A61N

ELECTROTHERAPY; MAGNETOTHERAPY; RADIATION THERAPY; ULTRASOUND THERAPY (measurement of bioelectric currents A61B; surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body A61B 18/00; anaesthetic apparatus in general A61M; incandescent lamps H01K; infrared radiators for heating H05B)

Definition statement

This place covers:

Specially adapted apparatus, instruments, devices, or processes for the following types of therapy:

- electrotherapy, e.g. iontophoresis;
- magnetotherapy;
- radiation therapy;
- ultrasound therapy.

Components having specialized structural features that limit their use to the apparatus, instruments, or devices for the types of therapy appropriate for this subclass.

Relationships with other classification places

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

Subclass A61N provides for medical treatment-type therapy by apparatus or methods utilizing forms of energy other than direct mechanical energy when they are not used for surgical purposes and they are intended to either

- destroy, control, or advance the recovery of sick or abnormal cells within body tissue while minimizing undesirable destruction of adjoining healthy cells, or
- treat other types of abnormal conditions of the body (e.g., disease, impaired organ, injured limb).

In particular, subclass A61N covers implanted devices, when the implanted device is not a replacement or supplementation of an actual portion of the organ or part, utilizing forms of energy other than direct mechanical energy to stimulate organs or body parts in a manner that facilitates, regulates, or improves their normal functioning.

Subclass A61H provides for massage and physical-type therapy apparatus or methods for the treatment of disease or disability (i.e., an abnormal condition of the body) by utilization of direct mechanical energy. The apparatus or methods appropriate for this subclass do not surgically alter any portion of the bodies during treatment. Usually, the massage and therapy apparatus and methods of this subclass are intended to facilitate the healing of diseases, reduce the impact of injuries, or beneficially influence the condition of disabled body parts by physically moving a part of a body (e.g., devices for exercising a passive body member) solely by direct physical contact with, or stimulation of, external surfaces of the body or naturally occurring cavities in the body. However, stimulation of internal organs or body parts, such as artificial respiration and stimulation of the heart, when it is done by direct mechanical energy is also considered proper for this subclass.

Subclass A61K and Subclass A61P provide for drug-type therapy using chemical compounds or medicinal preparations specially adapted for use in healing, benefiting, or destroying abnormal conditions of the body (e.g., diseases, birth defects) and the specific therapeutic activities that the chemical compounds and medicinal preparations are used for.

Subclass A61B provides for surgery and surgical-type therapy that alters or repairs organs and body parts. It also provides for any surgical or diagnostic apparatus or methods that would otherwise be proper for subclass A61H or A61N when the apparatus or methods are used for both purposes

or combined together. In particular, subclass A61B provides for surgical instruments, devices, or methods for transferring non-mechanical forms of energy to or from the body (e.g., electromagnetic radiation surgery) to alter or repair it.

References

Limiting references

This place does not cover:

Apparatus for diagnosis or surgery combined with, or applicable also as, therapy apparatus	A61B
Apparatus for radiation diagnosis	A61B 6/00
Surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body (e.g., radiation surgery, electro-surgery)	A61B 18/00
Instruments, implements, tools, or methods specially adapted so as to limit their use to only animals	A61D
Apparatus or methods utilizing direct mechanical energy in therapy intended to treat disease or disability	A61H
Percussion or vibration massage apparatus (e.g. using supersonic vibration)	A61H 23/00
Apparatus or methods for stimulating specific reflex points by heating or cooling within the cell-life limits	A61H 39/06
Devices for applying radioactive material to the body	A61M 37/0069, A61N 5/10

Informative references

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

Measuring bioelectrical signals of the body or body parts	A61B 5/24
Surgical accessories	A61B 90/00
Artificial substitutes or replacements for parts of the body	A61F 2/00
Heating or cooling appliances for medical or therapeutic treatment	A61F 7/00
Saunas	A61H 33/06
Radiopharmaceuticals	A61K 51/12
Anaesthetic apparatus in general	A61M
Pressure infusion pumps	A61M 5/142
Devices or methods to cause a change in the state of consciousness by mechanical, optical or acoustical means, e.g. audiovisual stimuli	A61M 21/00
Artificial hearts and circulatory assistance means intended for implantation	A61M 60/122
Specific therapeutic activity of chemical compounds or medicinal preparations	A61P
Measurement of nuclear X-radiation	G01T
Techniques for handling of particles or electromagnetic radiation	G21K
Incandescent lamps having general utility	H01K
Infrared radiators for heating	H05B

A61N 1/00

Electrotherapy; Circuits therefor (A61N 2/00 takes precedence; irradiation apparatus A61N 5/00)

Definition statement

This place covers:

Details about electric fields which directly provide a therapeutic effect or which render the delivery of therapeutic substances possible; details about (components of) apparatuses which generate these electric fields.

References

Limiting references

This place does not cover:

High frequency currents for surgery instead of therapy (i.e. higher temperatures so as to destroy tissue instead of healing tissue)	A61B 18/12

Informative references

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

Irradiation apparatus	A61N 5/00
Measuring blood pressure / blood flow	A61B 5/02
Measuring blood output from heart	A61B 5/029
Measuring electrical impedance of a portion of the human body	A61B 5/053
Measuring movement of the entire body or parts thereof	A61B 5/11
Detecting specific parameters of the ECG cycle	A61B 5/349
Detecting muscle signals	A61B 5/389
Detecting urogenital signals	A61B 5/391
Detecting gastrointestinal signals	A61B 5/392
Diagnosis using ultrasound in general	A61B 8/00
Measuring blood pressure by ultrasound	A61B 8/04
Measuring blood flow by ultrasound	A61B 8/06
Gastric anti-eating devices using electrical stimulation	A61F 5/0026
Devices implantable in the eye e.g. ocular inserts	A61F 9/0017
Devices for eye surgery	A61F 9/007
Mechanical stimulation of ear nerves	A61F 11/04
Heart stimulation by mechanical means	A61H 31/004
Stimulating specific reflex points using electric currents	A61H 39/002
Percussion or vibration massage with electrotherapy	A61H 2201/10
Acoustically, mechanically or optically inducing sleep or relaxation	A61M 21/02
Electrically conditioning the air e.g. by ionising	B60H 3/0071
Applying static electricity for purifying the air	F24F 8/192
Recognising signal patterns per se	G06F 2218/00

ICT specially adapted for therapies or health-improving plans (e.g. for handling prescriptions, for steering therapy or for monitoring patient compliance) relating to mechanical, radiation or invasive therapies (e.g. surgery, laser therapy, dialysis or acupuncture)	G16H 20/40
Deaf aid sets	H04R 25/00

Special rules of classification

Additional information could be either

- specific details about components, signals or algorithms which are not related to the invention as such; or
- less preferred embodiments which are shortly mentioned (e.g. inventive specification of cochlear implants which can be used for retinal implants as well).

Documents with such information should be given an Indexing Code.

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

AAI	single chamber atrial pacemaker with inhibited mode
AED	automatic external defibrillator
AEI	atrial escape interval
AV	atrioventricular
AVD	atrioventricular delay
AVI	atrioventricular interval
BPM	beats per minute
CHD	coronary heart disease
CHF	chronic heart failure
CO	cardiac output
CRT	cardiac resynchronisation therapy
DBS	deep brain stimulation
DDD	biventricular pacemaker e stimulation rate with dual mode
DDDR	DDD pacemaker with pacing rate dependent on sensor output
DDI	biventricular pacemaker with inhibited mode
ECG	electrocardiogram
EKG	electrocardiogram
HR	heart rate
ICD	implantable cardioverter defibrillator
IMD	implantable medical device
IPG	implantable pulse generator
NS	neural stimulation
PAVB	post-atrial ventricular blanking
PESP	postextrasystolic potentiation
PMT	pacemaker mediated tachycardia

SV	stroke volume
SVT	supraventricular tachycardia
VDD	pacemaker that senses the atrium and ventricle and paces the ventricle with dual mode
VF	ventricular fibrillation
VT	ventricular tachycardia
VVI	single chamber ventricular pacemaker with inhibited mode

A61N 1/04

Electrodes {(electrosurgical electrodes A61B 18/14)}

Definition statement

This place covers:

Details about the electrodes and their associated leads specially adapted for delivering electrical therapeutic stimulation.

References

Informative references

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

Patient's garment with incorporated electrodes for medical monitoring	A41D 13/1281
Electrodes specially adapted for ECG	A61B 5/25
Electrodes specially adapted for EEG	A61B 5/291
Electrodes specially adapted for EMG	A61B 5/296
Electrodes for electrosurgery	A61B 18/14
Stents and instruments for their placement	A61F 2/82
Stimulating specific reflex points using electric currents	A61H 39/002
Anchoring by balloon expansion	A61M 25/10
Form details about flexible conductors per se	H01B 7/04
Form details about conductors for implantation in a human body	H01B 7/048

Special rules of classification

Details about the stimulating device as such, about the therapeutic signal and/or about the stimulating algorithm should be classified in A61N 1/36-A61N 1/3712.

A61N 1/08

Arrangements or circuits for monitoring, protecting, controlling or indicating {(for external stimulators A61N 1/3603; for implantable neurostimulators A61N 1/36128; for heart stimulators A61N 1/37; for defibrillators A61N 1/3925)}

Definition statement

This place covers:

Protecting the functioning of electrical therapeutic stimulation devices, especially against MRI.

This group only relates to protection (especially against MRI) for electrical therapeutic stimulation devices and not for other types of medical devices such as drug pumps. The purpose of this protection is to protect the functioning of the medical device.

References

Limiting references

This place does not cover:

For external stimulators	A61N 1/3603
For implantable neurostimulators	A61N 1/36128
Monitoring or protecting for heart stimulators	A61N 1/37
Monitoring or protecting for defibrillators	A61N 1/3925

Informative references

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

Neutralising atmospheric radiation	A61N 1/16
Mattresses for protecting against e.g. static electricity or radiation	A47C 31/004
Dynamisation and other esoteric therapies using medicinal preparations obtained by wave energy	A61K 41/0004
NMR gyrometers	G01C 19/60
Measuring electric variables	G01R
Instruments for measuring magnetic variables involving magnetic resonance	G01R 33/20
Provisions within MR facilities for enhancing safety during MR	G01R 33/288
Control of generator output per se	H02P, H03L
Screening of apparatus or components against electric or magnetic fields	H05K 9/00

Special rules of classification

Protecting the functioning of the medical device constitutes the difference with A61N 1/16, which relates to protecting the human body. E.g. pacemaker circuitry protecting the pacemaker from the field of a TV antenna should go to A61N 1/08 whereas as special building arrangement for protecting a person from the same field to A61N 1/16.

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

MR	magnetic resonance
MRI	magnetic resonance imaging
NMR	nuclear magnetic resonance

A61N 1/086

{Magnetic resonance imaging [MRI] compatible leads}

Definition statement

This place covers:

Leads (both implantable and external) having features that mitigate the effects of unwanted electric currents induced by a Magnetic Resonance Imaging [MRI] device or field.

A61N 1/16

Screening or neutralising undesirable influences from {or using,} atmospheric or terrestrial radiation or fields {(using atmospheric electricity or earth currents H05F 3/00)}

Definition statement

This place covers:

Screening or neutralising atmospheric or terrestrial radiation or fields with the purpose of protecting the human body. The purpose of this protection is to protect the human body.

References

Limiting references

This place does not cover:

Electrostimulators protected for electromagnetic interference	A61N 1/08

Informative references

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

Measuring magnetic field characteristics of the earth	G01V 3/00
Carrying-off electrical charges using atmospheric electricity or earth currents	H05F 3/00

Special rules of classification

Protecting the human body constitutes the difference with A61N 1/08, which relates to protecting the functioning of the medical device. E.g. pacemaker circuitry protecting the pacemaker from the field of a TV antenna should go to A61N 1/08 whereas as special building arrangement for protecting a person from the same field to A61N 1/16. A61N 1/08 takes precedence over A61N 1/16.

A61N 1/36

for stimulation

Definition statement

This place covers:

Details about the therapeutic signal and/or about the stimulation algorithm, constructional and/or circuitry details, telemetry details.

References

Informative references

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

Details about the electrodes or the leads	A61N 1/04, A61N 1/06
Applying constant continuous current	A61N 1/20 - A61N 1/306
Electromedical belts	A61N 1/321
Electromedical brushes, combs, massage devices	A61N 1/322
Inteference currents	A61N 1/323
Iontophoresis	A61N 1/325
Promoting growth of cells	A61N 1/326
Electroporation	A61N 1/327
Improving skin appearance	A61N 1/328

A61N 1/36002

{Cancer treatment, e.g. tumour}

Definition statement

This place covers:

Covers devices (both implanted and external to the body) that treat cancer by electrical stimulation.

A61N 1/3603

{Control systems}

Definition statement

This place covers:

Covers features of control systems used by electrical stimulation devices that are external to the body (e.g. switches/buttons used for controlling TENS devices, control displays for pain relief devices, controlling modes of operation for muscle stimulators, algorithms/flow charts for controlling external stimulation devices, etc.).

A61N 1/36031

{using physiological parameters for adjustment}

Definition statement

This place covers:

Device control systems under A61N 1/3603, which adjust therapeutic electrical stimulation based upon at least one sensed physiological parameter.

A61N 1/36034

{specified by the stimulation parameters}

Definition statement

This place covers:

Device control systems under A61N 1/3603, which are characterised by their stimulation parameters (e.g. frequency, amplitude, pulse width, multiphasic, combination of waveforms, etc.).

A61N 1/36036

{of the outer, middle or inner ear}

Definition statement

This place covers:

Covers therapeutic devices that electrically stimulate portions of a patient's outer, middle, or inner ear.

A61N 1/36038

{Cochlear stimulation}

Definition statement

This place covers:

Devices under A61N 1/36036 that electrically stimulate a patient's cochlea.

A61N 1/36039

{fitting procedures}

Definition statement

This place covers:

Devices and methods used for fitting a patient with a cochlear stimulation device or setting a cochlea stimulation parameter (as described in A61N 1/36038) (This subgroup is intended for devices having more than a general mention of fitting or stimulation parameters).

A61N 1/3604

{for correcting spinal deformities, e.g. scoliosis}

Definition statement

This place covers:

Electrical stimulation devices used for correcting spinal deformities.

A61N 1/36062

{Spinal stimulation}

Definition statement

This place covers:

Includes implantable neurostimulation devices and associated methods used to perform spinal stimulation (as described in A61N 1/3605).

A61N 1/3614

{based on impedance measurement}

Definition statement

This place covers:

Control systems for implantable neural stimulation devices (under A61N 1/3605) which measure impedance (This subgroup is intended for devices having more than a general mention of impedance).

A61N 1/3629

{in combination with non-electric therapy}

Definition statement

This place covers:

Heart stimulation devices (e.g. pacemakers) under (A61N 1/362) which also include an additional non-electric therapy to the heart or other body area (e.g. drug therapy, nanotherapy, gene therapy, etc.).

A61N 1/3684

{for stimulating the heart at multiple sites of the ventricle or the atrium}

Definition statement

This place covers:

Heart stimulation devices under A61N 1/368, which include dual chamber pacemakers (e.g. pacers using DDD modes of operation) and pacing devices that electrically stimulate multiple sites within the 4 chambers of the heart.

A61N 1/36842

{Multi-site stimulation in the same chamber}

Definition statement

This place covers:

Covers heart stimulation devices under A61N 1/3684 having more than one stimulation site within the same heart chamber (e.g. two stimulation electrodes in the right ventricle that deliver separate and/or different stimulation to each electrode, etc.).

A61N 1/36843

{Bi-ventricular stimulation}

Definition statement

This place covers:

Covers heart stimulation devices which stimulate both the right ventricle [RV] and the left ventricle [LV].

A61N 1/372

Arrangements in connection with the implantation of stimulators

Definition statement

This place covers:

Specifications going beyond the implantable medical device in isolation, such as communicating with, delivering power to, or testing of the implantable medical device.

Structural details of (parts of) the implantable medical device, e.g. casing or feedthrough.

References

Informative references

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

Details about leads and electrodes	A61N 1/04 - A61N 1/06
Transmitting measured data to processing apparatus	A61B 5/0002
Transferring electromagnetic energy to implanted prostheses	A61F 2250/0001
Transferring data to implanted prostheses	A61F 2250/0001
Materials for catheters	A61L 29/00
Materials for coating of implanted articles	A61L 31/08
Testing electrical condition of batteries per se	G01R 31/36
Transmitting signals with a radio link per se	G08C 17/02
ICT specially adapted for therapies or health-improving plans (e.g. for handling prescriptions, for steering therapy or for monitoring patient compliance) relating to mechanical, radiation or invasive therapies (e.g. surgery, laser therapy, dialysis or acupuncture)	G16H 20/40
ICT specially adapted for the operation of medical equipment or devices	G16H 40/60
Sealing of leads to lead-through insulators per se	H01B 17/303
Feedthrough capacitors per se	H01G 4/35
Batteries per se	H01M
Manufacture of small size batteries per se	H01M 10/0436
Electrical connections per se	H01R
Electrical connections for medical use	H01R 13/5224
Adapters for connecting two parts per se	H01R 31/06
Electrical connectors for medicine and surgery	H01R 2201/12
Charging batteries per se	H02J 7/00
For wireless supply or distribution of electric power	H02J 50/00
Near-field (inductive) transmission systems per se	H04B 5/00
Radio transmission systems per se	H04B 7/00
Transmission of digital information per se	H04L
Transmitting circuits using pulse with modulation or pulse position modulation	H04L 25/4902

A61N 1/37254

{Pacemaker or defibrillator security, e.g. to prevent or inhibit programming alterations by hackers or unauthorised individuals}

Definition statement

This place covers:

Devices and methods used to provide security (both programming and physical) for electrical stimulation devices (in particular pacemakers and defibrillators) to combat hackers and other unauthorised persons from accessing/re-programming electrical stimulation devices.

A61N 1/37512

{Pacemakers}

Definition statement

This place covers:

Covers device features related to the construction of pacemakers (i.e. housings/can details, material, shape, etc.).

A61N 1/37514

{Brain implants}

Definition statement

This place covers:

Covers device features related to the construction of brain implants (i.e. housing or can details, material, shape, etc.).

References

Informative references

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

Burr Hole Covers	A61B 90/00

A61N 1/37516

{Intravascular implants}

Definition statement

This place covers:

Covers device features related to the construction of intravascular implants (i.e. housing details, material, shape, etc.).

A61N 1/37518

{Anchoring of the implants, e.g. fixation}

Definition statement

This place covers:

Covers anchoring/fixation details of electrical stimulation devices.

A61N 1/38

for producing shock effects

References

Informative references

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

Electrolytic capacitors per se	H01G 9/10
For producing shock effects per se	H05C 1/00

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

AF	atrial fibrillation
VF	ventricular fibrillation

A61N 1/3904

{External heart defibrillators [EHD]}

Definition statement

This place covers:

Covers external heart defibrillators (e.g. Automatic External Defibrillators [AEDs], semi-automatic external defibrillators, manual) and methods for constructing and using them.

A61N 1/39044

{in combination with cardiopulmonary resuscitation [CPR] therapy}

Definition statement

This place covers:

External defibrillators and methods for using them for performing or assisting in cardiopulmonary resuscitation [CPR] therapy.

References

Informative references

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

Cardiopulmonary Resuscitation [CPR] therapy	A61H 31/00

A61N 1/39046

{User protection from shock}

Definition statement

This place covers:

External defibrillators which include features that protect a user or patient from an accidental or unwanted shock.

A61N 1/3962

{in combination with another heart therapy}

Definition statement

This place covers:

Implantable defibrillator which in addition to electrical shock therapy, also provides another form of heart therapy (e.g. drug therapy, gene therapy, nanotherapy, etc.).

A61N 1/39622

{Pacing therapy}

Definition statement

This place covers:

Implantable defibrillators under A61N 1/3962 which apply pacing therapy in addition to defibrillation shocks.

A61N 1/39624

{Pain reduction therapy}

Definition statement

This place covers:

Implantable defibrillators under A61N 1/3962 which apply electrical stimulation therapy for pain reduction.

A61N 1/44

Applying ionised fluids {(ion generators H01J 37/00)}

References

Informative references

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

Baths for special therapeutic purposes	A61H 33/00
Baths for specific parts of the body	A61H 35/00
Ionised inhalator	A61M 15/02
Ion generators	H01J 37/00
Generating ions into the atmosphere	H01T 23/00

A61N 2/00

Magnetotherapy

Definition statement

This place covers:

Use of static or dynamic magnetic fields for treating humans or animals, where the magnetic field itself provides the therapeutic effect.

References

Limiting references

This place does not cover:

Using a magnetic field for diagnosis	A61B 5/05, G01R 33/00
Medicinal preparations obtained with a magnetic field	A61K 41/00
Releasing a medicament through the use of a magnetic field	B03C 1/00

A61N 5/00

Radiation therapy (ultrasound therapy A61N 7/00; devices or apparatus applicable to both therapy and diagnosis A61B 6/00)

Definition statement

This place covers:

Therapeutic treatment of the human or animal body with electromagnetic or particle radiation.

Therapy implies the curing of a disease or malfunction of the body and includes prophylactic treatment like killing of germs, bacteria in or on the body by means of radiation as well as treatment of symptoms like pain (anaesthesia) by means of radiation.

References

Limiting references

This place does not cover:

Magnetotherapy	A61N 2/00
Ultrasound therapy	A61N 7/00
Radiation imaging or diagnosis	A61B 6/00
Surgery with radiation (cf. special rules below)	A61B 18/18, A61F 9/008, A61C 1/0046
Treatment by heat, sauna	A61F 7/00, A61H 33/00
Sterilization or disinfection of articles or products by radiation	A61L 2/08
Lighting	F21
Irradiation devices for articles or products	G21K 5/00
Lithography with a particle beam	H01J 37/30
Ion implantation in semiconductors	H10P 34/00

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:

Devices or apparatus applicable to both therapy and diagnosis	A61B 6/00

Informative references

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

Patient movement or breathing monitoring	A61B 5/11, A61B 5/113
Sensing at the treatment site	A61B 2017/00022, A61B 2018/00636, A61B 5/0048, A61B 5/053, A61B 5/0059
Balloons for catheter applicators	A61B 2017/22051
Medical informatics, patient data management	A61B 34/00
Protection of tissue around treatment site	A61B 90/04
Site contact feedback, abutting means	A61B 2090/065, A61B 90/03
Patient positioning	A61B 90/10
Navigation, image assistance	A61B 90/36, A61B 6/12, A61B 8/12
Markers	A61B 90/39
Curing resins within the teeth	A61C 19/003
Teeth whitening by light	A61C 19/066
Acupuncture	A61H 39/00
Photosensitizers, radiosensitisers	A61K 41/00
Radionuclides, radiopharmaceuticals	A61K 51/00
Irradiation of blood outside the patient (ex-vivo)	A61M 1/3681
Psychological treatments	A61M 21/00, A61M 2021/0044, A61M 2021/0055
(Balloon) catheters	A61M 25/10
Devices for implanting pellets or seeds	A61M 37/0069
Radiation measurement devices, dosimeters, beam monitors	G01T, e.g. G01T 1/02, G01T 1/161, G01T 1/2914
Filters	G02B 5/20
Light guides	G02B 6/00, A61B 18/22
ICT specially adapted for therapies or health-improving plans (e.g. for handling prescriptions, for steering therapy or for monitoring patient compliance) relating to mechanical, radiation or invasive therapies (e.g. surgery, laser therapy, dialysis or acupuncture)	G16H 20/40
Radiation Shielding	G21F 1/00, G21F 3/00; G21F 5/00
Radiation sources	G21G 1/00, G21G 4/00

Beam transport, forming, focussing, filtering	G21K, e.g. G21K 1/00, G21K 1/10, G21K 5/04, G21K 5/10
X-ray tubes	H01J 35/00, H01J 35/32
Vapour or discharge lamps, tubes	H01J 61/00
Lasers	H01S 3/00, A61B 18/20, A61C 1/0046, A61F 9/008
Accelerator Technology	H05H, e.g. H05H 13/00, H05H 7/10
LEDs	H10H 20/00

Special rules of classification

The IPC group **A61M36/00** is not used: these devices are instead classified in A61N 5/10, since their purpose is therapeutic.

Surgery vs. Therapy

In contrast to the therapeutic applications covered by this group, surgery is characterized by the immediate and direct destruction or transformation of the tissue (ablation, vaporization, coagulation...). For therapy, the effect in the tissue is induced with rather lower intensity and power levels and/or longer pulse durations (photothermal, photochemical reactions, biostimulation...). Thus, for instance, cell destruction by photoactivation of an agent is to be classified in A61N 5/062. Some devices may be used for both applications depending on the operation mode.

Note that A61N 5/1084 covers focussed radiotherapy applications like "gamma knife" and stereotactic radiotherapy which are sometimes also called "radiosurgery", which is not to be confused with surgery in the sense of A61B 18/00.

Light therapy (A61N 5/06)

The scheme in A61N 5/06 contains several independent classification trees covering different aspects of a light therapy apparatus.

The therapeutic application is meant to be classified in A61N 5/0613 and lower hierarchical groups thereof for external treatments or A61N 5/0601 and lower hierarchical groups thereof for internal treatments.

Further aspects are then classified in codes according to the area of treatment (subgroups of A61N 2005/0635), the type of light source used (subgroups of A61N 2005/065), and the wavelength of therapeutic light (subgroups of A61N 2005/0658).

Aspects like coherence of the therapeutic light (A61N 5/067) and polarisation (A61N 2005/073) are also to be coded.

For some aspects, no suitable code is available and in such cases, sometimes the scheme of a neighbouring field is used: subgroups of A61B 2018/00773 or A61B 2017/00022 (feedback at the treatment site), A61B 2018/2255 (features at the distal end of a light guide, e.g. diffusers).

Note: devices of A61N 5/0614 (tanning) do not need to be classified in A61N 2005/0661 since the ultraviolet light is there by necessity.

Particle and X-ray therapy (A61N 5/10)

In the A61N 5/10 part, there is a similar aspect coded in A61N 2005/1085 (type of particles, e.g. ions, electrons, neutrons, low energy photons etc.). This code is obligatory for the particles specified in the

subgroups of A61N 2005/1085. Only normal energy (MeV) photons are not coded in this tree, since it concerns the default situation.

The group A61N 5/01 should not be used for radiotherapy gantries, since a rotating gantry is common and not worth to classify.

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

IMRT	Intensity Modulated Radiation Therapy
IMAT	Intensity Modulated Arc Therapy
IGRT	Image Guided Radiation Therapy
MLC	Multileaf Collimator
SAS	Step And Shot
(O)LED	(Organic) Light Emitting Diode
DRR	Digitally Reconstructed Radiograph
SOBP	Spread-Out Bragg Peak
DVH	Dose Volume Histogram
EPI	Electronic Portal Imaging
OAR	Organ At Risk

A61N 5/025

{Warming the body, e.g. hyperthermia treatment}

References

Informative references

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

Heating by RF	A61N 1/403
Heating by infrared radiation	A61N 5/0625
Heating by other appliances	A61F 7/00
Hot air bath	A61H 33/06

A61N 5/0601

{Apparatus for use inside the body}

References

Informative references

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

Illuminating body cavities	A61B 1/06
By using a source unit in the interior of the body	A61B 6/4057
By intraoral means	A61B 6/512
Devices for heating or cooling body cavities	A61F 7/12

X-ray tubes having a small cross-section to facilitate introduction into small cavities	H01J 35/32

A61N 5/0618

{Psychological treatment}

References

Informative references

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

Other devices or methods to cause a change in the state of consciousness; Devices for producing or ending sleep by mechanical, optical, or acoustical means, e.g. for hypnosis	A61M 21/00

A61N 5/0619

{Acupuncture}

References

Informative references

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

Acupuncture in general	A61H 39/00

A61N 5/0624

{for eliminating microbes, germs, bacteria on or in the body}

References

Informative references

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

Sterilization of articles or products by radiation	A61L 2/08

A61N 5/0625

{Warming the body, e.g. hyperthermia treatment}

References

Informative references

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

Heating by RF	A61N 1/403
Heating using microwaves	A61N 5/025
Heating by other appliances	A61F 7/00
Hot air bath	A61H 33/06

A61N 5/10

X-ray therapy; Gamma-ray therapy; Particle-irradiation therapy (A61N 5/01 takes precedence)

References

Limiting references

This place does not cover:

Devices for producing movement of radiation source during therapy	A61N 5/01

Informative references

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

Radiation diagnosis, e.g. combined with radiation therapy	A61B 6/00
Irradiation devices in general	G21K 1/00
X-ray tubes, Lenard tubes	H01J 35/00
X-ray techniques, in particular circuits for feeding or controlling X-ray tubes	H05G

A61N 5/1002

{Intraluminal radiation therapy}

References

Informative references

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

Intraluminal catheters in general	A61M 25/00

A61N 5/1007

{Arrangements or means for the introduction of sources into the body}

References

Informative references

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

Needle guides in general	A61B 17/3403
Apparatus for implanting surgical devices	A61B 17/3468
Devices for implanting seeds or pellets in general	A61M 37/0069

A61N 5/1029

{Radioactive dressings}

References

Informative references

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

FILTERS IMPLANTABLE INTO BLOOD VESSELS; PROSTHESES; DEVICES PROVIDING PATENCY TO, OR PREVENTING COLLAPSING OF, TUBULAR STRUCTURES OF THE BODY, E.G. STENTS; ORTHOPAEDIC, NURSING OR CONTRACEPTIVE DEVICES; FOMENTATION; TREATMENT OR PROTECTION OF EYES OR EARS; BANDAGES, DRESSINGS OR ABSORBENT PADS; FIRST-AID KITS	A61F
Dressings in general	A61L 15/00

A61N 2005/1051

{using an active marker}

References

Informative references

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

Markers for surgery or diagnosis, e.g. radio-opaque or breast lesions markers	A61B 90/39

A61N 7/00

Ultrasound therapy (lithotripsy A61B 17/22, A61B 17/225; massage using supersonic vibration A61H 23/00 {; using ultrasound for introducing media into the body A61M 37/0092})

Definition statement

This place covers:

Ultrasound therapy of the human or animal body. Also included is the thermal destruction of tissue in the focal point of a high intensity ultrasound beam.

References

Limiting references

This place does not cover:

Removal of calculi, thromboses etc. by ultrasound	A61B 17/22004
Extracorporeal shock waves (with mainly mechanical effect, e.g. lithotripters)	A61B 17/225
Cutting using ultrasonic vibrations, e.g. with vibrating knife	A61B 17/320068
Devices creating a mechanical shock wave by laser light	A61B 18/26
Apparatus for introducing media into the body using ultrasonic waves, phonophoresis	A61M 37/0092

Informative references

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

Ultrasound diagnosis	A61B 8/00
Accessories for surgery or diagnosis	A61B 90/00
Ultrasound imaging during surgical procedures	A61B 2090/378
Percussion or vibration massage	A61H 23/00
Generating mechanical vibrations	B06B 1/00
Transmitting, conducting and directing sound in general	G10K 11/00

Special rules of classification

A61N 7/00

Ultrasound therapy with negligible thermal effect. Treatment area not reduced to a focal point. E.g. devices for bone fracture healing.

A61N 2007/0004

The subgroups define various application areas on the body to be treated or therapeutic applications. Headgroup A61N 2007/0004 not to be used for classification.

A61N 7/02

Localized ultrasound hyperthermia, high intensity focused ultrasound (HIFU). The effect is primary a thermal one of substantially heating tissue above the normal temperature or even above the point of tissue destruction. Mechanical percussion to destroy calculi is to be classified in A61B 17/22004 or A61B 17/225 in case of external shockwaves.

A61N 7/022

Intracavitary localized hyperthermia. The probe or transducer is located within a body cavity.

Glossary of terms

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

HIFU	high intensity focused ultrasound
Phased array transducer	transducer consisting of an array of small transducers individually adressable with a time delay to steer the focal point of the beam

A61N 7/02

Localised ultrasound hyperthermia

References

Informative references

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

Heating or cooling appliances for medical or therapeutic treatment of the human body	A61F 7/00