximator for anastomosis  A61B 2017/1103

A61B 17/083

{Clips, e.g. resilient}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/083
**A61B 17/085**
{with adhesive layer}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **A61B 17/085**

---


![Diagram](image-url)
A61B 2017/086

{having flexible threads, filaments, laces or wires, e.g. parallel threads, extending laterally from a strip, e.g. for tying to opposing threads extending from a similar strip}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 2017/086
A61B 17/10

for applying or removing wound clamps, {e.g. containing only one clamp or staple (A61B 17/076 takes precedence; containing multiple wound clamps A61B 17/068}); Wound clamp magazines (containers, packaging elements or packages specially adapted for particular articles or with special means for dispensing contents B65D 83/00, B65D 85/00)

Definition statement
This place covers:

Illustrative example of subject matter classified in A61B 17/10

References

Limiting references
This place does not cover:

| Containing multiple wound clamps                                  | A61B 17/068 |
|===================================================================|-------------|
| For removing surgical staples                                     | A61B 17/076 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Containers, packaging elements or packages specially adapted for particular articles or with special means for dispensing contents | B65D 83/00, B65D 85/00 |
A61B 17/105
{Wound clamp magazines (for packaging sharps A61B 50/3001)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/105

References
Limiting references
This place does not cover:

| For packaging sharps | A61B 50/3001 |
A61B 17/11
for performing anastomosis; Buttons for anastomosis

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/11

FIG. 4

FIG. 5
A61B 17/1114
(of the digestive tract, e.g. bowels or oesophagus)

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/1114

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Subject</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubular implants</td>
<td>A61F 2/04</td>
</tr>
<tr>
<td>Obesity treatment</td>
<td>A61F 5/0003</td>
</tr>
</tbody>
</table>

Special rules of classification

<table>
<thead>
<tr>
<th>Subject</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostheses implantable into the body to facilitate anastomotic coupling</td>
<td>A61F 2/064</td>
</tr>
</tbody>
</table>
A61B 17/1128
{of nerves}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/1128

A61B 2017/1135
{End-to-side connections, e.g. T- or Y-connections (Y-shaped blood vessel prostheses A61F 2002/065)}

References
Limiting references
This place does not cover:

| Y-shaped blood vessel prostheses | A61F 2002/065 |
A61B 17/1146
{of tendons}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/1146
A61B 17/115
Staplers {for performing anastomosis in a single operation}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/115

FIG. 5
A61B 17/1152

{applying the staples on the outside of the lumen}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/1152
A61B 17/1155
{Circular staplers comprising a plurality of staples}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/1155


FIG. 7

FIG. 8
A61B 17/12

for ligaturing or otherwise compressing tubular parts of the body, e.g. blood vessels, umbilical cord (specially adapted for vas deferens or fallopian tubes A61F 6/20; materials for ligaturing blood vessels A61L 17/00)

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/12
## References

### Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closure means for urethra or rectum or for artificial body openings therefor</td>
<td>A61F 2/0004</td>
</tr>
<tr>
<td>Closure means, constricting the lumen</td>
<td>A61F 2/0031</td>
</tr>
<tr>
<td>Filters</td>
<td>A61F 2/01</td>
</tr>
<tr>
<td>Specially adapted for vas deferens or fallopian tubes</td>
<td>A61F 6/20</td>
</tr>
<tr>
<td>Transcervical canal</td>
<td>A61F 6/206</td>
</tr>
<tr>
<td>Materials for ligaturing blood vessels</td>
<td>A61L 17/00</td>
</tr>
</tbody>
</table>
A61B 17/12009
{ Implements for ligaturing other than by clamps or clips, e.g. using a loop with a slip knot }

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/12009
A61B 17/12013
{for use in minimally invasive surgery, e.g. endoscopic surgery}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/12013

References
Limiting references
This place does not cover:

| MIS suturing       | A61B 17/0469 |
A61B 2017/12018

{Elastic band ligators}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 2017/12018

A61B 17/12022

{Occluding by internal devices, e.g. balloons or releasable wires (plugging an opening in the wall of an organ A61B 17/0057; occluders for the cervical canal A61F 6/146; vas deferens occluders A61F 6/20)}

References

Limiting references

This place does not cover:

Plugging an opening in the wall of an organ A61B 17/0057
Occluders for the cervical canal A61F 6/146
Vas deferens occluders A61F 6/20

Informative references

Attention is drawn to the following places, which may be of interest for search:

| When only reducing the blood flow; combine with stents modifying blood flow | A61F 2002/068 |
| Stent graft or graft for the treatment of aneurysms | A61F 2/07 |
| For occluding the hole of a cardiac valve cyclically | A61F 2/24, A61F 2/2442 |
| Stents, different from stent-grafts, adapted to cover an aneurysm | A61F 2002/823 |
### A61B 2017/1205

**{Introduction devices}**

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Device</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introducer for blood filters</td>
<td>A61F 2002/011</td>
</tr>
<tr>
<td>Introducer for stents</td>
<td>A61F 2/95</td>
</tr>
</tbody>
</table>

### A61B 2017/12127

**{Double occlusion, e.g. for creating blood-free anastomosis site}**

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Device</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple balloon catheters</td>
<td>A61M 25/1011</td>
</tr>
<tr>
<td>Balloon catheters or temporarily occluding a vessel for isolating a sector</td>
<td>A61M 2025/1052</td>
</tr>
</tbody>
</table>
A61B 17/122
Clamps or clips {, e.g. for the umbilical cord (for the vas deferens A61F 6/206)}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/122
References

Limiting references

This place does not cover:

For the vas deferens  A61F 6/206

Informative references

Attention is drawn to the following places, which may be of interest for search:

Pressure applied to the urethra by an element placed around the penis, e.g. penis clamp  A61F 2/0054
A61B 17/1222

{Packages or dispensers therefor (clip magazines incorporated in a clip-applying instrument A61B 17/128; for surgical articles A61B 50/30)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/1222
References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Clip magazines incorporated in a clip-applying instrument</th>
<th>A61B 17/128</th>
</tr>
</thead>
<tbody>
<tr>
<td>For surgical articles</td>
<td>A61B 50/30</td>
</tr>
</tbody>
</table>
**A61B 17/1227**

(Spring clips)

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [A61B 17/1227](#)
A61B 17/128
for applying or removing clamps or clips

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/128
A61B 17/1285
{for minimally invasive surgery}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/1285
A61B 17/132
Tourniquets {(sphygometers A61B 5/02)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/132

References
Limiting references
This place does not cover:

| Sphygometers                  | A61B 5/02 |
A61B 17/1322
{comprising a flexible encircling member (A61B 17/135 takes precedence)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/1322:

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Inflatable</th>
<th>A61B 17/135</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure pads</td>
<td>A61F 5/30</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Occluders to close blood vessels, e.g. against the skin for measuring blood pressure | A61B 5/02233 |
| Occluders to close blood vessels, e.g. against the skin for measuring blood pressure of small dimensions | A61B 5/02241 |
| Hemostatic bandage with means for applying local pressure | A61F 2013/00468 |
A61B 17/1325
{with means for applying local pressure (pressure pads A61F 5/30)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/1325

References
Limiting references
This place does not cover:

| Pressure pads       | A61F 5/30 |
A61B 17/1327
{Tensioning clamps}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/1327

Fig. 6
A61B 17/135

inflatable (for measuring blood pressure A61B 5/022; inflatable pressure pads A61F 5/34)

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/135

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>For measuring blood pressure</th>
<th>A61B 5/022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastric bands, remotely adjustable, using inflatable ports</td>
<td>A61F 5/0056</td>
</tr>
<tr>
<td>Inflatable pressure pads</td>
<td>A61F 5/34</td>
</tr>
</tbody>
</table>
Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/1355
A61B 17/14
Surgical saws  \{(A61B 17/1637 takes precedence;) tooth saws A61C 3/12 \}{; Accessories therefor\}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/14
Typical example (DE20303018U):

References

Limiting references

This place does not cover:

| Hollow drills or saws creating a curved cut, e.g. cylindrical | A61B 17/1637 |
| Tooth saws | A61C 3/12 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

|Implanting tools or instruments for the jaw bone| A61C 8/0089 |
|Cast-cutting saws| A61F 15/02 |
|Saws in general| B23|
**A61B 17/15**

Guides therefor {(arrangements for guiding straight saw blades in general **B23D 51/025**)}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **A61B 17/15**

Typical example (EP1224912):

![Diagram of a guide for a straight saw blade]

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Arrangements for guiding straight saw blades in general | **B23D 51/025** |
**A61B 17/154**  
{for preparing bone for knee prosthesis}

**Definition statement**

*This place covers:*

This group covers equipment for guiding resection of more than one of the bones at the knee) (femur, tibia, patella), for example (US6478799):

![Diagram of bone cutting equipment](image)

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Cutting femur only</th>
<th>A61B 17/155</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutting tibia only</td>
<td>A61B 17/157</td>
</tr>
<tr>
<td>Cutting patella only</td>
<td>A61B 17/158</td>
</tr>
</tbody>
</table>

**A61B 17/155**  
{Cutting femur}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/155
Typical example (FR2838626):

**A61B 17/157**

{Cutting tibia}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/157
A61B 17/158
{Cutting patella}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/158

Typical example (US5542947):

FIG. 1
A61B 17/16

{Bone cutting, breaking or removal means other than saws, e.g.}
Osteoclasts; Drills or chisels for bones; Trepans {(arthroscopic bone cutters A61B 17/320016; dental implant drills potentially for other surgical use A61C 8/0089; bone grinders A61F 2/4644, A22C 17/06; A61B 17/1662 takes precedence over all other subgroups except A61B 17/17)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthroscopic bone cutters</td>
<td>A61B 17/320016</td>
</tr>
<tr>
<td>Abutting on tissue or skin</td>
<td>A61B 2090/036</td>
</tr>
<tr>
<td>Dental implant drills potentially for other surgical use</td>
<td>A61C 8/0089</td>
</tr>
<tr>
<td>Bone grinders</td>
<td>A61F 2/4644, A22C 17/06</td>
</tr>
</tbody>
</table>

Special rules of classification
A61B 17/1662 takes precedence over all other subgroups of A61B 17/16 except A61B 17/17

A61B 17/1604

{Chisels; Rongeurs; Punches; Stamps}

Definition statement
This place covers:
This group covers impacting or shearing devices for removing or indenting bone, for example chisels such as (EP1308132):

![FIG. 1]
A61B 17/1615
{Drill bits, i.e. rotating tools extending from a handpiece to contact the worked material}

Definition statement
This place covers:
Typical bits (US2002107521):

A61B 17/1617
{with mobile or detachable parts}

Definition statement
This place covers:
Examples:
US6358251
A61B 17/162

{Chucks or tool parts which are to be held in a chuck}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/162

Typical chuck (DE20304155U):

Typical tool part to be held in a chuck (US5634933):
A61B 17/1622

{Drill handpieces (A61B 17/1626, A61B 17/1628 take precedence)}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/1622

Typical handpiece (WO0167970):

![Handpiece Diagram](Image)

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Control means and display units</th>
<th>A61B 17/1626</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motors and power supplies</td>
<td>A61B 17/1628</td>
</tr>
</tbody>
</table>

A61B 17/1624

{Drive mechanisms therefor}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/1624

Examples:
A61B 17/1624 (continued)

WO2004047664 (uses planetary gears)

US2003219184 (uses particular ball-bearing layout)

A61B 17/1626

{Control means; Display units}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/1626
Example (WO03013372):

"An advantage of the foregoing system is that it allows a single control console to be used to supply the energization signals that are applied to the handpiece that have different power consuming units, such as motors. Thus, a single control console can be used to operate a first handpiece with a motor that rotates at speeds under 3,000 RPM and requires 350 Watts or more of power, a second handpiece that has a motor that operates at speeds over 70,000 RPM and that requires approximately 150 Watts of power and a third handpiece that operates at speeds between 10,000 to 40,000 RPM and that requires only 40 Watts of power."

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Checking screw impingement on nerves | A61B 5/0488, A61B 17/7092 |

A61B 17/1628

{Motors; Power supplies}

Definition statement

*This place covers:*

Examples:
"A medical instrument comprising a handpiece including a body, an electrical device disposed within said body and having an operating characteristic responsive to DC voltage, and a first battery disposed within said body for applying a first DC voltage to said electrical device to cause said electrical device to operate in a first mode; and

a booster disposed externally of said body, said booster including a DC power source and means for detachably connecting said DC power source with said first battery to apply a second DC voltage greater than said first DC voltage to said electrical device to cause said electrical device to operate in a second mode;

wherein said connecting means includes a power cord extending between said booster and said handpiece to permit said booster to be located remotely from said handpiece when said electrical device is operated in said second mode."

DE20105480U

"Antriebsmotor für chirurgische Geräte mit einer stromdurchflossenen, eine Motorwicklung bildenden Leiterbahn, dadurch gekennzeichnet, dass die Leiterbahn (7) in der Motorwicklung aufgeteilt ist in eine Anzahl von elektrisch voneinander isolierten, nebeneinander verlaufenden Leitungsdrähten (8)."

**A61B 17/1631**

{Special drive shafts, e.g. flexible shafts ([A61B 17/1642](#), [A61B 17/164](#) take precedence)}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [A61B 17/1631](#)
Example (WO0045713):

"Der Schaft ist mindestens auf einem Teil seiner Länge bezüglich Torsion und/oder Biegung um die Längsachse (2) elastisch."

NB device provides graft material so is also classified in A61B 17/1635.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Intramedullary reamers</th>
<th>A61B 17/164</th>
</tr>
</thead>
<tbody>
<tr>
<td>For producing a curved bore</td>
<td>A61B 17/1642</td>
</tr>
</tbody>
</table>


**A61B 17/1633**

{Sleeves, i.e. non-rotating parts surrounding the bit shaft, e.g. the sleeve forming a single unit with the bit shaft (*A61B 17/1644* takes precedence)}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in *A61B 17/1633*

Typical examples:
The group also includes so-called "shavers" i.e. instruments with sleeve having a lateral opening exposing the cutter.

References

Limiting references

This place does not cover:

Using fluid other than turbine drive fluid

A61B 17/1644

A61B 17/1635

{for grafts, harvesting or transplants}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/1635
Example (WO03030766):

"The present invention facilitates harvesting a small amount of autologous bone necessary for supplementing insufficient alveolar bone when treating artificial teeth, which has a grip part formed in an insert injection molding to have an anticorrosive blade at the front end thereof, a bone-passing opening formed between the blade and the grip part, a cross wall forming a storage space for bone harvested by the blade and past through the bone-passing opening to be collected, and a cover detachably coupled to the grip part to slide along a guide groove formed in the upper portion of the cross wall and forming a storage space to be used as a surgical treatment container storing the harvested bone."

A61B 17/1637

{Hollow drills or saws producing a curved cut, e.g. cylindrical (A61B 10/025, A61B 17/1695 take precedence)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/1637

Examples:
FR2749154 (20 is a cut bone ejection rod of this instrument) -

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>For taking bone, bone marrow or cartilage samples</th>
<th>A61B 10/025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trepans or craniotomes, i.e. specially adapted for drilling thin bones such as the skull</td>
<td>A61B 17/1695</td>
</tr>
</tbody>
</table>

A61B 17/164

{intramedullary}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/164
Example (US6283970):

A61B 17/1642
{for producing a curved bore}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/1642
Example (US4941466):

Definition statement

This place covers:

Examples:

WO03025102
LUBRICATING OIL FOR ROLLING BEARING UNIT OF HIGH-SPEED CUTTER

WO02085223
CUTTING DEVICE FOR BONE TISSUE

"The invention relates to a cutting device (1), which is provided for cutting bone tissue (3), is intended for correcting malpositions, and which enables a segment of the bone tissue (3) to be cut along a predetermined cut surface (5). To this end, a high-pressure fluid jet (2) is produced by the cutting device (1), and the jet produces, in accordance with a control program stored in a control unit (4), a cut surface (5), for example, in the shape of a circular arc."
A61B 17/1646
{with sealing means}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/1646

Examples:

US4975056

"TI - Medical, especially dental handpiece

AB - A medical handpiece, and especially a dental handpiece, including a drivable worktool or implement which is rotatably supported with its shaft at one end of the handpiece and which projects from this handpiece end with its operating end. The implement possesses an elongate blind bore-like passageway which communicates with the outside at the work end of the implement through the intermediary of a discharge opening, and with which there is associated a supply line arranged within the handpiece for the infeed of cooling media to at least one radial through-opening of the implement which stands in communication with the elongate passageway; whereby the at least one radial through-opening is sealed with respect to the interior of the handpiece through the intermediary of a seal which encompassing the shaft of the implement and contacts against a wall portion of the handpiece."
"A surgical tool (10) has a fluid connection into the motor housing (18) with thermally operated sintered, ceramic or porous plastic sealing membrane such as Goretex or mechanical valve to close the link to liquids and open it to the hot steam used for sterilization."

PN - US5823774 A 19981020

AB - "A device is disclosed that dynamically seals the collet of a high-speed surgical or dental drill from the ingress of contaminating substances with which the tool or collet of the drill comes into contact, such as blood, saliva, saline, tissue, bone chips, and tooth particles. The dynamic seal comprises an impeller and a bearing that rotatably supports both the impeller and a surgical tool; furthermore, the seal may be disposed within a burguard that is mounted on the distal end of a surgical drill. The spinning impeller has a disc portion that imparts a centrifugal force to the flow of contaminating substances and thereby pumps the flow entering through the tool opening radially outward through discharge holes in the burguard housing. The dynamic seal further includes an O-ring for sealing against the tool shaft and blocking the contaminating substances from continuing up the tool bore and into the collet of the surgical drill. A backring retains the O-ring in place."

US-A-5823774 Dynamically sealed surgical drill

"A device is disclosed that dynamically seals the collet of a high-speed surgical or dental drill from the ingress of contaminating substances with which the tool or collet of the drill comes into contact, such as blood, saliva, saline, tissue, bone chips, and tooth particles."

A61B 17/1655

{for tapping}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/1655
Examples:
US2002143343

US2003018337 (bone drill and tap combination)

Fig. 3
A61B 17/1657
{Bone breaking devices}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **A61B 17/1657**

**Examples:**

US6547796

Simultaneously pulling the lever anteriorly and pushing the forehead posteriorly breaks the midface bones free from the skull.

DE98961 (osteoclast):

JP7136187 Bone cruser from outside of human body by impact wave in liquid.

'*To enable the crushing of a human bone in a non-invasion manner from outside by arranging a plurality of fine pieces of powder on an axis vertical to a straight line connecting first and second focuses passing through a first focus of a rotary ellipse body to increase energy of an impact wave. Constitution :This apparatus is provided with an impact wave generation chamber 1 with the internal surface thereof so formed as to follow a part of a rotary ellipse body. a plurality of fine pieces 2 of*
powder for generating an impact wave and an igniter 3 for detonate these fine powder pieces 2 simultaneously. The fine powder pieces 2 are arranged in one row on the axis vertical to a straight line linking between focuses of the rotary ellipse body passing through a first focus, and the impact wave generated is propagated to a liquid 6 in a water tank 7 with the bottom thereof being formed by a flexible film 8. Then, the plurality of fine powder pieces 2 are detonated simultaneously to apply energy of an impact wave in a wide range centering the second focus on the axis vertical to a straight line linking the first and second focuses passing through the second focus, thereby crushing a human bone."

References

Limiting references

This place does not cover:

| Dental osteotomes i.e. tools producing a groove, channel or trench in the jaw | A61B 17/1604, A61B 17/1673 |

A61B 17/1659

{Surgical rasps, files, planes, or scrapers}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/1659

Examples:
DE10108757 (rasp with passageway)

JP2000210316 (for vertebrae):
US5733288 (when the fibers of the bone brush are placed into contact with the soft tissue covering bone, the rotary action of the brush head removes the soft tissue from the bone):

FR2742038 (rasp handle):

A61B 17/1662
{for particular parts of the body}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/1662
Example (US5782924, for bone joints):

![Image 1]

**FIG. 1**

![Image 2]

**FIG. 2**

A61B 17/1664
{for the hip}

**References**

**Limiting references**

This place does not cover:

| Means other than saws for removing bone from the acetabulum only | A61B 17/1666 |
| Means other than saws for removing bone from the upper femur only | A61B 17/1668 |

A61B 17/1666
{for the acetabulum}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in A61B 17/1666

Example (WO03059178):
"CONTOURED REAMER TEETH- An acetabular reamer (10”) for cutting a required cut shape"

A61B 17/1668
{for the upper femur (A61B 17/164 takes precedence)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/1668
Examples:
WO0062718

Fig. 3
References

Limiting references

This place does not cover:

| Intramedullary reamers       | A61B 17/164 |
**A61B 17/1671**

{for the spine}

**Definition statement**

This place covers:

Devices for making holes in vertebral bodies (e.g. for pedicle screws, or along the axis of the spine), or, as in the example below (US6224604), for preparing an intervertebral space by machining the vertebral end faces:

![Diagram of spine](image)

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Guides for spinal drills | A61B 17/1757 |

**A61B 17/1673**

{for the jaw}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in A61B 17/1673
Example:

U.S. Patent Apr. 15, 1980 Sheet 1 of 27 4,197,645

A61B 17/1675
{for the knee}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/1675

Examples:
"An apparatus for sculpting the articular surface of a first bone that normally articulates in a predetermined manner with a second bone, the apparatus comprising: a bone-sculpting tool; a mount attachable to the second bone for mounting the tool in position to sculpt the articular surface as the second bone is articulated in the predetermined manner with respect to the first bone."

**A61B 17/1677**

{for the patella}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **A61B 17/1677**

Examples:
A61B 17/1695

{Trepans or craniotomes, i.e. specially adapted for drilling thin bones such as the skull}

Definition statement

This place covers:

Illustrative examples of subject matter classified in A61B 17/1695

Examples:
EP1245194 (dura guard for craniotome)

US5876405 "The perforator of this invention includes safety mechanism that prevents penetration of the perforator when the drill bit has completed the cutting operation and the resistive load is removed. The perforator cuts the hole by an annular slot leaving a plug of the bone structure that is removed and returned to the original hole for re-filling the hole which aids in the healing process. A clutch may be provided that decouples the drill bit from the drive motor upon sensing a void in the drill passage during the drilling operation:"

US5876405
**A61B 17/1697**
{specially adapted for wire insertion}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in A61B 17/1697

Example (GB353706):

![Diagram](image)

**A61B 17/17**

Guides {or aligning means} for drills {, mills, pins or wires}

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

- Abutting means, stops, e.g. abutting on tissue or skin [A61B 2090/033]
- Stops attached to drilling tools, tool holders or drilling machines per se, e.g. drill depth limiters [B23B 49/003]

**A61B 17/1714**

{for applying tendons or ligaments (implements for applying tendons or ligaments A61F 2/0805)}

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

- Implements for applying tendons or ligaments [A61F 2/0805]
A61B 17/1725
{for applying transverse screws or pins through intramedullary nails or pins}

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Drill guides using imaging means</th>
<th>A61B 17/1703</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drill guides using electromagnetic effects</td>
<td>A61B 17/1707</td>
</tr>
</tbody>
</table>

A61B 17/1739
{specially adapted for particular parts of the body}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Drill guides using imaging means | A61B 17/1703 |

A61B 17/1757
{for the spine}

Definition statement
This place covers:
The cutting may be into the vertebral body, e.g. guiding pedicle screw bores as in this example:
or to prepare vertebral end faces as in this example:
or longitudinally along the spine:

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint distraction for the spine</td>
<td>A61B 2017/0256</td>
</tr>
<tr>
<td>Spinal drills</td>
<td>A61B 17/1671</td>
</tr>
</tbody>
</table>
A61B 17/176

{for the jaw (guiding dental drills A61C 1/082)}

References
Informative references

Attention is drawn to the following places, which may be of interest for search:

| Guiding dental drills | A61C 1/082 |

A61B 17/20

for vaccinating or cleaning the skin previous to the vaccination (diagnosis by vaccination other than by injuring the skin A61B 10/0035; apparatus for injections A61M)

References
Informative references

Attention is drawn to the following places, which may be of interest for search:

| Diagnosis by vaccination other than by injuring the skin | A61B 10/0035 |
| Cleaning the skin previous to the vaccination | A61B 90/80 |
| Apparatus for injections | A61M |

A61B 17/205

{Vaccinating by means of needles or other puncturing devices}

Definition statement

This place covers:
Mainly arrays of needles also for use other than vaccination.
A61B 17/205 (continued)

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Intradermal administration through microneedles                      | A61K 9/0021 |
| Introducing media into the body by using microneedles                | A61M 37/0015 |

A61B 17/22

Implements for squeezing-off ulcers or the like on {the inside of} inner organs of the body; Implements for scraping-out cavities of body organs, e.g. bones; Calculus removers; Calculus smashing apparatus; {Apparatus for removing obstructions in blood vessels, not otherwise provided for (dilators A61M 29/00)}

References

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

| For biopsy                                                                 | A61B 10/02 |
| Gynaecological or obstetrical instruments or methods                    | A61B 17/42 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Dilators                                                                | A61M 29/00 |
| Ultrasound therapy                                                      | A61N 7/00 |

Special rules of classification

Atherectomy devices for cutting or abrading and similar devices performing similar functions should be classified in A61B 17/3207.

A61B 17/22004

{using mechanical vibrations, e.g. ultrasonic shock waves (A61B 17/225 takes precedence)}

References

Limiting references

This place does not cover:

| Or extracorporeal lithotripsy                                           | A61B 17/225 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| (Handheld) ultrasonic cutting devices                                  | A61B 17/320068 |
Sound producing devices

A61B 17/22012
{in direct contact with, or very close to, the obstruction or concrement (for removing obstructions in blood vessels by laser A61B 18/245)}

Definition statement
This place covers:

Generally catheter like devices for breaking obstructions in vessels or organs.

References
Limiting references
This place does not cover:

Removing obstructions in blood vessels by laser

A61B 17/22031
{Gripping instruments, e.g. forceps, for removing or smashing calculi (A61B 17/221 takes precedence)}

References
Limiting references
This place does not cover:

Gripping devices in the form of loops or baskets

Informative references
Attention is drawn to the following places, which may be of interest for search:

Endoscopic forceps,
**A61B 17/221**

Gripping devices in the form of loops or baskets {for gripping calculi or similar types of obstructions (surgical snare instruments A61B 17/32056)}

**Definition statement**

*This place covers:*

Illustrative examples of subject matter classified in A61B 17/221

**References**

*Limiting references*

*This place does not cover:*

| Surgical snare instruments | A61B 17/32056 |

**A61B 17/225**

for extracorporeal shock wave lithotripsy [ESWL], e.g. by using ultrasonic waves

**References**

*Informative references*

*Attention is drawn to the following places, which may be of interest for search:*

| Mechanical waves not for extracorporeal lithotripsy | A61B 17/320068 |
| Ultrasonic waves for treatment of bones or cancer, e.g. with pneumatic drives | A61N 7/00, A61H 23/008 |
| Intracorporeal lithotripsy | G10K |
A61B 17/2255

{Means for positioning patient, shock wave apparatus or locating means, e.g. mechanical aspects, patient beds, support arms, aiming means (positioning of patients for radiation diagnosis A61B 6/04; positioning of locating means inside shock wave apparatus A61B 17/2256)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/2255

<table>
<thead>
<tr>
<th>References</th>
<th>Informative references</th>
</tr>
</thead>
<tbody>
<tr>
<td>positioning of patients for radiation diagnosis</td>
<td>A61B 6/04</td>
</tr>
<tr>
<td>Positioning of locating means inside shock wave apparatus</td>
<td>A61B 17/2256</td>
</tr>
</tbody>
</table>
**A61B 17/2258**

{integrated in a central portion of the shock wave apparatus}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/2258

---

**A61B 17/24**

for use in the oral cavity, larynx, bronchial passages or nose (for medical inspection of cavities or tubes in the body A61B 1/00); Tongue scrapers

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Inspections of cavities in the body | A61B 1/00 |

---

**Special rules of classification**

Maxillary sinus lift is classified in A61C 8/00

**A61B 17/28**

Surgical forceps ((for holding suture needles or materials A61B 17/0483; for removing or smashing calculi A61B 17/221; surgical scissors A61B 17/3201); obstetrical forceps A61B 17/44; for inserting intraocular lenses A61F 2/1662; hand-held gripping tools in general B25B 7/00 )

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| for holding suture needles or materials | A61B 17/0483 |

---
A61B 17/28 (continued)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>for removing or smashing calculi</td>
<td>A61B 17/221</td>
</tr>
<tr>
<td>Surgical scissors</td>
<td>A61B 17/3201</td>
</tr>
<tr>
<td>Obstetrical forceps</td>
<td>A61B 17/44</td>
</tr>
<tr>
<td>for inserting intraocular lenses</td>
<td>A61F 2/1662</td>
</tr>
<tr>
<td>Hand-held gripping tools in general</td>
<td>B25B 7/00</td>
</tr>
</tbody>
</table>

A61B 17/2812

{with a single pivotal connection (A61B 17/29 takes precedence)}

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forceps for minimally invasive surgery</td>
<td>A61B 17/29</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means for protection against accident injuries by used needles</td>
<td>A61M 5/321</td>
</tr>
<tr>
<td>Tools enabling the (needle) cap placement; Some of the devices under these codes are pincette or forceps like</td>
<td>A61M 2005/3215</td>
</tr>
</tbody>
</table>

A61B 17/2816

{Pivots}

Definition statement

This place covers:

Details or special features of pivot points.

![Diagram of scissors with labeled parts]
### A61B 17/285
combined with cutting implements

#### References

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>For biopsy</th>
<th>A61B 10/06</th>
</tr>
</thead>
</table>

### A61B 17/295
combined with cutting implements

#### References

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>For biopsy</th>
<th>A61B 10/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical endoscopic instruments performing multiple functions</td>
<td>A61B 2017/00353.</td>
</tr>
<tr>
<td>Ultrasonic cutting devices with additional clamping means</td>
<td>A61B 17/320092</td>
</tr>
</tbody>
</table>

### A61B 17/30
Surgical pincettes {without pivotal connections} {{for holding suture needles or materials A61B 17/0483; } wound clamps A61B 17/08 {; hand-held gripping tools without pivotal connections in general B25B 9/02}}

#### References

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Wound clamps</th>
<th>A61B 17/08</th>
</tr>
</thead>
</table>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| For holding suture needles of materials | A61B 17/0483 |
| Electrosurgical pincettes | A61B 18/1442 |
| Means for protection against accident injuries by used needles | A61M 5/321 |
| Tools enabling the (needle) cap placement; Some of the devices under these codes are pincette or forceps | A61M 2005/3215 |
| Hand held gripping tools without pivotal connections in general | B25B 9/02 |
### A61B 17/32

Surgical cutting instruments {(A61B 18/042 takes precedence; suture cutters A61B 17/0467; instruments for ligaturing or cutting A61B 17/128; instruments for rupturing the amniotic membrane A61B 17/4208; specially adapted knives for eye surgery A61F 9/0133)}

#### References

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Suture cutters</th>
<th>A61B 17/0467</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body</td>
<td>A61B 18/00</td>
</tr>
<tr>
<td>Specially adapted knives for eye surgery</td>
<td>A61F 9/0133</td>
</tr>
</tbody>
</table>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Instruments for ligaturing or cutting</th>
<th>A61B 17/128</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruments for rupturing the amniotic membrane</td>
<td>A61B 17/4208</td>
</tr>
</tbody>
</table>

### A61B 17/32002

{with continuously rotating, oscillating or reciprocating cutting instruments}

#### Definition statement

This place covers:

Mainly shavers for cutting away unwanted tissue from for instance a knee or an intervertebral disk.

#### References

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Rotating cutters for atherectomy</th>
<th>A61B 17/320758</th>
</tr>
</thead>
<tbody>
<tr>
<td>Similar devices for eye surgery</td>
<td>A61F 9/00763</td>
</tr>
</tbody>
</table>

### A61B 17/320068

{using mechanical vibrations, e.g. ultrasonic (A61B 17/22012 takes precedence; dental tooth drilling devices operated by vibration A61C 3/03; removing intraocular material using mechanical vibrations A61F 9/00745)}

#### References

**Limiting references**

This place does not cover:

| Removing obstructions, in direct contact or very close to the obstruction | A61B 17/22012 |

547
Dental tooth drilling devices operated by vibration

Removing intra-ocular material using mechanical vibrations

Special rules of classification

Illustrative example of subject matter classified in A61B 17/320068

A61B 17/320092

{with additional movable means for clamping or cutting tissue, e.g. with a pivoting jaw}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/320092
A61B 17/3207
Atherectomy devices {working by cutting or abrading; Similar devices specially adapted for non-vascular obstructions (A61B 17/32037 takes precedence; endoscopic cutting instruments A61B 17/320016)}

Definition statement
This place covers:
In general catheters for cutting or abrading obstructions from blood vessels or similar organs.

References
Limiting references
This place does not cover:
Fluid jet cutters: A61B 17/32037

Informative references
Attention is drawn to the following places, which may be of interest for search:
Endoscopic cutting instruments A61B 17/320016

A61B 17/320708
{Curettes, e.g. hollow scraping instruments}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/320708
A61B 17/320725
{with radially expandable cutting or abrading elements (A61B 17/32075 takes precedence)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Cutting balloons          | A61B 2017/22061, A61M 2025/109, A61M 2025/1086 |

A61B 17/32075
{Pullback cutting; combined forward and pullback cutting, e.g. with cutters at both sides of the plaque}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/32075

A61B 17/32093
{for skin incisions}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Lancets                  | A61B 5/1411 |

A61B 17/3215
Packages or dispensers for scalpel blades {(for sharps A61B 50/3001)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Packages or dispensers for sharps | A61B 50/3001 |
A61B 17/3217
Devices for removing or collecting used scalpel blades {(for sharps A61B 50/362)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Devices for removing or collecting used sharps | A61B 50/362 |

A61B 17/34
Trocars; Puncturing needles {(pointed biopsy instruments A61B 10/0233; devices for piercing the ear-lobes A44C 7/001; seals or hemostasis valves A61M 39/06)}

Definition statement
This place covers:
Sharp or blunt tools for making an entry site in the body for inserting a surgical tool or implant device. Tube like devices forming an entry port into the body.

References
Limiting references
This place does not cover:

| Piercing needles for placement of a catheter or tool in a blood vessel | A61M 25/06 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Pointed biopsy instruments | A61B 10/0233 |
| Skull plugs for access to the brain | A61B 2090/103 |
| Devices for piercing the ear lobe | A44C 7/001 |
| Catheters | A61M 25/00 |
| Access sites | A61M 39/02 |
| Seals or hemostasis valves | A61M 39/06 |
A61B 17/3401

{Puncturing needles for the peridural or subarachnoid space or the plexus, e.g. for anaesthesia (local anaesthesia A61M 19/00)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Local anaesthesia</th>
<th>A61M 19/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidural catheters</td>
<td>A61M 2025/0007</td>
</tr>
</tbody>
</table>

A61B 17/3403

{Needle locating or guiding means (guides for suture needles A61B 17/0482; guiding or tracking by nuclear magnetic resonance G01R 33/285)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Guides for suture needles</th>
<th>A61B 17/0482</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stereotactic needle or instrument guides</td>
<td>A61B 90/11</td>
</tr>
<tr>
<td>Guiding or tracking by nuclear magnetic resonance</td>
<td>G01R 33/285</td>
</tr>
</tbody>
</table>
A61B 17/3415

{for introducing tubes or catheters, e.g. gastrostomy tubes, drain catheters (A61B 17/3417 takes precedence; body piercing catheter guide needles A61M 25/06)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/3415

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Details of tips or shafts</th>
<th>A61B 17/3417</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastrostomy feeding tubes</td>
<td>A61J 15/0015</td>
</tr>
<tr>
<td>Body piercing guide needles for introducing catheters</td>
<td>A61M 25/06</td>
</tr>
</tbody>
</table>
A61B 17/3423

{Access ports, e.g. toroid shape introducers for instruments or hands (access sites for liquids A61M 39/0247)}

Definition statement

This place covers:
Generally more flexible shorter cannulas closely fitting in the created tissue tract such that the distal end does not substantially enters the body beyond the tract.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Retractors</th>
<th>A61B 17/02.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access sites for liquids:</td>
<td>A61M 39/02</td>
</tr>
</tbody>
</table>
**A61B 17/3431**

{being collapsible, e.g. made of thin flexible material (A61B 17/3423 takes precedence)}

**Definition statement**

*This place covers:*

Made of floppy material such that the shaft collapses under pressure in the absence of an inner instrument.

**References**

**Limiting references**

*This place does not cover:*

| Access ports                      | A61B 17/3423 |

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Flexible shafts                  | A61B 2017/2905 |
A61B 17/3462

{with means for changing the diameter or the orientation of the entrance port of the cannula, e.g. for use with different-sized instruments, reduction ports, adapter seals (expandable cannulas A61B 17/3417)}

Definition statement

This place covers:

This group deals mainly with sealing arrangements at the proximal side (nr. 122 in the drawing).

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Expandable cannulas</th>
<th>A61B 17/3417</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valves such as flapper valves:</td>
<td>A61B 17/3498</td>
</tr>
<tr>
<td>Haemostasis valves</td>
<td>A61M 39/06</td>
</tr>
</tbody>
</table>

A61B 17/3468

{for implanting or removing devices, e.g. prostheses, implants, seeds, wires (devices for implanting seeds A61M 37/0069)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Devices for introducing media in the form of pellets: | A61M 37/0069 |
A61B 17/3472
{for bones, e.g. intraosseus injections}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone biopsy</td>
<td>A61B 10/025</td>
</tr>
<tr>
<td>For injecting reinforcing material into bone</td>
<td>A61B 17/8802</td>
</tr>
</tbody>
</table>

A61B 17/3474
{Insufflating needles, e.g. Veress needles}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufflators</td>
<td>A61M 13/003</td>
</tr>
</tbody>
</table>

A61B 17/3476
{Powered trocars, e.g. electrosurgical cutting, lasers, powered knives}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrosurgical trocars</td>
<td>A61B 18/1487</td>
</tr>
</tbody>
</table>

A61B 17/3478
{Endoscopic needles, e.g. for infusion (biopsy needles A61B 10/0233; catheters with injection needles A61M 25/0067)}

Definition statement

This place covers:
In general flexible endoscopic tools or endoscopes having a distal needle for performing a puncture at the remote distal site.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biopsy needles</td>
<td>A61B 10/0233</td>
</tr>
<tr>
<td>Catheters with injection needles</td>
<td>A61M 25/0067</td>
</tr>
<tr>
<td>Catheters with needle tips</td>
<td>A61M 25/0084</td>
</tr>
</tbody>
</table>
A61B 17/3498

{Valves therefor, e.g. flapper valves, slide valves (haemostasis valves A61M 39/06; check valves A61M 39/24)}

Definition statement

This place covers:

This group deals mainly with Open/close type valves such as flap valves without any sealing effect around the shaft of an inserted tool.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Haemostasis valves</th>
<th>A61M 39/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check valves</td>
<td>A61M 39/24</td>
</tr>
</tbody>
</table>

Special rules of classification

Open/close type valves that form part of a sealing arrangement that can change diameter to seal around an instrument should be classified in A61B 17/3462 unless they have special features, then they should also be classified in A61B 17/3498.
A61B 17/42

Gynaecological or obstetrical instruments or methods {(ligaturing clamps or clips for the umbilical cord A61B 17/122; curettage A61B 17/3207; dilators A61M 29/00)}

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligaturing clamps or clips for the umbilical cord</td>
<td>A61B 17/122</td>
</tr>
<tr>
<td>Curettage</td>
<td>A61B 17/3207</td>
</tr>
<tr>
<td>Dilators</td>
<td>A61M 29/00</td>
</tr>
</tbody>
</table>

A61B 17/4208

{Instruments for rupturing the amniotic membrane}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/4208
A61B 2017/4233

{Operations on Fallopian tubes, e.g. sterilization (A61B 2017/1125 takes precedence)}

References

Limiting references

This place does not cover:

| Forceps, specially adapted for performing or assisting anastomosis | A61B 2017/1125 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Contraceptive devices, pessaries; applicators therefor | A61F 6/00 |
| Vas deferens occluders, fallopian occluders | A61F 6/20 |
| Means specially adapted for ligaturing, compressing or clamping of oviduct or vas deferens | A61F 6/202 |
A61B 17/4241
{Instruments for manoeuvring or retracting the uterus, e.g. during laparoscopic surgery}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/4241

A61B 17/425
for reproduction or fertilisation (specially adapted for use with animals A61D 19/00)

References

Limiting references

This place does not cover:

| Specially adapted for use with animals | A61D 19/00 |
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Use with animals – embryo transplant | A61B 42/00 |

A61B 17/43
for artificial insemination

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/43
A61B 17/435
for embryo (or ova) transplantation

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/435
A61B 17/44
Obstetrical forceps

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/44

3,785,381
**A61B 17/442**

{without pivotal connections, e.g. using vacuum}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **A61B 17/442**
A61B 17/46
Embryotomes (for animals A61D 1/10)

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/46
See patent # FR987704

References
Limiting references
This place does not cover:

| For animals | A61D 1/10 |
Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/48

See Patent # GB494596
A61B 17/50

Instruments, other than pincettes or toothpicks, for removing foreign bodies from the human body (locating otherwise A61B 5/06; locating by radiation A61B 6/00; {removing calculi A61B 17/22; from the eyes A61F 9/00709})

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/50

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Locating otherwise</th>
<th>A61B 5/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating by radiation</td>
<td>A61B 6/00</td>
</tr>
<tr>
<td>Removing calculi</td>
<td>A61B 17/22</td>
</tr>
</tbody>
</table>
A61B 17/52
Magnets

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/52
A61B 17/54
Chiropodists' instruments {, e.g. pedicure (chiropractic devices A61H 1/008)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/54

Fig. 1
References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manicuring or pedicuring implements</td>
<td>A45D 29/00</td>
</tr>
<tr>
<td>Nail files, e.g. manually operated</td>
<td>A45D 29/04</td>
</tr>
<tr>
<td>Bathing sponges, brushes, gloves, or similar cleaning or rubbing implements for cleaning the feet or toes</td>
<td>A47K 7/026</td>
</tr>
<tr>
<td>Chiropractic devices</td>
<td>A61H 1/008</td>
</tr>
<tr>
<td>Files in general</td>
<td>B23D 71/00</td>
</tr>
</tbody>
</table>
**A61B 17/545**

{using a stream or spray of abrasive particles}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/545

---

**A61B 17/56**

Surgical instruments or methods for treatment of bones or joints; Devices specially adapted therefor {orthopaedic methods or devices for non-surgical treatment of bones or joints A61F 5/00}

**Definition statement**

*This place covers:*

When the only subject matter of a document is a method, this class is given.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Orthopaedic methods or devices for non-surgical treatment of bones or joints | A61F 5/00 |

**Special rules of classification**

Documents concerning exclusively surgical methods are classified only in this group.

Surgical instruments or devices are classified only in the relevant subgroups of A61B 17/56.
**A61B 17/562**

{Implants for placement in joint gaps without restricting joint motion, e.g. to reduce arthritic pain}

**Definition statement**

*This place covers:*

These are implants which do not restrict the relative movement of the bones and are therefore not in any way fixators.

**A61B 17/58**

for osteosynthesis, e.g. bone plates, screws, {setting implements} or the like (A61B 17/14, A61B 17/16 take precedence; {splints A61B 5/01; traction bandages A61F 13/10})

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Surgical saws</th>
<th>A61B 17/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drills and other bone removal means other than saws</td>
<td>A61B 17/16</td>
</tr>
</tbody>
</table>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Splints</th>
<th>A61F 5/01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traction bandages</td>
<td>A61F 13/10</td>
</tr>
</tbody>
</table>

**A61B 17/60**

for external osteosynthesis, e.g. distractors, contractors

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Non-surgical i.e. non-invasive devices for reduction or distraction</th>
<th>A61F 5/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandages, dressings or absorbent pads</td>
<td>A61F 13/00</td>
</tr>
</tbody>
</table>
A61B 17/62

Ring frames, i.e. devices extending around the bones to be positioned (A61B 17/6433, A61B 17/66 take precedence)

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>External osteosynthesis devices for body parts other than limbs</td>
<td>A61B 17/6433</td>
</tr>
<tr>
<td>External osteosynthesis alignment, compression or distraction mechanisms</td>
<td>A61B 17/66</td>
</tr>
</tbody>
</table>

A61B 17/6408

{Devices not permitting mobility, e.g. fixed to bed, with or without means for traction or reduction (without surgery A61F 5/04)}

Definition statement

This place covers:

External osteosynthesis equipment comprising, or attached to, heavy or bulky objects, such as floor- or furniture-mounted fracture-setting means.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devices used without surgery</td>
<td>A61F 5/04</td>
</tr>
</tbody>
</table>

A61B 17/6416

{with non-continuous, e.g. hinged, pin-clamp connecting element (A61B 17/6425, A61B 17/6441 take precedence)}

Definition statement

This place covers:

Equipment in which the pin-clamp connecting element comprises distinct parts joined to each other.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devices specially adapted to be fitted across a bone joint</td>
<td>A61B 17/6425</td>
</tr>
<tr>
<td>Bilateral fixators i.e. with both ends of pins or wires clamped</td>
<td>A61B 17/6441</td>
</tr>
</tbody>
</table>
A61B 17/6441
{Bilateral fixators, i.e. with both ends of pins or wires clamped}

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ring frames</td>
<td>A61B 17/62</td>
</tr>
<tr>
<td>Devices not permitting mobility</td>
<td>A61B 17/6408</td>
</tr>
<tr>
<td>Devices specially adapted to be fitted across a bone joint</td>
<td>A61B 17/6425</td>
</tr>
<tr>
<td>Devices for body parts other than limbs</td>
<td>A61B 17/6433</td>
</tr>
<tr>
<td>Devices allowing small scale motion of bone ends</td>
<td>A61B 17/6491</td>
</tr>
</tbody>
</table>

A61B 17/645
{comprising a framework (A61B 17/6425, A61B 17/6441 take precedence)}

Definition statement

This place covers:
Equipment in which pin-clamp connecting elements are either multiple in parallel or not essentially linear.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devices specially adapted to be fitted across a bone joint</td>
<td>A61B 17/6425</td>
</tr>
<tr>
<td>Bilateral fixators</td>
<td>A61B 17/6441</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>External osteosynthesis pin clamps movable along a rod</td>
<td>A61B 17/6466</td>
</tr>
</tbody>
</table>

A61B 17/6466
{with pin-clamps movable along a solid connecting rod}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clamp elements used in wound retractors</td>
<td>A61B 17/02</td>
</tr>
</tbody>
</table>
A61B 17/663
{for jaw bones, e.g. subcutaneous distractors with external access (periodontal bone regeneration A61C 8/0006)}

References

Limiting references

This place does not cover:

| Orthodontic, i.e. tooth-mounted, positioning devices | A61C 7/10, A61C 8/0096 |
| Periodontal regeneration | A61C 8/0006 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Maxillary sinus lift | A61C 8/00 |

A61B 17/68

Internal fixation devices {, including fasteners and spinal fixators, even if a part thereof projects from the skin (bone staples A61B 17/0642; dental regeneration membranes A61C 8/0006)}

References

Limiting references

This place does not cover:

| Fixation devices for wedge osteotomies | A61B 17/8095 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Bone staples | A61B 17/0642 |
| Dental regeneration membranes | A61C 8/0006 |

A61B 17/70

Spinal positioners or stabilisers {; Bone stabilisers comprising fluid filler in an implant}

Definition statement

This place covers:

• Devices embedded in the vertebrae, e.g. US2009005816
• Devices placed at least partially in the disc space e.g.FR2799638, US2006224241
• Staple-like devices, e.g. US2009270917
• Vertebra or disc reinforcements other than annulus repair patches, e.g. US2008125778
• Longitudinal elements with bone anchors other than screws, hooks or wires, e.g. WO2009004625
• Nerve or anti-scarring shields, e.g. DE102008020111
- Extra-vertebral devices combined with fusion cages or disc prostheses, e.g. W00010473
- Vertebra or disc filler material, e.g. US6251139, US2008172058

**Relationships with other classification places**

Because spinal fusion cages generally cannot be removed without causing failure of the spinal column they are considered equivalent to prostheses and are hence classified in A61F, specifically A61F 2/4455.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Means for repairing the disc annulus</th>
<th>A61F 2002/4435</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthopaedic corsets</td>
<td>A61F 5/02</td>
</tr>
</tbody>
</table>

**A61B 17/7001**

{Screws or hooks combined with longitudinal elements which do not contact vertebrae (A61B 17/7058 takes precedence)}

**Definition statement**

*This place covers:*

"longitudinal" means designed to be placed approximately along the axis of the spine from one vertebra to another. Typical examples:
A61B 17/7001 also includes devices where the orientation of the longitudinal element relative to the anchors can be modified before use, but is fixed in the implanted state, e.g.

The last example above is also in A61B 17/7014 because the length of the longitudinal element can be adjusted.

References

Limiting references

This place does not cover:

| Plates mounted on top of bone anchor heads or shoulders | A61B 17/7058 |
A61B 17/7002

{Longitudinal elements, e.g. rods}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7002

Example:

this document is classified here (as well as in A61B 17/7001 because of rod-to-hook fixation arrangement) because of the surface (in this case knurled) of the longitudinal rod:

![Diagram](image)

A further example:

"Tige de liaison pour redresser les deformations du rachis, caracterisee en ce qu'elle est realisee en un materiau a memoire de forme et en ce qu'elle est pourvue d' au moins un canal de circulation (2) pour un fluide calorifique ou frigorifique afin de modifier sa temperature et par suite, sa rigidite."

A61B 17/7004

{with a cross-section which varies along its length (A61B 17/7019 takes precedence)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7004
The example below shows a typical Harrington rod, classified here because of its ratcheting annular projections:

References

Limiting references
This place does not cover:

Longitudinal elements which have flexible parts, or are connected together such that in use they can move relative to each other

A61B 17/7005

{Parts of the longitudinal elements, e.g. their ends, being specially adapted to fit in the screw or hook heads}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/7005:

Examples:
A61B 17/7007

{Parts of the longitudinal elements, e.g. their ends, being specially adapted to fit around the screw or hook heads}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7007
References

Limiting references

This place does not cover:

| Plate-like head-mounted longitudinal elements with multiple screw hole rows or a non-aligned single row | A61B 17/7058 |

A61B 17/7008

{with parts of, or attached to, the longitudinal elements, bearing against an outside of the screw or hook heads, e.g. nuts on threaded rods (A61B 17/7007 takes precedence)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7008

Example DE3722590:
Note that the group includes devices where a part on the longitudinal element bears against an outside of an anchor-to-longitudinal element connector, as the second of the above examples.

References

Limiting references

This place does not cover:

Longitudinal elements with parts specially adapted to fit around the screw or hook heads

A61B 17/7007

A61B 17/701

{Longitudinal elements with a non-circular, e.g. rectangular, cross-section (A61B 17/7005, A61B 17/7007 take precedence)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/701

Example:
References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longitudinal elements with parts specially adapted to fit in the screw</td>
<td>A61B 17/7005</td>
</tr>
<tr>
<td>or hook heads</td>
<td></td>
</tr>
<tr>
<td>Longitudinal elements with parts specially adapted to fit around the</td>
<td>A61B 17/7007</td>
</tr>
<tr>
<td>screw or hook heads</td>
<td></td>
</tr>
</tbody>
</table>

A61B 17/7011

{Longitudinal element being non-straight, e.g. curved, angled or branched | A61B 17/7014; A61B 17/7019 takes (adjustable length longitudinal elements preceence, e.g. coil springs)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7011
Fig. 4

References

Limiting references

This place does not cover:

Longitudinal elements connected together such that in use they can move relative to each other

A61B 17/7019
Informative references

Attention is drawn to the following places, which may be of interest for search:

| Adjustable length longitudinal elements | A61B 17/7014 |

**A61B 17/7014**

{with means for adjusting the distance between two screws or hooks}

**Definition statement**

This place covers:

The means for adjusting the distance either adjust the length of the longitudinal element (first two examples), or displace the screws or hooks along it (third example):
A61B 17/7016
{electric or electromagnetic means}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/7016

Examples:
A61B 17/7017
{pneumatic or hydraulic means}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/7017
A61B 17/7019
{Longitudinal elements having flexible parts, or parts connected together, such that after implantation the elements can move relative to each other}

References

Limiting references
This place does not cover:

| Bone anchors incorporating an articulation | A61B 17/7035 |

A61B 17/702
{having a core or insert, and a sleeve, whereby a screw or hook can move along the core or in the sleeve}

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| Sleeve | Anything surrounding a core or insert, e.g. a coil spring |

A61B 17/7032
{Screws or hooks with U-shaped head or back through which longitudinal rods pass}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/7032
A typical example:

![Diagram of a mechanical component with labeled parts: 10a, 110, 112, 114, 120, 122, 124, 130.]

[Fig. 2]
The device below is classified in A61B 17/7032 as well as A61B 17/7035, because the feature of having both inner (32) and outer (31) locking screws is unrelated to the device as a whole being polyaxial, and is hence "invention-type" information for any U-shaped head screw:
Classified in A61B 17/7032 for left-hand embodiment and in A61B 17/7035 for right-hand:

A61B 17/7034

(characterised by a lateral opening)

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7034

Examples (the second of which is polyaxial):
A61B 17/7035

{Screws or hooks, wherein a rod-clamping part and a bone-anchoring part can pivot relative to each other}

Definition statement

This place covers:

Rotation of the bone-anchoring part about its own axis is not considered to be pivoting.

Note that the longitudinal member must be a rod (i.e. without openings, at least in the vicinity of the bone anchors) for a document to get this class.

This group includes so-called polyaxial screws/hooks, where in at least some embodiments the connection between the rod-clamping part and the rod can be locked separately from the connection...
between the rod-clamping part and the bone-anchoring part (otherwise classification would be in A61B 17/7037), such as this example:

FIG. 3
The group also includes devices in which the rod cannot lie on the axis of the bone-anchoring part (and which are therefore also classified in A61B 17/7041), i.e. ones not referred to as polyaxial, such as this:

**A61B 17/7037**

{wherein pivoting is blocked when the rod is clamped}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/7035
Examples:
A61B 17/7038
{to a different extent in different directions, e.g. within one plane only}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7038

Examples (in the first, the bone-anchoring part 16 pivots about pin 26, and hence only in one plane):
A61B 17/704
{the longitudinal element passing through a ball-joint in the screw head}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/704
Example:

A61B 17/7041

{with single longitudinal rod offset laterally from single row of screws or hooks (A61B 17/7044 takes precedence)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7041
Example:

**Fig. 1**

A61B 17/7043

{with a longitudinal element fixed to one or more transverse elements which connect multiple screws or hooks}

Definition statement

*This place covers:*

Illustrative example of subject matter classified in A61B 17/7043
Examples (note that, as in the second example, there may be more than one longitudinal element):
A61B 17/7044

{also having plates, staples or washers bearing on the vertebrae}

**Definition statement**

*This place covers:*

The group contains devices with bone plates, staples or washers mounted to the vertebrae by screws, wherein the rod is mounted to the plates, staples or washers, not to the screws, as in this example:
Also it contains devices where the rod is mounted to the screws as in this example:

A61B 17/7049

{Connectors, not bearing on the vertebrae, for linking longitudinal elements together (A61B 17/7055, A61B 17/7053, A61B 17/7019 take precedence)}

Definition statement

This place covers:

Typically the devices look like this -
or (an example where connection takes place at the screw heads)
Also classified here are devices where the connectors and longitudinal elements are integral parts of a frame:
And this is an example of a document classified here wherein the longitudinal elements have a crossing at which they are connected (300 is an embodiment of 100):

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Class Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longitudinal elements connected together such that in use they can move</td>
<td>A61B 17/7019</td>
</tr>
<tr>
<td>relative to each other</td>
<td></td>
</tr>
<tr>
<td>Positioners or stabilisers attached by wires, straps, sutures or cables</td>
<td>A61B 17/7053</td>
</tr>
<tr>
<td>Positioners or stabilisers attached to sacrum, pelvis or skull</td>
<td>A61B 17/7055</td>
</tr>
</tbody>
</table>
A61B 17/705
{for linking adjacent ends of longitudinal elements}

Definition statement

This place covers:

The ends may be aligned (the lower connector in this example) or side-by-side (the upper connector in this example):

Also classified here are arrangements such as the example below, in which bone anchors which can accommodate two rods are shown being used to link two rods near their ends, even though the bone anchors themselves are no different from those which are used with multiple rods extending in parallel the entire length of the device and which are classified in A61B 17/7001 and subgroups:
A61B 17/7052
{of variable angle or length}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/7052

Examples:

(variable length is provided in the above example by screws 4 being able to translate in elongated holes 2a)
A61B 17/7053
{with parts attached to bones or to each other by flexible wires, straps, sutures or cables}

Definition statement

This place covers:
Examples:
A61B 17/7055
{connected to sacrum, pelvis or skull}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/7055

Examples:
• connected to sacrum/pelvis:
• connected to skull:
**A61B 17/7056**

{Hooks with specially-designed bone-contacting part}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **A61B 17/7056**

Example (notch 3c is the novel feature of the bone-contacting part, which is the claw-like portion):
Note that "bone-contacting part" is interpreted to mean any part of the hook other than features for clamping it to a longitudinal element.

A61B 17/7058

{Plates mounted on top of bone anchor heads or shoulders}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/7058

Examples:
WO2007143709
References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate-like longitudinal elements with a single row of aligned holes, mounted on bone anchor heads or shoulders</td>
<td>A61B 17/7007</td>
</tr>
<tr>
<td>Cortical plates i.e. plates bearing directly on bone</td>
<td>A61B 17/7059</td>
</tr>
</tbody>
</table>

A61B 17/7059

{Cortical plates}

Definition statement

This place covers:

"cortical" means applied to the surface of the bone (the cortex is the dense face layer of bones).
Example (one which is also classified in A61B 17/8042, because of its screw anti-backout means):

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw or hooks combined with longitudinal elements specially adapted to fit around their heads</td>
<td>A61B 17/7007</td>
</tr>
<tr>
<td>Plates mounted on top of bone anchor heads or shoulders</td>
<td>A61B 17/7058</td>
</tr>
</tbody>
</table>
A61B 17/7061
{for stabilising vertebrae or discs by improving the condition of their tissues, e.g. using implanted medication or fluid exchange (intraosseous injection devices A61B 17/3472)}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7061

For example:

• a fluid conduit is provided (101):

• medication pellets 42 are implanted:

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Intraosseous injection devices</th>
<th>A61B 17/3472</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostheses with pharmaceutical reservoir</td>
<td>A61F 2002/3068</td>
</tr>
</tbody>
</table>
A61B 17/7062

{Devices acting on, attached to, or simulating the effect of, vertebral processes, vertebral facets or ribs (rib fixation devices A61B 17/8076); Tools for such devices}

Definition statement

This place covers:

Spinous processes as in this example:

An example where the device is not a simple wedge but two brackets and a hinge:
This shows an example of a tool classified here (it applies suture loop 316 to the spinous processes):

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Rib fixation plates | A61B 17/8076 |
A61B 17/7064

{Devices acting on, attached to, or simulating the effect of, vertebral facets; Tools therefor}

Definition statement

This place covers:

This group comprises two sorts of devices: devices which immobilise the facet joint (also known as the apophyseal or zygapophyseal joint), e.g. simple clamps or screws as in this example -

and devices which attempt to maintain the natural effect of the facet joint on the relative motion of the vertebrae. The documents concerned (examples are shown below) usually call these devices
“prostheses”, even when they do not have the form of the natural facet joint and are not mounted near it.
A61B 17/7065
{Devices with changeable shape, e.g. collapsible or having retractable arms to aid implantation; Tools therefor}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/7065

Example:

Inflatable example (WO2009149079):

"The present invention is directed to an inflated interspinous spacer. The interspinous spacer is inserted into the interspinous space between adjacent spinous process in a deflated or unexpanded state, and is inflated or expanded with an injectable filler material. Upon inflation, the spacer preferably distracts the spinous processes and assumes a shape that retains the spacer in position and preferably mechanically locks with the spinous processes. The spacer includes two separate balloons configured to have different compressive modulus so that one balloon is softer and more deformable than the other balloon."
Example of tool for varying the configuration of an implant (10) with movable arms (14), (16), classified here:

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Flexible or articulated longitudinal spinal elements with screws or hooks | A61B 17/7019 |
**A61B 17/7067**

{Devices bearing against one or more spinous processes and also attached to another part of the spine; Tools therefor}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/7067

---

**A61B 17/7068**

{Devices comprising separate rigid parts, assembled in situ, to bear on each side of spinous processes; Tools therefor}

**Definition statement**

*This place covers:*

A part of the device intended to bear only on the left side of the processes must be separate from a part intended to bear only on the right side, until they are in position against the processes.
An example where one component includes an inter-process projection (802):

Example comprising plates either side of vertebrae:

**A61B 17/707**

{Devices acting on, or attached to, a transverse process or rib; Tools therefor}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in A61B 17/707
Example of device on ribs:

Example of device on transverse processes:
A61B 17/7071

{Implants for expanding or repairing the vertebral arch or wedged between laminae or pedicles; Tools therefor}

**Definition statement**

*This place covers:*

Typically these devices are inserted between the cut ends of a lamina following laminectomy to increase the space available to the spinal cord.

The group covers reconstructing the vertebral arch as well as expanding it.

Example:
The group also covers expansion of the space available to the spinal cord by distracting adjacent vertebrae (V1, V2 in this example showing a vertical section) apart using a wedge between their laminae or pedicles:

**Glossary of terms**

In this place, the following terms or expressions are used with the meaning indicated:

Both reconstructing the vertebral arch and expanding it are known as laminoplasty.

**A61B 17/7074**

{Tools specially adapted for spinal fixation operations other than for bone removal or filler handling (A61B 17/7062, A61B 17/808, A61B 17/8858 take precedence; for spinal image producing devices A61B 90/36, A61B 34/20; markers A61B 90/39)}

**Definition statement**

This place covers:

Examples:

"Methods and apparatus for vascular protection in spinal surgery" (US2007055111)

"Methods for determining pedicle base circumference" (WO2007087381)

"Procedure for visualising and checking the equilibrium of a vertebral column of which a segment is corrected using known instrumentation, comprising determining the positions of the uppermost and lowermost instrumented vertebrae by means of anatomical points or contours identified by radiography, determining as a function of said positions the positions of the vertebrae adjacent to said uppermost and lowermost vertebrae, and visualising the equilibrium or inequilibrium of the vertebral column in a vertical position viewed from the front and from the side" (WO03073946)
An example for which A61B 17/70 was given for the implant (10) as well as A61B 17/7074 for the tool (22) for implanting it:

References

Limiting references

This place does not cover:

| Tools for vertebral process or facet devices | A61B 17/7062 |
| Instruments for holding or positioning bone plates, including vertebral plates | A61B 17/808 |
| Tools for expanding or compacting vertebrae or discs | A61B 17/885 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Apparatus for shaping or cutting osteosynthetic equipment | A61B 17/8863 |
| Image producing devices, including spinal | A61B 90/36, A61B 34/20 |
| Markers, including spinal | A61B 90/39 |

A61B 17/7076

{for driving, positioning or assembling spinal clamps or bone anchors specially adapted for spinal fixation}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7076

Examples:

• for positioning a hook:
• for positioning (the receptacle of) a polyaxial screw:

• for assembling a polyaxial screw:
• for inserting a fusion-cage-like threaded anchor (not tapered or pointed and hence not considered as a screw):
• for inserting a vertebral clamp:
A61B 17/7077
{for moving bone anchors attached to vertebrae, thereby displacing the vertebrae}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/7077
Typical example:
Example of so-called "derotation" devices, usually complex tools, that are classified here:
Tool attached to spinous processes classified here (but not adapted for use with an interspinous implant otherwise it would be classified in A61B 17/7062):

Fig. 1
e.g. of distractor combined with soft tissue retractor which is classified here:

Example, classified here, where the anchors are plates:
Example of document classified here where the device comprises a large frame on the patient's back:

**fig. 6**
A61B 17/7079
{Tools requiring anchors to be already mounted on an implanted longitudinal or transverse element, e.g. where said element guides the anchor motion}

Definition statement

This place covers:

Examples where the tool merely pushes at least one anchor (the left-hand one in the second example) rather than being connected to it, so the longitudinal element is required to guide the motion:
Example acting on a hook and on the rod it is slid along:
Example where anchor movement is perpendicular to the longitudinal element:

U.S. Patent Jul. 21, 1998 Sheet 2 of 12 5,782,831
Example where the longitudinal element is a plate and hence the document is also classified in A61B 17/8019:
Example where the tool uses the longitudinal element to displace the anchors (the implant itself is classified in A61B 17/7014):

Example where the tool acts on longitudinal anchor-connecting elements:

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:
Vertebral displacement perpendicular to the spinal axis is known as spondylolisthesis.
A61B 17/708
{with tubular extensions coaxially mounted on the bone anchors}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/708

Examples:
Note the tubular nature of the extensions in the example above (without which it would be classified in A61B 17/7077). These allow tools to be inserted through them, which permits a minimally invasive procedure.

**A61B 17/7082**

{for driving, i.e. rotating, screws or screw parts specially adapted for spinal fixation, e.g. for driving polyaxial or tulip-headed screws (driving other bone screws A61B 17/8875)}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/7082
Example (screwdriver for pedicular, spinal-rod-holding screws):

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Driving non-spinal bone screws | A61B 17/8875 |

**A61B 17/7083**

{Tools for guidance or insertion of tethers, rod-to-anchor connectors, rod-to-rod connectors, or longitudinal elements}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in A61B 17/7083
Example rod inserter:
An example where the rod is inserted along a guide wire (NB the wire appears arcuate but this is purely schematic, hence the document is classified here instead of in A61B 17/7089):

Example where the longitudinal element to be inserted is not a rod:
Examples for inserting rod-to-anchor connectors:

**A61B 17/7085**

{for insertion of a longitudinal element down one or more hollow screw or hook extensions, i.e. at least a part of the element within an extension has a component of movement parallel to the extension's axis}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [A61B 17/7085](#)
Examples:
A61B 17/7086

{Rod reducers, i.e. devices providing a mechanical advantage to allow a user to force a rod into or onto an anchor head other than by means of a rod-to-bone anchor locking element; rod removers}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/7086
Example:

WO 2009/914856

**FIG. 4**

A61B 17/7088
{wherein the rod is moved transverse to the axis of the bone anchor}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/7088
Example:

A61B 17/7089
{wherein insertion is along an arcuate path}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/7089
Example:

![Illustration of a device for applying, tightening or removing longitudinal element-to-bone anchor locking elements, e.g. caps, set screws, nuts or wedges.](#)

**A61B 17/7091**

{for applying, tightening or removing longitudinal element-to-bone anchor locking elements, e.g. caps, set screws, nuts or wedges}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [A61B 17/7091](#)
Typically these devices look like this:
This is an example for a nut (52):
An example for a cap:
An example for a wedge:

An example where the longitudinal element (44, only part shown) is not a rod. (The bone anchors are 50; tool 100 tightens nut 84 and screw 72 and thus locks the assembly.)
A61B 17/7092
{for checking pedicle hole has correct depth or has an intact wall (pedicle drill depth limiters A61B 17/1626)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/7092

Example:

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Reference Description</th>
<th>Classification Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electromyography for checking screw impingement on nerves</td>
<td>A61B 5/0488</td>
</tr>
<tr>
<td>Means for controlling the depth to which a pedicle is drilled</td>
<td>A61B 17/1626</td>
</tr>
</tbody>
</table>
A61B 17/7094
{Solid vertebral fillers; devices for inserting such fillers}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/7094

Example:

References
Limiting references
This place does not cover:
Bone-expanding elements which form a mechanism rather than merely being particles joined together A61B 17/885

Glossary of terms
In this place, the following terms or expressions are used with the meaning indicated:

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filler</td>
<td>a material without a fixed shape, although the individual elements which form it may have a fixed shape, e.g. spherical beads</td>
</tr>
</tbody>
</table>
A61B 17/7095
{the filler comprising unlinked macroscopic particles}

Definition statement
This place covers:
Vertebral fillers comprising particles, whether or not embedded in a matrix as in the following example; and devices for insertion thereof:

![Diagram](image)

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

- Inserting bone graft implants, e.g. particles thereof A61F 2/4601

A61B 17/7097
{Stabilisers comprising fluid filler in an implant, e.g. balloon; devices for inserting or filling such implants (disc prostheses made of inflatable chambers or pockets filled with fluid A61F 2/441; replacing the nucleus pulposus A61F 2002/444)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/7097
Example (fig. 15 shows filling of container 22, fig. 14 shows it left in the vertebra as an implant):

References

Limiting references

This place does not cover:

| Filler introducer tips comprising containers which are removed from bone after filler has been introduced into them, leaving the filler in place | A61B 17/8811 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Disc prostheses made of inflatable chambers or pockets filled with fluid | A61F 2/441 |
| Replacing the nucleus pulposus | A61F 2002/444 |
**A61B 17/7098**

{wherein the implant is permeable or has openings, e.g. fenestrated screw (hollow surgical screws A61B 17/864)}

**Special rules of classification**

Illustrative example of subject matter classified in A61B 17/7098

Porous example:
Example where the implant is an annulus surrounding the filler:

Example of injection through cannulated screw

(US2009264895):

A61B 17/72
Intramedullary {pins, nails or other} devices {(#A61B 17/744 takes precedence)}

References

Limiting references

This place does not cover:

Devices for the head, neck or trochanter of the femur, including IM pins or the like   A61B17/78
**A61B 17/7216**

{for bone lengthening or compression (A61B 17/7258 takes precedence)}

**References**

**Limiting references**

This place does not cover:

| IM nails with laterally expanding parts | A61B 17/7258 |

**A61B 17/7233**

{with special means of locking the nail to the bone}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in A61B 17/7053

Includes, for example, nails with special means comprising a plate-like end, or a connector like (50) shown here:

![Diagram of nail with locking pins or screws](image)

**A61B 17/725**

{with locking pins or screws of special form}

**Definition statement**

This place covers:

Nails with locking pins or screws which are adapted, or particularly suited, for use with nails.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Devices for the head, neck or trochanter of the femur | A61B 17/74 |

A61B 17/74

Devices for the head {or neck or trochanter} of the femur {(trochanteric devices connected to the proximal part of an endoprosthetic femoral shaft A61F 2/30739; endoprosthetic internal fixation devices for the head or neck of the femur A61F 2/3601})

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Trochanteric devices connected to the proximal part of an endoprosthetic femoral shaft | A61F 2/30739 |
| Endoprosthetic devices for the head or neck of the femur | A61F 2/3601 |

A61B 17/80

Cortical plates {, i.e. bone plates; Instruments for holding or positioning cortical plates, or for compressing bones attached to cortical plates}

Definition statement

This place covers:

Cortical plates classified in this group as opposed to its subgroups include for example those with a particular form unrelated to a particular bone such as:

![Diagram of cortical plates](Fig. 1)
or having a particular material; a particular manufacturing processes; or with functions in addition to fixing bone, for instance this one with a strain gauge:

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Plates to support bone grafts | A61F 2/2846 |
| Plate-like wound dressings   | A61F 13/00 |

A61B 17/8004

{with means for extending or compressing the bone or bones}

Definition statement

This place covers:

Bones or fragments of bone must be compressed against each other in this group, i.e. the definition does not refer to plates which simply press against the surface of the bone when their screws are tightened, something ordinary cortical bone plates do and as a result of which such plates are occasionally called "compression plates".
Example of a compression mechanism classified here:

Example of a plate classified here because it has a property which can be used to achieve compression/extension, e.g. made of shape memory or, as in this case, plastically deformable to clamp bone fragments together (the deformed outline is shown dashed)
It would be difficult to draw a dividing line between extension/compression plates and other subcutaneous extension/compression devices mounted on the bone surface, so “plate” has been generously interpreted, e.g. this is classified in A61B 17/8004:

References

Limiting references

This place does not cover:

| Alignment, compression or distraction mechanisms with parts external to the body, including those which are mainly implanted but have percutaneous means of operation | A61B 17/663 |
| Plates which allow intermittent compression, i.e. not "locked in" by a device such as a ratchet, due to relative movement of parts of the plate, e.g. dynamic compression plates | A61B 17/8023 |

A61B 17/8009

{the plate having a ratchet}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/8009
Example:

Thanks to the ratchet the plate halves can only move relative to each other in one direction, so due to movement in the implanted state either compression or extension of the bone will develop.
A61B 17/8014

{the extension or compression force being caused by interaction of the plate hole and the screws}

Definition statement

This place covers:

Most commonly, as here, the ramped form of the bone screw holes forces the screw heads laterally, and hence displaces the bone fragments to which the screws are attached:

Fig. 1

Fig. 2

Fig. 3
A61B 17/8019
{where the means are a separate tool rather than being part of the plate}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/8019

e.g. (tool 13 is removed once the plate is fixed):

A61B 17/8023
{Variable length plates}

Definition statement

This place covers:

Plates whose length can be changed in both directions, i.e. it must be possible both to lengthen and to shorten any plate classified in this group.
Either the length may be adjusted and then fixed (here using screw 21):

or the parts may be left free to move in the implanted state:
As with A61B 17/8004, the term "plate" is generously interpreted, e.g. the device below comprising two blocks which can slide relative to each other guided by mating projections in bores is classified in A61B 17/8023:

References

Limiting references

This place does not cover:

| Plates having a ratchet | A61B 17/8009 |

A61B 17/8028

{Cushions, i.e. elements forming interface between bone plate and bone}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/8028
For example, here the cushions are 3, 11-13 and 21-24:

Fig. 1

Fig. 2

Fig. 3
Here the cushion is 5:

References

Limiting references

This place does not cover:

| Washers i.e. pads placed around screws or bolts | A61B 17/8695, A61B 17/8047 |

A61B 17/8033

{having indirect contact with screw heads, or having contact with screw heads maintained with the aid of additional components, e.g. nuts, wedges or head covers}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/8033
Another example is where the additional component is cam 42 which deforms the plate so as to clamp the screw head.

FIG. 7A
A61B 17/8038
{the additional component being inserted in the screw head}

Definition statement

This place covers:

Typically the inserted component expands the screw head so that it cannot escape from the plate hole, although occasionally, as indicated here dashed in the lower figure, the expansion is not so great that the screw can no longer pivot in the screw hole:
A61B 17/8042
{the additional component being a cover over the screw head}

Definition statement

This place covers:

There may be one cover (here, sliding cover 98) for many screws:
Or one cover per screw as in this example:

Also, the "cover" may be a small element that only lies over a part of the screw head, such as 40 in this example:
A61B 17/8047
{wherein the additional element surrounds the screw head in the plate hole}

Definition statement
This place covers:
Most commonly in this group the screw head expands the additional element, either so that the head is merely trapped in the plate hole but can still rotate (upper figure in this example), or so that plate, screw and additional element are locked relative to each other by friction (lower figure):

References
Limiting references
This place does not cover:

Plates with fixed inserts or inlays

| A61B 17/80, A61B 17/8052 |
A61B 17/8052
{immobilised relative to screws by interlocking form of the heads and plate holes, e.g. conical or threaded}

Definition statement

This place covers:
Possibilities include for example threading, a Morse-tapered head and hole, deformation of the material of the head or hole material as the former is screwed into the latter, high friction (sometimes referred to as "textured") surfaces (lower figure in this example), and snap-fitting (upper figure in this example):

FIG - 1

FIG - 2
**A61B 17/8057**

{the interlocking form comprising a thread}

**Definition statement**

*This place covers:*

Plates wherein the thread is either in the body of the plate or, as in this example (DE19629011), in a fixed insert:

![Diagram](image)

**A61B 17/8061**

{specially adapted for particular bones (A61B 17/70 and A61B 17/74 take precedence)}

**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinal cortical plates</td>
<td>A61B 17/70</td>
</tr>
<tr>
<td>Devices for the head, neck or trochanter of the femur</td>
<td>A61B 17/74</td>
</tr>
</tbody>
</table>

**A61B 17/8066**

{for pelvic reconstruction}

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Reference</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partial acetabular cups</td>
<td>A61F 2002/3487</td>
</tr>
</tbody>
</table>
A61B 17/8071
{for the jaw (prostheses for mandibular reconstruction A61F 2/2803)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Mandibular prostheses | A61F 2/2803 |

A61B 17/808

{Instruments for holding or positioning bone plates, or for adjusting screw-to-plate locking mechanisms}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/808

Example plate positioning tool:
Example plate holding tool:

Example screw locking mechanism adjuster:

References

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Tools for use with a plate to extend or compress bone | A61B.17/8019 |
**A61B 17/8085**

{with pliable or malleable elements or having a mesh-like structure, e.g. small strips for craniofacial surgery (A61B 17/8071, A61B 17/8076 take precedence; connecting prostheses with the body A61F 2/00)}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/8085

**Examples:**

Plates that can be easily bent due to their material, without or (as in this case, using heater 4.4') with, application of heat:

![FIG. 7B](image_url)

- due to their structure (on the left a wire mesh, on the right a textile):
Due to thinness (on the left) or folds (on the right):

- due to areas of reduced cross-section (upper below) or hinges (lower below):

Because the craniofacial (head) bones have such complicated shapes, plates for them usually comprise small strips so that they can be bent to fit by the surgeon. Hence almost all plates for the head are also classified here e.g.
References

Limiting references
This place does not cover:

| Plates specially adapted for the jaw | A61B 17/8071 |
| Plates specially adapted for the ribs or sternum | A61B 17/8076 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Connecting prostheses with the body | A61F 2/30749 |

A61B 17/809

{with bone-penetrating elements, e.g. blades or prongs (bone staples A61B 17/0642)}

Definition statement
This place covers:

Example of subject matter classified in A61B 17/809 (the projections are bent into perpendicular spikes by the surgeon):
Also, very plate-like devices like this with an integral nail for the femoral head are classified here as well as in A61B 17/74:

![Fig. 1](image)

**References**

**Limiting references**

*This place does not cover:*

| Bone staples i.e. spiked plate-like devices so small they do not have screw holes | A61B 17/0642 |
| Intramedullary nails with a plate at an end | A61B 17/7233 |

**Glossary of terms**

*In this place, the following terms or expressions are used with the meaning indicated:*

| Spiked plate | plaque-agrafe in French |
| IM nails with an end plate | clou-plaque in French and Nagelplatte in German. |
A61B 17/8095
{Wedge osteotomy devices}

Definition statement

This place covers:

All devices for fixing an opening-wedge osteotomy (as in the first four figures) or a closing-wedge osteotomy (as in the last figure):
A61B 17/82

for bone cerclage \{(apparatus for manipulating wires or straps \textbf{A61B 17/8861}; wires, bands or straps other than cerclage \textbf{A61B 17/842}\}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

\begin{tabular}{|l|l|}
\hline
Wires, bands or straps other than for cerclage & A61B 17/842 \\
Apparatus for manipulating flexible wires or straps & A61B 17/8861 \\
\hline
\end{tabular}

A61B 17/823

\{for the sternum\}

Definition statement

\textit{This place covers:}

All devices for osteosynthesis of the sternum.

A61B 17/842

\{Flexible wires, bands or straps (\textbf{A61B 17/72, A61B 17/82, A61B 17/86 take precedence})\}

References

Limiting references

\textit{This place does not cover:}

\begin{tabular}{|l|l|}
\hline
Intramedullary devices & A61B 17/72 \\
Cerclage devices & A61B 17/82 \\
Threaded wires, pins or screws & A61B 17/86 \\
\hline
\end{tabular}
A61B 17/86

{Threaded wires}, pins or screws; {Nuts therefor (A61B 17/72, A61B 17/74, A61F 2/4455 take precedence)}

Definition statement

This place covers:
Threaded wires, threaded pins and screws, for fastening internal fixators to bone, cartilage or intervertebral disc; and nuts, washers and packaging therefor.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threaded fasteners for joining parts of an osteosynthetic fixator together</td>
<td>A61B 17/60, A61B 17/70</td>
</tr>
<tr>
<td>Unthreaded osteosynthesis pins</td>
<td>A61B 17/68</td>
</tr>
<tr>
<td>Intramedullary nails</td>
<td>A61B 17/72</td>
</tr>
<tr>
<td>Devices for the head, neck or trochanter of the femur</td>
<td>A61B 17/74</td>
</tr>
<tr>
<td>Implants for the fusion of spinal bodies</td>
<td>A61F 2/4455</td>
</tr>
</tbody>
</table>

A61B 17/8625

{Shanks, i.e. parts contacting bone tissue (screw-in dental implants A61C 8/0018)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw-in dental implants</td>
<td>A61C 8/0018</td>
</tr>
</tbody>
</table>

A61B 17/865

{Packages or dispensers for bone screws or threaded wires}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>CPC Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racks for surgical articles</td>
<td>A61B 50/22</td>
</tr>
<tr>
<td>Packaging for dental implants</td>
<td>A61C 8/0087</td>
</tr>
<tr>
<td>Packaging for prostheses</td>
<td>A61F 2/0095</td>
</tr>
</tbody>
</table>
**A61B 17/8665**

*Nuts*

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Nuts for connecting prosthetic parts | A61F 2002/30433 |

**A61B 17/8695**

*Washers (surrounding screw head in plate hole A61B 17/8047, between bone plate and bone A61B 17/8028)*

**References**

*Limiting references*

This place does not cover:

| Cushions between bone plate and bone | A61B 17/8028 |
| Annuli surrounding screw heads in plate holes | A61B 17/8047 |

**A61B 17/8802**

*Equipment for handling bone cement or other fluid fillers (plugs or restrictors for bone cement A61F 2/30723)*

**Definition statement**

This place covers:

An example of a device in this group - in this example the cement is applied on, rather than in, the bone:
References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement for adhering prosthetic parts</td>
<td>A61F 2002/30448</td>
</tr>
<tr>
<td>Tools for filling disc chambers with fluid</td>
<td>A61F 2/441</td>
</tr>
<tr>
<td>Tools for introducing bone graft</td>
<td>A61F 2/4601</td>
</tr>
<tr>
<td>Tools for insertion of spinal prostheses</td>
<td>A61F 2/4611</td>
</tr>
<tr>
<td>Prostheses with coating of bone cement</td>
<td>A61F 2310/00952</td>
</tr>
<tr>
<td>Bone graft materials</td>
<td>A61L 27/3608</td>
</tr>
</tbody>
</table>

A61B 17/8805

{for introducing fluid filler into bone or extracting it (A61B 17/7097, A61B 17/8833 take precedence; for introducing bone graft A61F 2/4601)}

Definition statement
This place covers:
Contains miscellaneous documents concerning introducing or removing fillers into or from bone, e.g:

which concerns guiding apparatus for the filler injector (230)

Other examples:
WO2008001385, in which a cement injector is combined with a biopsy instrument
WO2004014262, in which the injector measures the pressure under which the filler is being injected

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glue applicators</td>
<td>A61B 17/00491</td>
</tr>
<tr>
<td>Trochars for intraosseous injections</td>
<td>A61B 17/3472</td>
</tr>
<tr>
<td>Injecting graft material</td>
<td>A61F 2/4601</td>
</tr>
</tbody>
</table>
Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:
Injection of cement into the vertebra without prior creation of a cavity in it is called "vertebroplasty". If there is prior preparation of a cavity the procedure is "kyphoplasty".

A61B 17/8811

{characterised by the introducer tip, i.e. the part inserted into or onto the bone}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/8811

e.g. US2010121336:

US2010145277:

Fig. 3
In this example the tip is a container into which fluid is injected; the container can be opened or ruptured and then removed (which is why the document is not in A61B 17/7097) leaving the filler in place:

**A61B 17/8816**

{characterised by the conduit, e.g. tube, along which fluid flows into the body or by conduit connections}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 17/8816
The utility model relates to a bone cement injector, which relates to an injector, and particularly relates to a bone cement injector for vertebral injection. The utility model provides a bone cement injector which has the advantages of convenient and swift operation, simple structure, low production cost and pollution prevention, which comprises an injection tube, a spiral push rod, an injection tube connector, a connecting flexible pipe, a connecting flexible pipe joint and an injection needle, wherein the rear end of the injection tube is provided with a handle with an internal screw hole, the handle is connected with the spiral push rod through screw threads, the front end of the injection tube is connected with the injection tube connector through screw threads, the front portion of the spiral push rod is arranged in the injection tube, which forms relative rotation and piston-type sliding engagement with the inner cavity of the injection tube, the rear end of the spiral push rod is provided with a handle, one end of the connecting flexible pipe is connected with the injection tube connector, and the other end of the connecting flexible pipe joint is connected with the injection needle.

A61B 17/8819

(characterised by the introducer proximal part, e.g. cannula handle, or by parts which are inserted inside each other, e.g. stylet and cannula (A61B 17/8825 takes precedence))

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/8819
An outer cannula (1) has a wall, an open end, an open distal end suitable for insertion into intraosseous cavity (27) of a spinal vertebra (26). A lumen extends between the proximal and distal ends. Wall has a side-port (5) situated near the distal end such that a lumen is fluidly coupled with the cavity. An inner cannula is received inside the outer cannula. Inner cannula has a second wall, an open proximal end, a closed distal end and a second lumen. Second wall has a side-port that aligns to outer cannula side-port for discharged of bone cement from within the second lumen into the cavity.

References

Limiting references

This place does not cover:

| Equipment for introducing fluid filler characterised by syringe details | A61B 17/8825 |
A61B 17/8822
{characterised by means facilitating expulsion of fluid from the introducer, e.g. a screw pump plunger, hydraulic force transmissions, application of vibrations or a vacuum}

Definition statement

This place covers:
Illustrative example of subject matter classified in A61B 17/8822

EP2269541:

US2006122625:
WO0200143:

A61B 17/8825

{characterised by syringe details (A61B 17/8822, A61B 17/8827 take precedence)}

Definition statement

This place covers:

WO2007008721: two-stage plunger coupled to a two-stage material reservoir

US2006293687: syringe plunger seal

References

Limiting references

This place does not cover:

| Fluid filler introducers with means facilitating fluid expulsion | A61B 17/8822 |
| Fluid filler introducers with filtering, degassing, venting or pressure relief means | A61B 17/8827 |
| Tools for preparing fluid fillers e.g. bone cement | A61B 17/8833 |

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Equipment for mixing cement or other fluid fillers for bones | A61B 2017/8838, B01F 2215/0029 |

A61B 17/8827

{with filtering, degassing, venting or pressure relief means}

Definition statement

This place covers:

e.g. EP0470393 (air vent), US2007255287 (pressure relief)
**A61B 17/8833**

{Tools for preparing, e.g. curing, cement or other fluid fillers (**B01F** takes precedence); Means for supplying cement or other fluid fillers to an introducing tool, e.g. cartridge handling means}

**References**

*Limiting references*

This place does not cover:

| Mixing devices | **B01F** |

**A61B 17/8836**

{for heating, cooling or curing the filler}

**Definition statement**

This place covers:

Curing: EP16880979 The invention is based on the use of polyisobutylmethacrylate instead of PMMA as an adhesive or spinal fill material for treating diseases of the spine. Polyisobutylmethacrylate has several advantages over PMMA, mainly less heat is developed during the in situ polymerization process. When using any spinal adhesive of fill material that is light activated, a tube can be used to transmit activating light to the light-activated adhesive or spinal polymerizable fill material at the surgical site. In addition, a mesh bag comprising optical fibers or similar light transmitting material can be employed to receive the injected light-activated fill, with the mesh bag, irradiated externally, for directing the light via the bag to the polymerizable fill.

Heater (WO2010008814):

![Diagram](image)

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Hardening surgical adhesives | **A61B 2017/005** |
A61B 17/8841

{Tools specially adapted to engage a prosthesis}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/8841

A61B 17/885

{Tools for expanding or compacting bones or discs or cavities therein (A61B 17/8805, A61B 17/7097 take precedence)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/885

Example documents in this group:
• for the jaw: movement of wedges 32 causes the device to expand, thus enlarging the cavity for a dental prosthesis:
• blunt broaches for enlarging the intramedullary canal for hip prosthesis insertion:

• compacting bone graft to form implants - an example of classification also in A61F 2/4644

References

Limiting references

This place does not cover:

| Compacting bone graft or substitute in the body | A61F 2/4601 |
A61B 17/8852
{capable of being assembled or enlarged, or changing shape, inside the bone or disc}

Definition statement
This place covers:
A device using shape memory effect:

Winding a coil to expand a vertebra:
A non-spinal example: a device for expanding a crushed long bone

![Diagram of a device for expanding a crushed long bone]

**Glossary of terms**

*In this place, the following terms or expressions are used with the meaning indicated:*

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyphoplasty</td>
<td>Creating a vertebral cavity to be filled with reinforcing cement, typically by expanding a balloon</td>
</tr>
</tbody>
</table>
A61B 17/8855
{inflatable, e.g. kyphoplasty balloons}

Definition statement

This place covers:

Illustrative example of subject matter classified in A61B 17/8855
In this example fig.25 shows the balloon creating a second cavity after the first has been filled with material 55.

References

Limiting references
This place does not cover:

| Containers which remain in the body at the end of the procedure | A61B 17/7097 |

A61B 17/8858
{laterally or radially expansible (inflatable A61B 17/8855)}

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 17/8858
Illustrative examples:

**FIG. 15F**

**FIG. 15G**

**FIG. 7A**

**FIG. 7B**
Sometimes a mechanically expandible device is left in place; there is no special class for this (unlike A61B 17/7097 for containers left in place), so even though in this case the device is as much an implant as an instrument, nonetheless it is classified in A61B 17/8858 (besides, unlike with containers, there is little or no difference between the structure and materials of mechanical expansion devices which are removed after use, and those which are left in place). Here is an example:

**Fig. 4**

References

**Limiting references**

This place does not cover:

| Inflatable bone expanders/compacters | A61B 17/8855 |
A61B 17/8861
{Apparatus for manipulating flexible wires or straps}

Definition statement
This place covers:
As well as devices explicitly for wires or straps, this group covers devices intended to manipulate cables or plastically deformable sutures.

References
Limiting references
This place does not cover:

| Devices for inserting Kirschner wires | A61B 17/1697 |

A61B 17/8863
{Apparatus for shaping or cutting osteosynthetic equipment}

Definition statement
This place covers:
Apparatus for shaping or cutting by medical personnel.
Also tools for breaking or fracturing osteosynthetic equipment, e.g. US2008119849:
and for adjusting the length of orthopaedic equipment, e.g. WO2008073830:

References
Limiting references
This place does not cover:

| Apparatus for manufacturing osteosynthetic equipment | A61B 2017/00526 |

A61B 17/8866
{for gripping or pushing bones, e.g. approximators}

References

Limiting references
This place does not cover:

| Non-osteosynthetic distractors, i.e. those which pull bones apart other than via elements embedded in the bones | A61B 17/025 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Expanding bones to restore their shape using devices inserted in the bone | A61B 17/885 |
A61B 17/8872

{Instruments for putting said fixation devices against or away from the bone (A61B 17/7074, A61B 17/808 take precedence)}

References

Limiting references

This place does not cover:

| Tools specially adapted for spinal fixation operations | A61B 17/7074 |
| Instruments for holding or positioning bone plates | A61B 17/808 |

A61B 17/8897

{Guide wires or guide pins}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Guide wires for catheters | A61M 25/09 |

A61B 17/92

Impactors or extractors, e.g. for removing intramedullary devices {(insertion or extraction of artificial joints A61F 2/4603)}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Insertion or extraction of artificial joints | A61F 2/4603 |

A61B 18/00

Surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body (eye surgery A61F 9/007; ear surgery A61F 11/00)

Definition statement

This place covers:

Surgery, i.e. destruction, modification or removal of tissue, by non-mechanical forms of energy, mainly by heating or cooling the tissue beyond the temperature for irreversible tissue damage.
### References

#### Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical surgery in general</td>
<td>A61B 17/00</td>
</tr>
<tr>
<td>Ultrasonic mechanical disintegration of calculi etc.</td>
<td>A61B 17/2204, A61B 17/225</td>
</tr>
<tr>
<td>Cutting with an ultrasonic vibrating blade</td>
<td>A61B 17/320068</td>
</tr>
<tr>
<td>Lasers for dentistry</td>
<td>A61C 1/0046</td>
</tr>
<tr>
<td>Therapy by heating or cooling</td>
<td>A61F 7/00</td>
</tr>
<tr>
<td>Eye surgery (including lasers therefor)</td>
<td>A61F 9/007, A61F 9/008, A61F9/01</td>
</tr>
<tr>
<td>Ear surgery</td>
<td>A61F 11/00</td>
</tr>
<tr>
<td>Radiation therapy</td>
<td>A61N 5/00</td>
</tr>
<tr>
<td>Ultrasound therapy (including ultrasonic thermal destruction of tissue)</td>
<td>A61N 7/00</td>
</tr>
</tbody>
</table>

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>CPC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruments for medical examination in the interior of the body, e.g. endoscopes</td>
<td>A61B 1/00</td>
</tr>
<tr>
<td>Instruments for examination of the eyes</td>
<td>A61B 3/00</td>
</tr>
<tr>
<td>Detecting, measuring or recording for diagnostic purposes</td>
<td>A61B 5/00</td>
</tr>
<tr>
<td>Apparatus for radiation diagnosis</td>
<td>A61B 6/00</td>
</tr>
<tr>
<td>Apparatus for ultrasound diagnosis</td>
<td>A61B 8/00</td>
</tr>
<tr>
<td>Accessories for surgery or diagnosis</td>
<td>A61B 90/00</td>
</tr>
<tr>
<td>Lasers for dentistry</td>
<td>A61C 1/0046</td>
</tr>
<tr>
<td>Lasers in eye surgery</td>
<td>A61F 9/008</td>
</tr>
<tr>
<td>Electrically conductive preparations for use in therapy or testing in vivo, e.g. conductive adhesives or gels to be used with electrodes</td>
<td>A61K50/00</td>
</tr>
<tr>
<td>Suction or pumping for medical purposes</td>
<td>A61M 1/00</td>
</tr>
<tr>
<td>Mechanical or structural details of catheters</td>
<td>A61M 25/00</td>
</tr>
<tr>
<td>Details of catheter tip steering</td>
<td>A61M 25/0133</td>
</tr>
<tr>
<td>Electrotherapy</td>
<td>A61N 1/00</td>
</tr>
<tr>
<td>Magnetotherapy</td>
<td>A61N 7/00</td>
</tr>
<tr>
<td>Working by laser beam</td>
<td>B23K 26/00</td>
</tr>
<tr>
<td>Materials for the production of heat or cold by chemical reaction</td>
<td>C09K 5/00</td>
</tr>
<tr>
<td>Light guides</td>
<td>G02B 6/00</td>
</tr>
<tr>
<td>Lasers in general</td>
<td>H01S 3/00</td>
</tr>
<tr>
<td>Generation of oscillations, AC generators</td>
<td>H03B 1/00</td>
</tr>
</tbody>
</table>
Special rules of classification

Control aspects for surgery not covered by A61B 2018/00636 should be indexed using CPC codes A61B 2017/00017 - A61B 2017/00225. Additional features or accessories for surgery not covered by A61B 18/00 should be classified in A61B 90/00 or A61B 34/00.

The use of the CPC indexing codes (2000-series symbols which include both breakdown and orthogonal symbols) is mandatory in this field. The breakdown and the orthogonal symbols of A61B 17/00 are also used for documents classified in the main trunk of A61B 18/00 to index relevant aspects for which no suitable symbol is available under A61B 18/00, A61B 2018/00005 or A61B 2218/00.

The area relating to the body part being treated is classified in A61B 2018/00315 - A61B 2018/00565.

A61B 2018/00005

{Cooling or heating of the probe or tissue immediately surrounding the probe}

Definition statement

This place covers:

Cooling or heating an instrument or tissue NOT to be treated. The cooling or heating has no therapeutic or surgical effect, it just serves to maintain a normal thermal status which would be changed by the thermal therapeutic energy.

A61B 2018/00315

{for treatment of particular body parts}

Definition statement

This place covers:

The subgroups define various surgical applications or body areas which are treated.

Special rules of classification

Groups not used for invention information. Headgroup A61B 2018/00315 not to be used for classification.

A61B 2018/00571

{for achieving a particular surgical effect}

Definition statement

This place covers:

The subgroups define various surgical effects achieved by the thermal energy.

Special rules of classification

Headgroup A61B 2018/00571 not used for classification.
**A61B 2018/00636**

**{Sensing and controlling the application of energy}**

**Definition statement**

*This place covers:*
The subgroups define various control aspects during thermal surgery.

**Special rules of classification**

Headgroup **A61B 2018/00636** not to be used for classification.

**A61B 18/02**

by cooling, e.g. cryogenic techniques (devices for cooling specific reflex points of the body within cell-life limits **A61H 39/06**)

**Definition statement**

*This place covers:*
Cooling, i.e. cryogenic surgery.

Tissue destroyed by freezing.

**References**

**Limiting references**

*This place does not cover:*

| Cooling of probe heat treatment probe, reheating of cryoprobe and cooling or heating of non target tissue surrounding thermally treated target tissue | A61B 2018/00005–A61B 2018/0047 |
| Devices for cooling specific reflex points of the body within cell-life limits | A61H 39/06 |

**A61B 18/04**

by heating (by applying electromagnetic radiation **A61B 18/18**: hyperthermia using electric or magnetic fields, radiation or ultrasound **A61N**)

**Definition statement**

*This place covers:*
Heating for tissue destruction in general. Specific energies used therefor in classes below.

**References**

**Limiting references**

*This place does not cover:*

| by applying electromagnetic radiation | A61B 18/18 |
**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Hyperthermia using electric or magnetic fields, radiation or ultrasound

---

**A61B 18/042**

{using additional gas becoming plasma}

**Definition statement**

*This place covers:*

The subgroups define various mechanical features of the treatment devices.

**Special rules of classification**

Headgroup A61B 18/042 not to be used for classification.

---

**A61B 18/06**

caused by chemical reaction {, e.g. moxaburners}

**Definition statement**

*This place covers:*

Using heat caused by chemical reaction, e.g. moxibustion.

---

**A61B 18/08**

by means of electrically-heated probes

**Definition statement**

*This place covers:*

Using electrically heated probes. No current is guided through the tissue. Part of the probe itself is heated by current passing through it, e.g. due to its resistivity.

---

**A61B 18/10**

Power sources therefor

**Definition statement**

*This place covers:*

Power sources for the electrically heated probes defined above.

---

**A61B 18/12**

by passing a current through the tissue to be heated, e.g. high-frequency current

**Definition statement**

*This place covers:*

Heating by passing electrical current through tissue to be heated, e.g. with RF frequencies. Electrodes themselves to not (substantially) heat up. Generators therefore in A61B 18/1206.
A61B 18/14
Probes or electrodes therefor

Definition statement
This place covers:
(Active) Electrodes and probes carrying those for passing current through tissue to be heated.

A61B 18/1445
{at the distal end of a shaft, e.g. forceps or scissors at the end of a rigid rod}

Special rules of classification
Indexing codes A61B 2017/2901 – A61B 2017/2948 are used to index specific structural features of forceps-type probes or electrodes.

A61B 18/16
Indifferent or passive electrodes for grounding

Definition statement
This place covers:
Passive (indifferent, return, ground) electrodes for grounding the patient. Usually large surface electrodes to be attached to the patient to collect current emitted by the active electrode(s). No surgical effect intended under these passive electrodes.

A61B 18/18
by applying electromagnetic radiation, e.g. microwaves (radiation therapy A61N 5/00)

Definition statement
This place covers:
using electromagnetic radiation, e.g. light other than laser or microwaves (A61B 18/1815).

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Devices for therapy with light or microwaves | A61N 5/00. |

A61B 18/20
using laser

Definition statement
This place covers:
Using laser. Lasers for eye surgery to be classified in A61F 9/008 and subgroups.
A61B 18/22

the beam being directed along or through a flexible conduit, e.g. an optical fibre; {Couplings or} hand-pieces therefor

Definition statement
This place covers:
The laser beam being guided through a flexible conduit, e.g. optical fiber.

A61B 18/24

with a catheter (A61B 18/26, A61B 18/28 take precedence)

Definition statement
This place covers:
The laser beam being guided through a catheter or needle like introducer.

References
Limiting references
This place does not cover:

| for producing a shock wave, e.g. laser lithotripsy | A61B 18/26. |
| for heating a thermal probe or absorber | A61B 18/28 |

A61B 18/26

for producing a shock wave, e.g. laser lithotripsy

Definition statement
This place covers:
The laser light producing a mechanical shock wave in a liquid or part of the device.

A61B 18/28

for heating a thermal probe or absorber

Definition statement
This place covers:
The laser heating a thermal probe or an absorber which transfers the heat to the tissue to be treated.

A61B 34/10

Computer-aided planning, simulation or modelling of surgical operations

Definition statement
This place covers:
Determination of a treatment plan for surgery.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Medical informatics                          | G06F 19/30 |
| Image analysis                               | G06T 7/00  |
| Healthcare informatics                       | G16H       |
| (non virtual) simulation                     | G05B 17/00 |
| CAD computer aided design with virtual models| G06F 30/00 |

A61B 2034/105

{Modelling of the patient, e.g. for ligaments or bones}

Definition statement

This place covers:

also if model representation of body part is adapted / specifically registered;

software data model, e.g. after segmentation or mapping, pointing, surface reconstruction after scanning;

also determination of anatomic character lines (e.g. femoral axis determination, special planes), ligament tension.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Movement of an organ (i.e. brain shift)       | A61B 2017/00694 |
| Optical scanners, Terahertz scanners         | A61B 2090/373  |

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| Cleaning of dental devices                   | A61C 19/002  |
| Cleaning of fluid or tube connectors         | A61M 39/16   |
| Endoscopes with cleaning features            | A61B 1/121   |
| Cleaning by methods involving presence of liquid or steam | B08B 3/00 |

Typical soft tissue models: mass spring model, FEM, mass tensor model
A61B 2034/108

{Computer aided selection or customisation of medical implants or cutting guides}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| For selection of endoprosthetic joints or for pre-operative planning | A61F 2002/4633 |

A61B 34/20

Surgical navigation systems; Devices for tracking or guiding surgical instruments, e.g. for frameless stereotaxis

Definition statement

This place covers:

A system which measures just a relative position of, e.g. a tip of a certain instrument relative to, e.g. a wall of a blood vessel is not to be understood as a tracking system.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Detecting foreign bodies: | A61B 5/06 |
| Position detection in general | G01S 1/00 |

A61B 2034/2046

{Tracking techniques}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Optical coordinate determination | G01B 11/005 |

Special rules of classification

For tracking based on tissue impedance combine with A61B 2017/00026.
A61B 2034/2051
{Electromagnetic tracking systems}

Definition statement
This place covers:
Includes MR-tracking if the electromagnetic signal of the apparatus is used, i.e. by an antenna on the tool, receiving an induced signal.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Endoscope positioning internal sensor</th>
<th>A61B 1/00158</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems using NMR or MRI</td>
<td>A61B 2090/374</td>
</tr>
<tr>
<td>Coordinate measuring machines</td>
<td>G01B 7/008</td>
</tr>
</tbody>
</table>

Special rules of classification
If only the image is used with the tool visible on the image, classify in A61B 90/37 and A61B 2090/374.

A61B 2034/2059
{Mechanical position encoders}

Definition statement
This place covers:
Not by marker but by relative movement of mechanical parts, i.e. rotation of potentiometer, registering of a moving strip pattern change of capacity.
Also position decoder in robotic arms.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Forward kinematics to calculate/estimate position of robot arm: | A61B 2034/102 |

A61B 2034/2065
{Tracking using image or pattern recognition}

Definition statement
This place covers:
Tracking by image analysis (automatic)

Special rules of classification
If tracking is by image analysis only, classify in A61B 34/20 instead of in A61B 34/20 together, e.g. with A61B 2090/376, e.g. in case of a fluoroscopic image being analyzed.
A61B 34/20 alone means the surgeon looks at the screen and acts accordingly.

A61B 34/20 together with A61B 2034/2065 means the system analyses the image, detects the location of the tool (e.g. in a video image) and than displays the tool, e.g. in a previously taken MRI image

A61B 2034/207

{Divots for calibration}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Calibration | A61B 2017/00725, G01B 21/042, G01B 21/045 |

A61B 2034/2072

{Reference field transducer attached to an instrument or patient}

Definition statement

This place covers:

External field generators for triggering the position trackers having special features.

Reference units (to detect the emitted position signals) on moveable arms to be put close to the patient.

Not restricted to electromagnetic transducers
A61B 34/25

{User interfaces for surgical systems}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| User/computer interaction | G06F 3/048 |

A61B 2034/252

{indicating steps of a surgical procedure}

Definition statement

This place covers:
The computer system indicating the surgeon what to do next (i.e. by prompting on the screen for a specific action to be taken).

A61B 2034/256

{having a database of accessory information, e.g. including context sensitive help or scientific articles}

Definition statement

This place covers:
Including communication to hospital server/ other unit via network, e.g. patient information, preferences of a surgeon etc.

A61B 34/30

Surgical robots

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Mechanical encoders for the position of the robot arm | A61B 2034/2059 |
| Steering catheters | A61M 25/0133 |
| Robots in general | B25J 9/00 |
| Robotic wrist joints | B25J 17/02 |
A61B 2034/301
{for introducing or steering flexible instruments inserted into the body, e.g. catheters or endoscopes}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Self propelled catheter</th>
<th>A61M 25/0105</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control is internal to a catheter</td>
<td>A61M 25/0116</td>
</tr>
</tbody>
</table>

A61B 2034/302
{specifically adapted for manipulations within body cavities, e.g. within abdominal or thoracic cavities}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Connected to the body wall                             | A61B 2017/00283 |

A61B 2034/305
{Details of wrist mechanisms at distal ends of robotic arms}

Definition statement
This place covers:
proximal of the actual instrument held by the arm

A61B 34/37
Master-slave robots (A61B 34/35 takes precedence)

Definition statement
This place covers:
Robots with a separate console

A61B 34/71
{Manipulators operated by drive cable mechanisms}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Steerable by drive cable or rod                        | A61B 2017/00323 |
A61B 34/73
{Manipulators for magnetic surgery}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Capsule endoscopes                      | A61B 1/041 |
| Magnets on catheters for steering       | A61M 25/0127 |

A61B 34/74
{Manipulators with manual electric input means}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Hand gesture control.                   | A61B 2017/00207 |
| Details of input devices                | G06F 3/00      |

A61B 34/76
{Manipulators having means for providing feel, e.g. force or tactile feedback}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Input arrangements with force or tactile feedback | G06F 3/016 |

A61B 42/00
Surgical gloves; Finger-stalls specially adapted for surgery; Devices for handling or treatment thereof

References

Limiting references
This place does not cover:

| Glove-boxes for manipulating, gloves therefor | B25J 21/02 |
A61B 42/30
Devices for detecting perforations, leaks or tears

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Product Description</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloves in general</td>
<td>A41D 19/00</td>
</tr>
</tbody>
</table>

A61B 46/00
Surgical drapes

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Product Description</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandages, dressings or absorbent pads</td>
<td>A61F 13/00</td>
</tr>
</tbody>
</table>

A61B 46/10
specially adapted for instruments{, e.g. microscopes}

References

Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Product Description</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>For part of endoscope entering the body</td>
<td>A61B 1/00142</td>
</tr>
<tr>
<td>For dental instruments</td>
<td>A61C 1/16</td>
</tr>
</tbody>
</table>

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Product Description</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>For part of an endoscope entering the body</td>
<td>A61B 1/00142</td>
</tr>
</tbody>
</table>

A61B 2046/201
{for extremities, e.g. having collection pouch}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Product Description</th>
<th>CPC Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubular drapes, e.g. for arm or legs</td>
<td>A61B 46/27</td>
</tr>
</tbody>
</table>
### A61B 46/23
with means to retain or hold surgical implements

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Holders for articles | A61B 50/20 |

### A61B 46/27
tubular, e.g. for arms or legs (A61B 46/13 takes precedence)

**References**

**Limiting references**

This place does not cover:

| Surgery through the lower body openings, e.g. urology, gynaecology | A61B 46/30 |

### A61B 50/00
Containers, covers, furniture or holders specially adapted for surgical or diagnostic appliances or instruments, e.g. sterile covers (drapes specially adapted for instruments A61B 46/10)

**References**

**Limiting references**

This place does not cover:

| Instrument-protective drapes | A61B 46/10 |
| Cleaning devices for surgical instruments | A61B 90/70 |
| For preservation of living parts of the human or animal body | A01N 1/02 |
| For sterilising articles | A61L 2/00 |
| For cleaning for sterilising hypodermic or infusion needles or syringes | A61M 5/001 |

### A61B 2050/0067
{Types of closures or fasteners}

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Having adhesives means | A61B 2050/002 |
A61B 2050/007
{Locking clamps}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Toggle latches or clamps | A61B 2050/0074 |

A61B 2050/0071
{Draw-strings}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Ties | A61B 2050/0073 |

A61B 2050/0073
{Ties}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Draw-strings | A61B 2050/0071 |

A61B 2050/0074
{Toggle latches or clamps}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Locking clamps | A61B 2050/007 |
| Swingable wire bails | A61B 2050/0075 |
A61B 2050/0075
{Swingable wire bails or handles}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Toggle latches or clamps | A61B 2050/0074 |
| Carrying handles         | A61B 2050/3011 |

A61B 2050/0076
{having additional locking means}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Permanent closure means | A61B 2050/0089 |

A61B 50/10
Furniture specially adapted for surgical or diagnostic appliances or instruments

References

Limiting references

This place does not cover:

| Supports for surgeons | A61B 90/60 |
| Medicine cabinets     | A47B 67/00 |
| Accommodation for nursing | A61G 12/00 |

A61B 50/13
Trolleys{, e.g. carts}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Other holding stands | A61B 50/24 |
A61B 50/20

Holders specially adapted for surgical or diagnostic appliances or instruments (drapes with means to hold surgical instruments A61B 46/23; for catheters A61M 25/02)

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Item</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holders for suture needles or materials</td>
<td>A61B 17/06061</td>
</tr>
<tr>
<td>Drapes with means to hold surgical instruments</td>
<td>A61B 46/23</td>
</tr>
<tr>
<td>Supports as part of surgical instruments</td>
<td>A61B 90/50</td>
</tr>
<tr>
<td>Hangers for particular articles</td>
<td>A47F 7/00</td>
</tr>
<tr>
<td>For tooth drills</td>
<td>A61C 3/04</td>
</tr>
<tr>
<td>For receptacles and tubing attached to beds</td>
<td>A61G 7/0503</td>
</tr>
<tr>
<td>For pharmaceutical containers</td>
<td>A61J 1/16</td>
</tr>
<tr>
<td>For irrigation devices</td>
<td>A61M 3/0266</td>
</tr>
<tr>
<td>Racks for syringes or for hypodermic or infusion needles</td>
<td>A61M 5/008</td>
</tr>
<tr>
<td>For infusion devices</td>
<td>A61M 5/1414</td>
</tr>
<tr>
<td>For catheters</td>
<td>A61M 25/02</td>
</tr>
<tr>
<td>Holding devices for laboratory apparatus</td>
<td>B01L 9/00</td>
</tr>
<tr>
<td>Racks for work tools</td>
<td>B25H 3/04</td>
</tr>
</tbody>
</table>

A61B 50/24

Stands (Mayo stands A61B 50/15)

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Item</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayo stands</td>
<td>A61B 2050/155</td>
</tr>
</tbody>
</table>

A61B 50/30

Containers specially adapted for packaging, protecting, dispensing, collecting or disposing of surgical or diagnostic appliances or instruments (for wound clamps A61B 17/10; for ligaturing clips A61B 17/122; packages or dispensers for surgical gloves or finger-stalls A61B 42/40)

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Item</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>For ligaturing clips</td>
<td>A61B 17/1222</td>
</tr>
</tbody>
</table>
Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>For MIS instruments</td>
<td>A61B 2017/00362</td>
</tr>
<tr>
<td>For suture anchors</td>
<td>A61B 2017/0416</td>
</tr>
<tr>
<td>For MIS suturing instruments</td>
<td>A61B 2017/0479</td>
</tr>
<tr>
<td>For surgical stapler</td>
<td>A61B 2017/0688</td>
</tr>
<tr>
<td>For bone screw or threaded wires</td>
<td>A61B 17/865</td>
</tr>
</tbody>
</table>

**A61B 50/3001**

{for sharps}

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>For suture needles</td>
<td>A61B 17/06114</td>
</tr>
<tr>
<td>For wound clamps</td>
<td>A61B 17/105</td>
</tr>
<tr>
<td>For scalpel-blades</td>
<td>A61B 17/3215</td>
</tr>
<tr>
<td>For used sharps</td>
<td>A61B 50/362</td>
</tr>
<tr>
<td>For syringes or for hypodermic or infusion needles</td>
<td>A61M 5/002, A61M 5/1626, A61M 5/3202</td>
</tr>
</tbody>
</table>
Packages for needles in general  

**A61B 2050/3002**  
{including foam blocks for retaining sharps}  

**References**  
**Informative references**  
Attention is drawn to the following places, which may be of interest for search:  

For retaining suture needles or sutures  

**A61B 2050/3005**  
{containing a preservative liquid, e.g. an antiseptic liquid}  

**References**  
**Informative references**  
Attention is drawn to the following places, which may be of interest for search:  

Bactericidal products in casings for used articles  

**A61B 2050/3008**  
{having multiple compartments}  

**References**  
**Informative references**  
Attention is drawn to the following places, which may be of interest for search:  

Flexible multi-pouches  

**A61B 2050/3011**  
{having carrying handles}  

**References**  
**Informative references**  
Attention is drawn to the following places, which may be of interest for search:  

Swingable locking handles
### A61B 2050/3014

{waterproof}

#### References

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>For prostheses</th>
<th>A61F 2250/0076</th>
</tr>
</thead>
</table>

### A61B 2050/3015

{transparent}

#### References

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>For surgical instruments or accessories</th>
<th>A61B 2017/00902</th>
</tr>
</thead>
<tbody>
<tr>
<td>For prostheses</td>
<td>A61F 2250/0091</td>
</tr>
</tbody>
</table>

### A61B 50/31

Carrying cases or bags, e.g. doctors' bags

#### References

**Limiting references**

This place does not cover:

<table>
<thead>
<tr>
<th>Bags for midwives</th>
<th>A61B 17/48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bags in general</td>
<td>A45C</td>
</tr>
<tr>
<td>First-aid kits</td>
<td>A61F 17/00</td>
</tr>
</tbody>
</table>

### A61B 50/312

{Doctors' or nurses' bags}

#### References

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Carried on clothing or back</th>
<th>A61B 2050/301</th>
</tr>
</thead>
</table>
**A61B 50/33**

Trays

References

*Limiting references*

*This place does not cover:*

| Serving trays | A47G 23/06 |

**A61B 50/36**

for collecting or disposing of used articles

References

*Limiting references*

*This place does not cover:*

<table>
<thead>
<tr>
<th>For sutures</th>
<th>A61B 17/06161</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessories for operating tables, e.g. for collecting body wastes</td>
<td>A61G 13/10</td>
</tr>
<tr>
<td>Combustible sputum cups</td>
<td>A61J 19/06</td>
</tr>
<tr>
<td>Sterilising refuse</td>
<td>A61L 11/00</td>
</tr>
<tr>
<td>For destroying hypodermic or infusion needles or syringes</td>
<td>A61M 5/3278</td>
</tr>
<tr>
<td>Disposal of medical waste by destroying it or transforming it into something useful or harmless</td>
<td>B09B 3/0075</td>
</tr>
<tr>
<td>For domestic refuse or the like</td>
<td>B65F</td>
</tr>
</tbody>
</table>

*Informative references*

*Attention is drawn to the following places, which may be of interest for search:*

| Refuse receptacles in general | B65F 1/00 and B65F 2210/00 |

**A61B 50/362**

{for sharps}

References

*Limiting references*

*This place does not cover:*

<table>
<thead>
<tr>
<th>For suture needles</th>
<th>A61B 17/06161</th>
</tr>
</thead>
<tbody>
<tr>
<td>For scalpel-blades</td>
<td>A61B 17/3217</td>
</tr>
<tr>
<td>For syringes or for hypodermic or infusion needles</td>
<td>A61M 5/3205</td>
</tr>
</tbody>
</table>
**A61B 2050/364**

{having additional means for destroying used sharps}

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| For destroying used hypodermic needles or infusion needles or syringes | A61M 5/3278 |

**A61B 50/37**

for absorbent articles, e.g. bandages, garments, swabs or towels

**References**

**Limiting references**

*This place does not cover:*

| Devices for determining blood loss | A61B 5/02042 |

**A61B 2050/375**

{for sponges}

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Counting means | A61B 2090/0804 |

**A61B 50/39**

the containers containing antimicrobial, antiviral or disinfectant agents

**References**

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

| Preservative liquid in packages or dispensers | A61B 2050/3005 |
**A61B 90/00**

Instruments, implements or accessories specially adapted for surgery or diagnosis and not covered by any of the groups A61B 1/00 - A61B 50/00, e.g. for luxation treatment or for protecting wound edges (protective face masks A41D 13/11; surgeon's or patient's gowns or dresses A41D 13/12; devices for carrying-off, for treatment of, or for carrying-over, body liquids A61M 1/00)

**References**

*Informative references*

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Surgical masks, gowns or dresses</th>
<th>A41D 13/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devices for carrying off, treatment, or carrying over body liquids</td>
<td>A61M 1/00</td>
</tr>
</tbody>
</table>

**Special rules of classification**

Surgical or diagnostic instruments, implements and accessories not covered by A61B 1/00 - A61B 17/00.

The breakdown symbols (i.e. the non "parallel" or non "mirror" symbols) are to be used for classifying the invention information in case the invention is insufficiently classified by an invention information symbol. They are also to be used for classifying the additional information. They are stored in the additional information field.

**A61B 90/02**

{Devices for expanding tissue, e.g. skin tissue (implements for holding wounds open, surgical tractors A61B 17/02; implantable mammary prosthesis A61F 2/12; dilators A61M 29/00)}

**References**

*Informative references*

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Surgical tractors</th>
<th>A61B 17/02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implantable mammary prosthesis</td>
<td>A61F 2/12</td>
</tr>
<tr>
<td>Dilators</td>
<td>A61M 29/00</td>
</tr>
</tbody>
</table>

**A61B 2090/031**

{torque limiting}

**References**

*Informative references*

*Attention is drawn to the following places, which may be of interest for search:*

<table>
<thead>
<tr>
<th>Dental torque limiters</th>
<th>A61C 1/186</th>
</tr>
</thead>
</table>
A61B 2090/037
{with a frangible part, e.g. by reduced diameter}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>For implantable prosthetic joints</th>
<th>A61F 2002/30561</th>
</tr>
</thead>
<tbody>
<tr>
<td>For prostheses</td>
<td>A61F 2250/0071</td>
</tr>
</tbody>
</table>

A61B 90/04
{Protection of tissue around surgical sites against effects of non-mechanical surgery, e.g. laser surgery (protection of eyes against laser radiation A61F 9/022)}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Protection of eyes against laser radiation | A61F 9/022 |

A61B 90/05
{Splash shields for protection of the surgeon, e.g. splash guards connected to the apparatus (A41D 13/11 takes precedence)}

References
Limiting references
This place does not cover:

| Garments with protection | A41D 13/11, A41D 13/0007 |

A61B 90/06
{Measuring instruments not otherwise provided for}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Measuring/detecting at the treatment site for control purposes | A61B 2017/00022 |
| For implanting artificial joints | A61F 2/4657 |
| For non-implantable prostheses | A61F 2002/7615 |
**A61B 2090/061**

(for measuring dimensions, e.g. length)

**References**

**Limiting references**

This place does not cover:

| Measuring penetration depth | A61B 2090/062 |

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Measuring of cardiac valve or valve annulus | A61F 2/2472 |

**A61B 2090/0801**

(for the position of a particular part of an instrument with respect to the rest of the instrument, e.g. position of the anvil of a stapling instrument)

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Protective suturing devices | A61B 17/0493 |
| Blunt suture needles | A61B 2017/06085 |
| Blunt dissectors | A61B 2017/320044 |
| For trocars | A61B 17/3496 |
| Means for protection against accidental injuries by used needles | A61M 5/321 |

**A61B 2090/0811**

(for measuring dimensions, e.g. length)

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Orientation indicators for gripping | A61B 2017/00455 |
A61B 2090/0813
{Accessories designed for easy sterilising, i.e. re-usable}

Definition statement

This place covers:
Also used for tools having design features for easy sterilising such as features for taking a tool apart easily.

A61B 2090/0815
{Implantable devices for insertion in between organs or other soft tissues}

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Bone joint inserts</th>
<th>A61B 17/562</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implantable mesh grafts</td>
<td>A61F 2/0063</td>
</tr>
</tbody>
</table>

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Plugging wall openings</th>
<th>A61B 17/0057</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retractors</td>
<td>A61B 17/02</td>
</tr>
<tr>
<td>Tissue expanders</td>
<td>A61B 90/02</td>
</tr>
</tbody>
</table>

A61B 2090/0817
{Spatulas or spatula like extensions}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Endoscopes with cleaning features</th>
<th>A61B 1/121</th>
</tr>
</thead>
<tbody>
<tr>
<td>For vein removal:</td>
<td>A61B 17/00008</td>
</tr>
<tr>
<td>For ultrasonic devices:</td>
<td>A61B 2017/320078</td>
</tr>
<tr>
<td>Cleaning of dental devices</td>
<td>A61C 19/002</td>
</tr>
<tr>
<td>Cleaning of fluid or tube connectors</td>
<td>A61M 39/16</td>
</tr>
<tr>
<td>Cleaning by methods involving presence of liquid or steam</td>
<td>B08B 3/00</td>
</tr>
</tbody>
</table>
A61B 90/10
for stereotaxic surgery, e.g. frame-based stereotaxis

Definition statement
This place covers:
for surgery of small targets, mainly inside the brain but also in the breast or other soft tissue.

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Radio-opaque marker | A61B 90/39 |

A61B 2090/103
{Cranial plugs for access to brain}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Access ports for other organs | A61B 17/3423 |
| Access sites for bone | A61M 2039/025 |

A61B 90/11
with guides for needles or instruments, e.g. arcuate slides or ball joints

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Needle guiding or locating | A61B 17/3403 |

A61B 90/14
Fixators for body parts, e.g. skull clamps; Constructional details of fixators, e.g. pins

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Tables with compression means for mammography | A61B 6/0414 |
| Tables with patient immobilising means for radiation diagnosis | A61B 6/0421 |
| Bone screws or pins | A61B 17/86 |
A61B 90/17
for soft tissue, e.g. breast-holding devices

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Breast surgery</th>
<th>A61B 2017/00796</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast tissue markers</td>
<td>A61B 2090/3908</td>
</tr>
</tbody>
</table>

A61B 90/20
Surgical microscopes characterised by non-optical aspects

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Ophthalmoscopes:</th>
<th>A61B 3/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical microscopes</td>
<td>G02B 21/0012</td>
</tr>
</tbody>
</table>

Special rules of classification

If the invention is more linked to surgical aspects or in combination with other surgical devices it should be classified in A61B 90/20. If it deals mainly with technical aspects concerning for instance the optics, it should be classified in G02B 21/0012.

A61B 90/30
Devices for illuminating a surgical field, the devices having an interrelation with other surgical devices or with a surgical procedure

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Endoscopes for respiratory tract with illuminating arrangements</th>
<th>A61B 1/267</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchoscopes with illuminating arrangements</td>
<td>A61B 1/2676</td>
</tr>
<tr>
<td>Instruments for performing medical examinations of vagina with illuminating arrangements</td>
<td>A61B 1/303</td>
</tr>
<tr>
<td>Wall mounted illumination of surgical working place</td>
<td>F21S 8/033</td>
</tr>
<tr>
<td>Lighting operating theatres</td>
<td>F21W 2131/205</td>
</tr>
</tbody>
</table>
A61B 2090/306
{using optical fibres}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Light guides | G02B 6/00 |

A61B 2090/308
{Lamp handles}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Hand grips for operation or dentist lamps | F21V 21/403 |

A61B 90/361
{Image-producing devices, e.g. surgical cameras}

References
Limiting references
This place does not cover:

| Surgical microscopes: | A61B 90/20 |
| Systems with images on a monitor: | A61B 90/37 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Capsule endoscopes | A61B 1/041 |

A61B 2090/364
{Correlation of different images or relation of image positions in respect to the body}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Detecting body movement for diagnosis | A61B 5/11 |
| Modelling using patient body | A61B 2034/105 |
**A61B 2090/365**
{augmented reality, i.e. correlating a live optical image with another image}

**Special rules of classification**
If only a trajectory is overlaid on the image, classify in A61B 2034/107 only;
If only the tool i.e. a representation of the tool is overlaid, this is not enough to classify with this code.
If only virtual haptic boundary is present: classify in A61B 34/76.

**A61B 2090/371**
{with simultaneous use of two cameras}

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Stereo radiography | A61B 6/02 |

**A61B 2090/372**
{Details of monitor hardware}

**Definition statement**

This place covers:

hardware details of viewing device (e.g.) viewing sensor, determining that a viewer is viewing
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Details of the content shown on the monitor i.e. the GUI | K61B19/00U |

**A61B 2090/373**

**{using light, e.g. by using optical scanners}**

**Definition statement**

*This place covers:*

Includes laser scanners i.e. for surface registration.

**References**

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Surface scanners in dental field | A61C 9/004, A61C 9/0053 |
| Projecting of images/ contour detection | G01B 11/24, G01B 11/25 |
| Scanning devices in general | G01B 11/24 |

**Special rules of classification**

If a model is built upon the information, **A61B 2034/105** should also be given.

**A61B 2090/374**

**{NMR or MRI}**

**References**

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Instruments specially adapted for MRI | A61B 2017/00911 |
| Tracking using the electric effect of the MRI RF coils on a coil by evaluating the induced system | A61B 2034/2051 |
| Automatic image recognition used for the tracking | A61B 2034/2065 |
| Tracking using MRI imaging | A61B 2090/374, A61B 34/20 |
| Invasive instruments for MRI | G01R 33/285 |
A61B 2090/3762
{using computed tomography systems [CT]}

Definition statement
This place covers:
including multislice CT

A61B 2090/378
{using ultrasound}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Needle guides with ultrasound guidance | A61B 2017/3413 |

A61B 90/39
{Markers, e.g. radio-opaque or breast lesions markers}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Mechanical markers for eye keratomey | A61F 9/0136 |
| Markers in surgical tampons or sponges | A61F 13/44 |
| Sponges/dressings with markers | A61F 13/44 |
| Markers for catheters | A61M 25/0108 |
| Calibration of imaging systems, e.g. using test probes | G01R 33/58 |
| Testing of X-ray installation, e.g. by phantoms | G06F 3/0488 |

A61B 2090/392
{Radioactive markers}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Radium seeds | A61N 5/1001 |
A61B 2090/3937
{Visible markers}

Definition statement
This place covers:
Includes laser marks (e.g. a laser point guiding for a laparoscope)

References

Limiting references
This place does not cover:

| Identification means coded with symbols | A61B 90/94 |

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Visible markers on catheters | A61M 2025/0008 |
| Optical identification markers of media introduction devices | A61M 2205/6063 |

A61B 2090/3954
{magnetic, e.g. NMR or MRI}

References

Informative references
Attention is drawn to the following places, which may be of interest for search:

| Magnetic markers on catheters | A61M 25/0127 |

A61B 2090/3966
{Radiopaque markers visible in an X-ray image}

Definition statement
This place covers:
Radiopaque, having particular properties, not just leaving a shadow on the x-ray.
**A61B 2090/3983**

{Reference marker arrangements for use with image guided surgery}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in A61B 2090/3983

**A61B 2090/3987**

{Applicators for implanting markers}

**References**

*Informative references*

Attention is drawn to the following places, which may be of interest for search:

| Devices for implanting pellets, radium seeds or the like | A61M 37/0069 |
A61B 90/40
Apparatus fixed or close to patients specially adapted for providing an aseptic surgical environment

Definition statement
This place covers:
Illustrative example of subject matter classified in A61B 90/40

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Drapes       | A61B 46/00 |

A61B 90/50
Supports for surgical instruments, e.g. articulated arms

References
Limiting references
This place does not cover:

| Surgical manipulators | A61B 34/70 |
| Holders for articles  | A61B 50/20  |
Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Endoscope positioning articulated arms</th>
<th>A61B 1/00149</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessories for operation tables</td>
<td>A61G 13/10</td>
</tr>
<tr>
<td>Stands as supports for apparatus or articles in general</td>
<td>F16M 11/00</td>
</tr>
<tr>
<td>Stands with ball joints</td>
<td>F16M 11/14</td>
</tr>
<tr>
<td>Supports for lighting</td>
<td>F21V 21/00</td>
</tr>
<tr>
<td>Supports for optical elements</td>
<td>G02B 7/001</td>
</tr>
</tbody>
</table>

A61B 2090/5025

{with a counter-balancing mechanism}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Counterbalancing structure (e.g. surgical microscope) | G02B 7/001 |

A61B 2090/508

{with releasable brake mechanisms}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Lockable arms (mostly of the tension cable lock-type) are common in cardiac retractors: | A61B 2017/0237 |

A61B 90/60

Supports for surgeons, e.g. chairs or hand supports (seats for dentists or surgeons associated with dental chairs or operating chairs A61G 15/00)

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Wrist support platforms</th>
<th>A47B 21/0371</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairs in general</td>
<td>A47C</td>
</tr>
<tr>
<td>Ergonomic chairs</td>
<td>A47C 9/002</td>
</tr>
<tr>
<td>Operating chairs</td>
<td>A61G 15/00</td>
</tr>
</tbody>
</table>
A61B 90/70
Cleaning devices specially adapted for surgical instruments

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Cleaning features</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endoscopes with cleaning features</td>
<td>A61B 1/121</td>
</tr>
<tr>
<td>Cleaning of dental devices</td>
<td>A61C 19/002</td>
</tr>
<tr>
<td>Disinfecting</td>
<td>A61L 2/00</td>
</tr>
<tr>
<td>Cleaning of fluid or tube connectors</td>
<td>A61M 39/16</td>
</tr>
<tr>
<td>Cleaning in General</td>
<td>B08B</td>
</tr>
<tr>
<td>Cleaning by methods involving presence of liquid or steam</td>
<td>B08B 3/00</td>
</tr>
</tbody>
</table>

A61B 2090/701
{for flexible tubular instruments, e.g. endoscopes}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Cleaning features on endoscopes</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>For cleaning features on endoscopes</td>
<td>A61B 1/121</td>
</tr>
</tbody>
</table>

A61B 2090/702
{Devices for testing the cleaning process, e.g. test soils}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Testing effectiveness of sterilisation</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devices for testing effectiveness of sterilisation</td>
<td>A61L 2/28</td>
</tr>
</tbody>
</table>

A61B 90/80
Implements for cleaning or washing the skin of surgeons or patients

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Cleaning liquid material</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand held absorbent pads containing cleaning liquid</td>
<td>A61M 35/006</td>
</tr>
</tbody>
</table>
A61B 90/90
Identification means for patients or instruments, e.g. tags

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| For scanning devices | G06K 7/00 |
| RFID tags           | G06K 19/07 |

A61B 90/98
using electromagnetic means, e.g. transponders

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Arrangements for sensing record carrier | G06K 7/00 |
| RFID tags                             | G06K 7/00 |

A61B 2503/00
Evaluating a particular growth phase or type of persons or animals

Definition statement
This place covers:
Particular types of patients or of subject under examination using apparatus and methods according to A61B 5/00

A61B 2503/02
Foetus

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Transmission of foetal data | A61B 5/0011 |
| Measuring heart rate of foetus | A61B 5/02411 |
| Pregnancy / labour monitoring | A61B 5/4343 |
| Sensor adapted to attachment to the uterus | A61B 5/6875 |
A61B 2503/04
Babies, e.g. for SIDS detection

Definition statement
This place covers:
Infants up to around 1 year old

A61B 2503/06
Children, e.g. for attention deficit diagnosis

Definition statement
This place covers:
Older children

A61B 2503/10
Athletes

Definition statement
This place covers:
Evaluation of subjects, usually healthy, while practicing sports.

A61B 2503/12
Healthy persons not otherwise provided for, e.g. subjects of a marketing survey

Definition statement
This place covers:
E.g., evaluate responses of the public to stimuli such as advertisements for marketing purposes

A61B 2503/20
Workers

Definition statement
This place covers:
Evaluation of subjects while working

A61B 2503/22
Motor vehicles operators, e.g. drivers, pilots, captains

Definition statement
This place covers:
Evaluation of subjects while conducting means of transport
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Evaluate vehicle drivers, e.g. for sleepiness</th>
<th>A61B 5/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensors mounted on cars</td>
<td>A61B 5/6893</td>
</tr>
</tbody>
</table>

A61B 2503/42

for laboratory research

Definition statement

This place covers:

E.g., testing drugs

A61B 2562/0209

Special features of electrodes classified in A61B 5/04001, A61B 5/0408, A61B 5/042, A61B 5/0478, A61B 5/0492 or A61B 5/053

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

<table>
<thead>
<tr>
<th>Electrodes for electrosurgery</th>
<th>A61B 18/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrodes for stimulation</td>
<td>A61N 1/04</td>
</tr>
</tbody>
</table>