

CPC**COOPERATIVE PATENT CLASSIFICATION****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](#) ; infra-red radiators for heating [H05B](#))

NOTE

In this subclass, the following term is used with the meaning indicated: In this subclass, the following term is used with the meaning indicated: • "therapy" implies that the treatment, when it aims at destroying sick or abnormal cells, is performed within the limits of healthy cell life, the destruction thereof being undesired, contrary to that which takes place with instruments, devices or methods covered by group [A61B 18/00](#).

WARNING

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

[A61N 1/34](#) covered by [A61N 1/36021](#), [A61N 1/36071](#) [A61N 2/04](#) covered by [A61N 2/02](#)

[A61N 5/067](#) covered by [A61N 5/06](#) [A61N 5/08](#) covered by [A61N 5/06](#) [A61N 2/08](#) covered by [A61N 2/06](#)

[A61N 2/10](#) covered by [A61N 2/06](#)

[A61N 5/073](#) covered by [A61N 5/06](#), [A61N 2005/073](#)

A61N 1/00

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

- A61N 1/02 . Details
- A61N 1/025 .. { Digital circuitry features of electrotherapy devices, e.g. memory, clocks, processors }
- A61N 1/04 .. Electrodes { (electrosurgical electrodes [A61B 18/14](#)) }
- A61N 1/0404 ... { for external use ([A61N 1/06](#) takes precedence) }
- A61N 1/0408 { Use-related aspects }
- A61N 1/0412 { Specially adapted for transcutaneous electroporation, e.g. including drug reservoirs }
- A61N 1/0416 { Anode and cathode }
- A61N 1/042 { Material of the electrode }
- A61N 1/0424 { Shape of the electrode }
- A61N 1/0428 { Specially adapted for iontophoresis, e.g. AC, DC or including drug reservoirs }
- A61N 1/0432 { Anode and cathode }
- A61N 1/0436 { Material of the electrode }
- A61N 1/044 { Shape of the electrode }
- A61N 1/0444 { Membrane }

A61N 1/0448	.....	{ Drug reservoir }
A61N 1/0452	.....	{ Specially adapted for transcutaneous muscle stimulation (TMS) }
A61N 1/0456	.....	{ Specially adapted for transcutaneous electrical nerve stimulation (TENS) }
A61N 1/046	.....	{ Specially adapted for shock therapy, e.g. defibrillation }
A61N 1/0464	.....	{ Specially adapted for promoting tissue growth }
A61N 1/0468	.....	{ Specially adapted for promoting wound healing }
A61N 1/0472	....	{ Structure-related aspects }
A61N 1/0476	.....	{ Array electrodes (including any electrode arrangement with more than one electrode for at least one of the polarities) }
A61N 1/048	.....	{ Electrodes characterised by a specific connection between lead and electrode }
A61N 1/0484	.....	{ Garment electrodes worn by the patient }
A61N 1/0488	.....	{ Details about the lead }
A61N 1/0492	.....	{ Patch electrodes (A61N 1/0412 , A61N 1/0428 take precedence) }
A61N 1/0496	.....	{ characterised by using specific chemical compositions, e.g. hydrogel compositions, adhesives }
A61N 1/05	...	for implantation or insertion into the body, e.g. heart electrode (A61N 1/06 takes precedence)
A61N 1/0502	....	{ Skin piercing electrodes }
A61N 1/0504	....	{ Subcutaneous electrodes }
A61N 1/0507	....	{ Electrodes for the digestive system }
A61N 1/0509	.....	{ Stomach and intestinal electrodes }
A61N 1/0512	.....	{ Anal electrodes }
A61N 1/0514	.....	{ Electrodes for the urinary tract }
A61N 1/0517	....	{ Esophageal electrodes }
A61N 1/0519	....	{ Endotracheal electrodes }
A61N 1/0521	....	{ Genital electrodes }
A61N 1/0524	.....	{ Vaginal electrodes }
A61N 1/0526	....	{ Head electrodes (A61N 1/0551 takes precedence) }
A61N 1/0529	.....	{ Electrodes for brain stimulation }
A61N 1/0531	.....	{ Brain cortex electrodes }
A61N 1/0534	.....	{ Electrodes for deep brain stimulation }
A61N 1/0536	.....	{ Preventing neurodegenerative response or inflammatory reaction }
A61N 1/0539	.....	{ Anchoring of brain electrode systems, e.g. within burr hole }
A61N 1/0541	.....	{ Cochlear electrodes }
A61N 1/0543	.....	{ Retinal electrodes }
A61N 1/0546	.....	{ Nasal electrodes }
A61N 1/0548	.....	{ Oral electrodes }
A61N 1/0551	....	{ Spinal or peripheral nerve electrodes }
A61N 1/0553	.....	{ Paddle shaped electrodes, e.g. for laminotomy }
A61N 1/0556	.....	{ Cuff electrodes }
A61N 1/0558	.....	{ Anchoring or fixation means therefor }
A61N 1/056	....	{ Transvascular endocardial electrode systems }

A61N 1/0563	.....	{specially adapted for defibrillation or cardioversion }
A61N 1/0565	.....	{Electrode heads }
A61N 1/0568	.....	{with drug delivery }
A61N 1/057	.....	{Anchoring means; Means for fixing the head inside the heart }
A61N 1/0573	.....	{characterised by means penetrating the heart tissue, e.g. helix needle or hook }
A61N 1/0575	.....	{with drug delivery }
A61N 2001/0578	.....	having means for removal or extraction
A61N 2001/058	.....	Fixing tools
A61N 2001/0582	.....	Suture sleeves
A61N 2001/0585	.....	Coronary sinus electrodes
A61N 1/0587	....	{Epicardial electrode systems; Endocardial electrodes piercing the pericardium }
A61N 1/059	.....	{ Anchoring means }
A61N 1/0592	.....	{ Introducing the lead through the pericardium with a needle }
A61N 1/0595	.....	{ Temporary leads }
A61N 1/0597	.....	{ Surface area electrodes, e.g. cardiac harness }
A61N 1/06	...	for high-frequency therapy
A61N 1/08	..	Arrangements or circuits for monitoring, protecting, controlling or indicating { (for heart stimulators A61N 1/37 ; for defibrillators A61N 1/3925 ; measuring electric variables G01R ; control of generator output in general H02P , H03L) }
A61N 2001/083	...	Monitoring integrity of contacts, e.g. by impedance measurement
A61N 2001/086	...	MRI compatible leads
A61N 1/10	.	Applying static electricity (applying ionised gases or vapours A61N 1/44)
A61N 1/14	.	Leading-off electric charges, e.g. by earthing { (carrying-off electrostatic charges, in general H05F 3/00) }
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) }
A61N 1/18	.	Applying electric currents by contact electrodes
A61N 1/20	..	continuous direct currents
A61N 1/205	...	{for promoting a biological process }
A61N 1/22	...	Electromedical belts, {e.g. neck chains, armbands }
A61N 1/24	....	with built-in power source
A61N 1/26	...	Electromedical brushes; Electromedical massage devices { (massage devices in general A61H) ; Combs }
A61N 1/28	...	Apparatus for applying thermoelectric currents
A61N 1/30	...	Apparatus for iontophoresis, {i.e. transfer of media in ionic state by an electromotoric force into the body }, or cataphoresis
A61N 1/303	....	{ Constructional details (electrodes for external use A61N 1/0428) }
A61N 1/306	.....	{Arrangements where at least part of the apparatus is introduced into the body }
A61N 1/32	..	alternating or intermittent currents { (applying electric fields by inductive or

		capacitive coupling A61N 1/40 ; microwave apparatus A61N 5/02 }
A61N 1/321	...	{Electromedical belts }
A61N 1/322	...	{Electromedical brushes, combs, massage devices }
A61N 1/323	...	{Interference currents, i.e. treatment by several currents summed in the body }
A61N 1/325	...	{ for iontophoresis, i.e. transfer of media in ionic state by an electromotoric force into the body (electrodes for external use A61N 1/0428) }
A61N 1/326	...	{for promoting growth of cells, e.g. bone cells }
A61N 1/327	...	{for enhancing the absorption properties of tissue, e.g. by electroporation }
A61N 1/328	...	{ for improving the appearance of the skin, e.g. facial toning or wrinkle treatment }
A61N 2001/34	...	for producing anaesthesia or for general pain therapy
A61N 1/36	...	for stimulation, e.g. heart pace-makers
A61N 1/36003	....	{ of motor muscles, e.g. for walking assistance }
A61N 1/36007	....	{ of urogenital or gastrointestinal organs, e.g. for incontinence control }
A61N 1/3601	....	{ of respiratory organs }
A61N 1/36014	....	{ External stimulators, e.g. with patch electrodes (external pacemakers A61N 1/3625) }
A61N 1/36017	.....	{ with leads or electrodes penetrating the skin }
A61N 1/36021	.....	{ for treatment of pain }
A61N 1/36025	.....	{ for treating a mental or cerebral condition }
A61N 1/36028	.....	{ for aversion therapy }
A61N 1/36032	....	{ of the outer, middle or inner ear, e.g. cochlear implants }
A61N 1/36035	....	{for correcting spinal deformities, e.g. scoliosis }
A61N 2001/36039	....	for treating a mental or cerebral condition
A61N 1/36042	....	{of grafted tissue, e.g. skeletal muscle }
A61N 1/36046	....	{ of the eye } [N0301]
A61N 1/3605	....	{ Implantable neurostimulators for stimulating central or peripheral nerve system }
A61N 1/36053	.....	{ adapted for vagal stimulation (A61N 1/36114 takes precedence) }
A61N 1/36057	.....	{ adapted for stimulating afferent nerves }
A61N 1/3606	.....	{ adapted for a particular treatment }
A61N 1/36064	.....	{ Epilepsy }
A61N 1/36067	.....	{ Movement disorders, e.g. tremor, parkinson (stimulating motor muscle A61N 1/36003) }
A61N 1/36071	.....	{ Pain }
A61N 1/36075	.....	{ Headache, migraine }
A61N 1/36078	.....	{ Inducing or controlling sleep, relaxation (non-implantable stimulator A61M 21/00) }
A61N 1/36082	.....	{ Cognitive or psychiatric applications, e.g. dementia, Alzheimer's, depression }
A61N 1/36085	.....	{ Eating disorders and obesity }
A61N 1/36089	.....	{ Addiction, withdrawal from substance abuse such as alcohol, drugs }
A61N 1/36092	.....	{ Mental training }

A61N 1/36096	.....	{ Mood disorders, e.g. depression, anxiety, panic disorder }
A61N 1/361	.....	{ Phantom sensations e.g. tinnitus }
A61N 1/36103	.....	{ Neurorehabilitation; repair and reorganisation of neural tissue e.g. after stroke }
A61N 1/36107	.....	{ Sexual dysfunction (stimulating genital organ A61N 1/36007) }
A61N 1/3611	.....	{ Respiration control (stimulating respiratory organ A61N 1/3601) }
A61N 1/36114	.....	{ Cardiac control e.g. by vagal stimulation (stimulating the heart A61N 1/362) }
A61N 1/36117	.....	{ for treating hypertension }
A61N 1/36121	.....	{ Production of neurotransmitters; modulation of gene expression }
A61N 1/36125	.....	{ Details of circuitry or electric components }
A61N 1/36128	.....	{ Control systems }
A61N 1/36132	.....	{ using patient feedback }
A61N 1/36135	.....	{ using a physiological parameter }
A61N 1/36139	.....	{ with automatic adjustment }
A61N 1/36142	.....	{ for improving safety }
A61N 1/36146	.....	{ specified by the stimulation parameters }
A61N 1/3615	.....	{ Intensity }
A61N 1/36153	.....	{ Voltage }
A61N 1/36157	.....	{ Current }
A61N 1/3616	.....	{ Voltage density or current density }
A61N 1/36164	.....	{ Subthreshold, non-excitatory signals } (non-excitatory signals to the heart A61N 1/3628)
A61N 1/36167	.....	{ Timing, e.g. stimulation onset }
A61N 1/36171	.....	{ Frequency }
A61N 1/36175	.....	{ Pulse width and/or duty cycle }
A61N 1/36178	.....	{ Burst or pulse train parameters }
A61N 1/36182	.....	{ Direction of the electrical field, e.g. with sleeve around stimulating electrode }
A61N 1/36185	.....	{ Selection of the electrode configuration }
A61N 1/36189	.....	{ using a modulation technique }
A61N 1/36192	.....	{ Amplitude modulation }
A61N 1/36196	.....	{ Frequency modulation }
A61N 1/362	....	Heart stimulators (heart defibrillators A61N 1/39)
A61N 1/3621	.....	{for treating or preventing abnormally high heart rate }
A61N 1/3622	.....	{comprising two or more electrodes co-operating with different heart regions }
A61N 1/3624	.....	{ occurring in the atrium, i.e. atrial tachycardia }
A61N 1/3625	.....	{External stimulators }
A61N 1/3627	.....	{for treating a mechanical deficiency of the heart, e.g. congestive heart failure or cardionmyopathy }
A61N 1/3628	.....	{ using subthreshold, non-excitatory signals }
A61N 1/365	.....	controlled by a physiological parameter, e.g. heart potential { (evoked response A61N 1/371) }

A61N 1/36507	.....	{controlled by gradient or slope of the heart potential }
A61N 1/36514	.....	{controlled by a physiological quantity other than heart potential, e.g. blood pressure (controlled by two or more physical parameters A61N 1/36585) }
A61N 1/36521	.....	{the parameter being derivable from measurement of an electrical impedance }
A61N 1/36528	.....	{the parameter being measured by means of ultrasound }
A61N 1/36535	.....	{ controlled by body position or posture }
A61N 1/36542	.....	{controlled by body motion, e.g. acceleration }
A61N 1/3655	.....	{controlled by body or blood temperature }
A61N 1/36557	.....	{controlled by chemical substances in blood }
A61N 1/36564	.....	{controlled by blood pressure }
A61N 1/36571	.....	{ controlled by blood flow rate, e.g. blood velocity or cardiac output }
A61N 1/36578	.....	{ controlled by mechanical motion of the heart wall, e.g. measured by an accelerometer or microphone }
A61N 1/36585	.....	{controlled by two or more physical parameters }
A61N 1/36592	.....	{ controlled by the heart rate variability }
A61N 1/368	.....	comprising more than one electrode co-operating with different heart regions { (A61N 1/3622 , A61N 1/3627 take precedence) }
A61N 1/3682	.....	{ with a variable atrioventricular delay }
A61N 1/3684	.....	{ for stimulating the heart at multiple sites of the ventricle or the atrium, e.g. biventricular stimulation }
A61N 1/3686	.....	{ configured for selecting the electrode configuration on a lead (A61N 1/3688 takes precedence) }
A61N 1/3688	.....	{ configured for switching the pacing mode, e.g. from AAI to DDD }
A61N 1/37	.....	Monitoring; Protecting
A61N 1/3702	.....	{a physiological parameter (A61N 1/365 takes precedence; evoked response A61N 1/371) }
A61N 1/3704	.....	{Circuits specially adapted therefor, e.g. for sensitivity control }
A61N 1/3706	.....	{a pacemaker parameter (stimulation threshold A61N 1/371) }
A61N 1/3708	.....	{for power depletion }
A61N 1/371	.....	{Capture, i.e. successful stimulation }
A61N 1/3712	.....	{Autocapture, i.e. automatic adjustment of the stimulation threshold }
A61N 1/3714	.....	{ Atrial capture }
A61N 1/3716	.....	{ with reduction of residual polarisation effects }
A61N 1/3718	.....	{ Monitoring of or protection against external electromagnetic fields or currents }
A61N 1/372	....	Arrangements in connection with the implantation of stimulators
A61N 1/37205	.....	{ Microstimulators, e.g. implantable through a cannula }
A61N 1/37211	.....	{ Means for communicating with stimulators }
A61N 1/37217	.....	{ characterised by the communication link, e.g. acoustic or tactile }
A61N 1/37223	.....	{ Circuits for electromagnetic coupling }
A61N 1/37229	.....	{ Shape or location of the implanted or external antenna }

A61N 1/37235	.....	{ Aspects of the external programmer }
A61N 1/37241	.....	{ providing test stimulations }
A61N 1/37247	.....	{ User interface, e.g. input or presentation means }
A61N 1/37252	.....	{ Details of algorithms or data aspects of communication system, e.g. handshaking, transmitting specific data or segmenting data }
A61N 1/37258	.....	{ Alerting the patient }
A61N 1/37264	.....	{ Changing the program; Upgrading firmware }
A61N 1/3727	.....	{ characterised by the modulation technique }
A61N 1/37276	.....	{ characterised by means for reducing power consumption during telemetry }
A61N 1/37282	.....	{ characterised by communication with experts in remote locations using a network }
A61N 1/37288	.....	{ Communication to several implantable medical devices within one patient }
A61N 2001/37294	.....	Means for testing medical devices within the package prior to implantation
A61N 1/375	.....	Constructional arrangements, e.g. casings
A61N 1/3752	.....	{Details of casing-lead connections }
A61N 1/3754	.....	{Feedthroughs }
A61N 1/3756	.....	{ Casings with electrodes thereon, e.g. leadless stimulators }
A61N 1/3758	.....	{ Packaging of the components within the casing }
A61N 1/378	.....	Electrical supply
A61N 1/3782	.....	{ producing a voltage above the power source level }
A61N 1/3785	.....	{generated by biological activity or substance, e.g. body movement }
A61N 1/3787	.....	{from an external energy source }
A61N 1/38	...	for producing shock effects (in general H05C 1/00)
A61N 1/385	....	{Devices for inducing an abnormal cardiac function, e.g. fibrillation }
A61N 1/39	....	Heart defibrillators
A61N 1/3906	.....	{characterised by the form of the shockwave }
A61N 1/3912	.....	{ Output circuitry therefor, e.g. switches }
A61N 1/3918	.....	{characterised by shock pathway, e.g. by electrode configuration }
A61N 1/3925	.....	{Monitoring; Protecting }
A61N 1/3931	.....	{Protecting, e.g. back-up systems }
A61N 1/3937	.....	{Monitoring output parameters }
A61N 1/3943	.....	{for threshold determination }
A61N 1/395	.....	{ for treating atrial fibrillation }
A61N 1/3956	.....	{Implantable devices for applying electric shocks to the heart, e.g. for cardioversion }
A61N 1/3962	.....	{in combination with another heart therapy, e.g. pacing }
A61N 1/3968	.....	{Constructional arrangements, e.g. casings (A61N 1/375 takes precedence) }
A61N 1/3975	.....	{Power supply (A61N 1/378 takes precedence) }
A61N 1/3981	.....	{ High voltage charging circuitry }
A61N 1/3987	.....	{characterised by the timing or triggering of the shock }

- A61N 1/3993 { User interfaces for automatic external defibrillators }
- A61N 1/40 . . Applying electric fields by inductive or capacitive coupling (microwave apparatus [A61N 5/00](#)) ; {Applying radio-frequency signals }
- A61N 1/403 . . {for thermotherapy, e.g. hyperthermia }
- A61N 1/406 . . . {using implantable thermoseeds or injected particles for localized hyperthermia (preparations of seeds and particles [A61K 41/0052](#)) }
- A61N 1/44 . . Applying ionised fluids { (ion generators [H01J 37/00](#)) }
- A61N 1/445 . . {Hydro-electric baths }
- A61N 2/00** **Magnetotherapy**
- A61N 2/002 . . {in combination with another treatment }
- A61N 2/004 . . {specially adapted for a specific therapy }
- A61N 2/006 . . {for magnetic stimulation of nerve tissue }
- A61N 2/008 . . { for pain treatment or analgesia }
- A61N 2/02 . . using magnetic fields produced by coils, including single turn loops or electromagnets ([A61N 2/12](#) takes precedence)
- A61N 2/06 . . using magnetic fields produced by permanent magnets ([A61N 2/12](#) takes precedence)
- A61N 2/12 . . using variable magnetic fields obtained by mechanical movement
- A61N 5/00** **Radiation therapy** (ultrasound therapy [A61N 7/00](#); devices or apparatus applicable to both therapy and diagnosis [A61B 6/00](#))
- A61N 2005/002 . . Cooling systems
- A61N 2005/005 . . . for cooling the radiator
- A61N 2005/007 . . . for cooling the patient
- A61N 5/01 . . Devices for producing movement of radiation source during therapy { ([A61N 5/1077](#) takes precedence) }
- A61N 5/02 . . using microwaves
- A61N 5/022 . . { Apparatus adapted for a specific treatment }
- A61N 5/025 . . . { Warming the body, e.g. hyperthermia treatment (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 2005/027 . . using a phased array
- A61N 5/04 . . Radiators for near-field treatment
- A61N 5/045 . . . { specially adapted for treatment inside the body ([A61B 18/1815](#) takes precedence) }
- A61N 5/06 . . using light
- A61N 5/0601 . . {Apparatus for use inside the body (illuminating body cavities [A61B 1/06](#); diagnosis by radiation applied to body cavities [A61B 6/4057](#), [A61B 6/145](#); 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 2005/0602	...	for treatment of blood vessels
A61N 5/0603	...	{ for treatment of body cavities }
A61N 2005/0604	....	Lungs and/or airways
A61N 2005/0605	....	Ear
A61N 2005/0606	....	Mouth
A61N 2005/0607	....	Nose
A61N 2005/0608	....	Rectum
A61N 2005/0609	....	Stomach and/or esophagus
A61N 2005/061	....	Bladder and/or urethra
A61N 2005/0611	....	Vagina
A61N 2005/0612	...	using probes penetrating tissue; interstitial probes
A61N 5/0613	..	{ Apparatus adapted for a specific treatment }
A61N 5/0614	...	{ Tanning }
A61N 2005/0615	....	using UV light sources having a specific spectrum
A61N 5/0616	...	{ Skin treatment other than tanning }
A61N 5/0617	....	{ Hair treatment }
A61N 5/0618	...	{ Psychological treatment (A61M 21/00 takes precedence) }
A61N 5/0619	...	{ Acupuncture (Acupuncture in general A61H 39/00) }
A61N 5/062	...	{ Photodynamic therapy, i.e. excitation of an agent }
A61N 5/0621	...	{ Hyperbilirubinemia, jaundice treatment }
A61N 5/0622	...	{ Optical stimulation for exciting neural tissue }
A61N 5/0624	...	{ for eliminating microbes, germs, bacteria on or in the body (sterilization by radiation A61L 2/08 , A61L 2/10) }
A61N 5/0625	...	{ Warming the body, e.g. hyperthermia treatment (heating by RF A61N 1/403 ; heating by microwave A61N 5/025 ; heating by other appliances A61F 7/00 ; hot air bath A61H 33/06) }
A61N 2005/0626	..	Monitoring, verifying, controlling systems and methods
A61N 2005/0627	...	Dose monitoring systems and methods
A61N 2005/0628	....	including a radiation sensor
A61N 2005/0629	...	Sequential activation of light sources
A61N 2005/063	..	comprising light transmitting means, e.g. optical fibres
A61N 2005/0631	...	using crystals
A61N 2005/0632	..	Constructional aspects of the apparatus
A61N 2005/0633	...	Arrangements for lifting or hinging the frame which supports the light sources
A61N 2005/0634	...	Mechanisms that allow a space saving storage of the apparatus
A61N 2005/0635	..	characterised by the body area to be irradiated
A61N 2005/0636	...	Irradiating the whole body
A61N 2005/0637	....	in a horizontal position
A61N 2005/0638	.....	with a specially adapted support surface
A61N 2005/0639	.....	with additional sources directed at e.g. the face or the feet
A61N 2005/064	....	in a vertical position

A61N 2005/0641	.....	with rotation of the patient
A61N 2005/0642	...	Irradiating part of the body at a certain distance
A61N 2005/0643	...	Applicators, probes irradiating specific body areas in close proximity
A61N 2005/0644	....	Handheld applicators
A61N 2005/0645	....	Applicators worn by the patient
A61N 2005/0647	.....	the applicator adapted to be worn on the head
A61N 2005/0648	.....	the light being directed to the eyes
A61N 2005/0649	....	using suction to fix the applicator to the tissue
A61N 2005/065	..	Light sources therefor
A61N 2005/0651	...	Diodes
A61N 2005/0652	....	Arrays of diodes
A61N 2005/0653	....	Organic light emitting diodes
A61N 2005/0654	...	Lamps
A61N 2005/0655	...	Tubes
A61N 2005/0656	...	Chemical light sources
A61N 2005/0657	...	Natural light sources, e.g. captured sunlight
A61N 2005/0658	..	characterised by the wavelength of light used
A61N 2005/0659	...	infra-red
A61N 2005/066	....	far infrared
A61N 2005/0661	...	ultra-violet
A61N 2005/0662	...	Visible light
A61N 2005/0663	....	Coloured light
A61N 2005/0664	..	Details
A61N 2005/0665	...	Reflectors
A61N 2005/0666	....	for redirecting light to the treatment area
A61N 2005/0667	...	Filters
A61N 2005/0668	...	Apparatus adapted for operation in a moist environment, e.g. bath or shower
A61N 2005/067	..	using laser light
A61N 2005/073	..	using polarised light
A61N 5/10	.	X-ray therapy; Gamma-ray therapy; Particle-irradiation therapy (A61N 5/01 takes precedence; {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 5/1001	..	{ using radiation sources introduced into or applied onto the body; brachytherapy }
A61N 5/1002	...	{Intraluminal radiation therapy (intraluminal catheters in general A61M 25/00) }
A61N 2005/1003	....	having means for centering a radioactive source within the lumen, e.g. balloons
A61N 2005/1004	....	having expandable radiation sources
A61N 2005/1005	....	with asymmetrical radiation pattern
A61N 5/1007	...	{ Arrangements or means for the introduction of sources into the body (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 2005/1008	....	Apparatus for temporary insertion of sources, e.g. afterloaders

A61N 2005/1009	....	Apparatus for loading seeds into magazines or needles
A61N 2005/101	....	Magazines or cartridges for seeds
A61N 2005/1011	....	Apparatus for permanent insertion of sources
A61N 2005/1012	....	Templates or grids for guiding the introduction of sources
A61N 5/1014	...	{Intracavitary radiation therapy }
A61N 5/1015	....	{ Treatment of resected cavities created by surgery e.g. lumpectomy }
A61N 5/1016	....	{ Gynaecological radiation therapy }
A61N 5/1017	....	{ Treatment of the eye, e.g. for "macular degeneration" }
A61N 2005/1018	....	with multiple channels for guiding radioactive sources
A61N 2005/1019	...	Sources therefor
A61N 2005/1021	....	Radioactive fluid
A61N 2005/1022	....	Generators, e.g. X-ray tubes
A61N 2005/1023	....	Means for creating a row of seeds, e.g. spacers
A61N 2005/1024	....	Seeds
A61N 2005/1025	....	Wires
A61N 5/1027	...	{Interstitial radiation therapy }
A61N 5/1028	...	{ using radiation sources applied onto the body }
A61N 5/1029	....	{ Radioactive dressings (dressings in general A61F , A61L 15/00) }
A61N 5/103	..	{Treatment planning systems }
A61N 5/1031	...	{ using a specific method of dose optimization }
A61N 2005/1032	....	Genetic optimization methods
A61N 2005/1034	....	Monte Carlo type methods; particle tracking
A61N 2005/1035	....	Simulated annealing
A61N 5/1036	...	{ Leaf sequencing algorithms }
A61N 5/1037	...	{ taking into account the movement of the target, e.g. 4D-image based planning }
A61N 5/1038	...	{ taking into account previously administered plans applied to the same patient, i.e. adaptive radiotherapy }
A61N 5/1039	...	{ using functional images, e.g. PET or MRI }
A61N 2005/1041	...	using a library of previously administered radiation treatment applied to other patients
A61N 5/1042	..	{ with spatial modulation of the radiation beam within the treatment head }
A61N 5/1043	...	{ Scanning the radiation beam, e.g. spot scanning or raster scanning }
A61N 5/1044	....	{ with multiple repetitions of the scanning pattern }
A61N 5/1045	...	{ using a multi-leaf collimator, e.g. for intensity modulated radiation therapy or IMRT }
A61N 5/1047	....	{ with movement of the radiation head during application of radiation, e.g. for intensity modulated arc therapy or IMAT }
A61N 5/1048	..	{ Monitoring, verifying, controlling systems and methods }
A61N 5/1049	...	{ for verifying the position of the patient with respect to the radiation beam }
A61N 2005/105	....	using a laser alignment system
A61N 2005/1051	....	using an active marker (markers in general A61B 19/54)
A61N 2005/1052	....	using positron emission tomography (PET) single photon emission computer tomography (SPECT) imaging

A61N 2005/1054	....	using a portal imaging system
A61N 2005/1055	....	using magnetic resonance imaging (MRI)
A61N 2005/1056	....	by projecting a visible image of the treatment field
A61N 2005/1057	....	monitoring flexing of the patient support or the radiation treatment apparatus
A61N 2005/1058	....	using ultrasound imaging
A61N 2005/1059	....	using cameras imaging the patient
A61N 2005/1061	....	using an x-ray imaging system having a separate imaging source
A61N 2005/1062	.....	using virtual X-ray images, e.g. digitally reconstructed radiographs (DRR)
A61N 2005/1063	....	maintaining the position when the patient is moved from an imaging to a therapy system
A61N 5/1064	...	{ for adjusting radiation treatment in response to monitoring }
A61N 5/1065	....	{ Beam adjustment }
A61N 5/1067	.....	{ in real time, i.e. during treatment }
A61N 5/1068	....	{ Gating the beam as a function of a physiological signal (Gating in diagnostic systems A61B 6/00F) }
A61N 5/1069	....	{ Target adjustment, e.g. moving the patient support }
A61N 5/107	.....	{ in real time, i.e. during treatment }
A61N 5/1071	...	{ for verifying the dose delivered by the treatment plan }
A61N 2005/1072	....	taking into account movement of the target
A61N 2005/1074	...	Details of the control system, e.g. user interfaces
A61N 5/1075	...	{ for testing, calibrating, or quality assurance of the radiation treatment apparatus }
A61N 2005/1076	....	using a dummy object placed in the radiation field, e.g. phantom
A61N 5/1077	..	{ Beam delivery systems }
A61N 5/1078	...	{ Fixed beam systems }
A61N 5/1079	...	{ Sharing a beam by multiple treatment stations }
A61N 5/1081	...	{ Rotating beam systems with a specific mechanical construction, e.g. gantries }
A61N 5/1082	....	{ having multiple beam rotation axes }
A61N 5/1083	...	{ Robot arm beam systems }
A61N 5/1084	...	{ for delivering multiple intersecting beams at the same time, e.g. gamma knives }
A61N 2005/1085	..	characterised by the type of particles applied to the patient
A61N 2005/1087	...	Ions; Protons
A61N 2005/1088	....	generated by laser radiation
A61N 2005/1089	...	Electrons
A61N 2005/109	...	Neutrons
A61N 2005/1091	...	Kilovoltage or orthovoltage range photons
A61N 2005/1092	..	Details
A61N 2005/1094	...	Shielding, protecting against radiation
A61N 2005/1095	...	Elements inserted into the radiation path within the system, e.g. filters or wedges
A61N 2005/1096	...	Elements inserted into the radiation path placed on the patient, e.g. bags, bolus, compensators
A61N 2005/1097	...	Means for immobilizing the patient

A61N 2005/1098 . . . Enhancing the effect of the particle by an injected agent or implanted device

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](#) })

- A61N 2007/0004 . Applications of ultrasound therapy
- A61N 2007/0008 . . Destruction of fat cells
- A61N 2007/0013 . . Fracture healing
- A61N 2007/0017 . . Wound healing
- A61N 2007/0021 . . Neural system treatment
- A61N 2007/0026 . . . Stimulation of nerve tissue
- A61N 2007/003 . . . Destruction of nerve tissue
- A61N 2007/0034 . . Skin treatment
- A61N 2007/0039 . using micro bubbles
- A61N 2007/0043 . intra-cavitary
- A61N 2007/0047 . interstitial
- A61N 2007/0052 . using the same transducer for therapy and imaging
- A61N 2007/0056 . Beam shaping elements
- A61N 2007/006 . . Lenses
- A61N 2007/0065 . . Concave transducers
- A61N 2007/0069 . . Reflectors
- A61N 2007/0073 . using multiple frequencies
- A61N 2007/0078 . with multiple treatment transducers
- A61N 2007/0082 . Scanning transducers
- A61N 2007/0086 . Beam steering
- A61N 2007/0091 . . with moving parts, e.g. transducers, lenses, reflectors
- A61N 2007/0095 . . by modifying an excitation signal
- A61N 7/02 . Localised ultrasound hyperthermia { (hyperthermia in general [A61F 7/00](#)) }
- A61N 7/022 . . {intracavitary }
- A61N 2007/025 . . interstitial
- A61N 2007/027 . . with multiple foci created simultaneously