Glossary

Addison's disease Adrenocortical insufficiency usually caused by idiopathic atrophy or destruction of both adrenal glands by tuberculosis, an autoimmune process or other diseases characterized by fatigue, decreased blood pressure, weight loss, increased melanin pigmentation of the skin and mucous membranes, anorexia and nausea or vomiting; without appropriate replacement therapy, it can progress to acute adrenocortical insufficiency. Syn: addisonian syndrome, hyposupradrenalism, morbus Addisonii (*Stedman's Concise Medical Dictionary* 1997).

agonist A drug capable of combining with receptors to initiate drug actions; it possesses affinity and intrinsic activity (*Stedman's Concise Medical Dictionary* 1997).

angiography Radiography of vessels after the injection of a radioopaque contrast material. It usually requires percutaneous insertion of a radioopaque catheter and positioning under fluoroscopic control (*Stedman's Concise Medical Dictionary* 1997).

antagonist Something opposing or resisting the action of another; certain structures, agents, diseases or physiologic processes that tend to neutralize or impede the action or effect of others (*Stedman's Concise Medical Dictionary* 1997).

asymptomatic Without symptoms, or producing no symptoms (*Stedman's Concise Medical Dictionary* 1997).

audiogram The graphic record drawn from the results of hearing tests with the audiometer. It charts the threshold of hearing at various frequencies against sound intensity in decibels (*Stedman's Concise Medical Dictionary* 1997).

auditory imagery The phantom perception of musical tunes, or of voices without any understandable speech.

auditory (cochlear) nerve The nerve connecting the cochlea with the cochlear nuclei in the brainstem. It consists of two types of neural fibers: type I innervating inner hair cells and type II innervating outer hair cells.

auditory periphery This includes the external and middle ear, the cochlea and the auditory nerve.

auditory pathways Neural paths and connections within the central nervous system, beginning at the organ of Corti's hair cells, continuing along the eighth (auditory) nerve and terminating at the auditory cortex (*Stedman's Concise Medical Dictionary* 1997).

autonomic nervous system The part of the nervous system that represents the motor innervation of smooth muscle, cardiac muscle and gland cells. It consists of two physiologically and anatomically distinct components, which are mutually antagonistic: the sympathetic and parasympathetic systems. In both, the pathway of innervation consists of a synaptic sequence of two motor neurons, one of which lies in the spinal cord or brainstem as the preganglionic neuron. This has a thin but myelinated axon (preganglionic or B fiber), which emerges with an outgoing spinal or cranial nerve and synapses with one or more of the postganglionic (or, more strictly, ganglionic) neurons composing the autonomic ganglia. The unmyelinated postganglionic fibers, in turn, innervate the smooth muscle, cardiac muscle or gland cells. The preganglionic neurons of the sympathetic system lie in the intermediolateral cell column of the thoracic and upper two lumbar segments of the spinal gray matter; those of the parasympathetic system compose the visceral motor (visceral efferent) nuclei of the brainstem as well as the lateral column of the second to fourth sacral segments of the spinal cord. The ganglia of the sympathetic section are the paravertebral ganglia of the sympathetic trunk and the prevertebral or collateral ganglia; those of the parasympathetic section lie either near the organ to be innervated or as intramural ganglia within the organ itself except in the head, where there are four discrete parasympathetic ganglia (ciliary, otic, pterygopalatine and submandibular). Impulse transmission from preganglionic to postganglionic neuron is mediated by acetylcholine in both the sympathetic and parasympathetic sections; transmission from the postganglionic fiber to the visceral effector tissues is classically said to be by acetylcholine in the parasympathetic part and by norepinephrine in the sympathetic part. Recent evidence suggests the existence of further non-cholinergic, non-adrenergic classes of postganglionic fiber. Syn: pars autonomica, systema nervosum autonomicum, autonomic part, involuntary nervous system, vegetative nervous system, visceral nervous system (*Stedman's Concise Medical Dictionary* 1997).

axon The single process of a nerve cell that under normal conditions conducts nervous impulses away from the cell body and its remaining processes (dendrites). It is a relatively even filamentous process varying in thickness from 0.25 approximately to more than 10 μm. In contrast to dendrites, which rarely exceed 1.5 mm in length, axons can extend great distances from the parent cell body (some axons of the pyramidal tract are 40 to 50 cm long). Axons 0.5 μm thick or over are generally enveloped by a segmented myelin sheath provided by oligodendroglia cells (in brain and spinal cord) or Schwann cells (in peripheral nerves). Like dendrites and nerve cell bodies, axons contain a large number of neurofibrils. With some exceptions, nerve cells synaptically transmit impulses to other nerve cells or to effector cells (muscle cells, gland cells) exclusively by way of the synaptic terminals of their axon (*Stedman's Concise Medical Dictionary* 1997).

basilar membrane The membrane extending from the bony spiral membrane to the basilar crest of the cochlea. It forms the greater part of the floor of the cochlear duct, separating the latter from the scala tympani, and it supports the organ of Corti (*Stedman's Concise Medical Dictionary* 1997).

Bell's palsy Paresis or paralysis, usually unilateral, of the facial muscles caused by dysfunction of the VII cranial nerve. It is probably caused by a viral infection, usually demyelinating in type. Syn: peripheral facial paralysis (*Stedman's Concise Medical Dictionary* 1997).

BICROS A hearing aid system providing bilateral contralateral routing and amplification of sound.

bruits An abnormal sound made by internal organs, such as the heart and blood vessles. They can be detected by stethoscope or other amplifying device.

categories in tinnitus retraining therapy Classification of treatments based on the neurophysiological model of tinnitus for implementation of TRT. There are five main categories; the specifics are different for each category but there is a common element of counseling and use of sound.

cerebral cortex The gray cellular mantle (1 to 4 mm thick) covering the entire surface of the cerebral hemisphere of mammals. It is characterized by a laminar organization of cellular and fibrous components such that its nerve cells are stacked in defined layers (*Stedman's Concise Medical Dictionary* 1997).

cochlea A cone-shaped cavity in the petrous portion of the temporal bone, forming one of the divisions of the labyrinth or internal ear. It consists of a spiral canal making two and a half turns around a central core of spongy bone, the modiolus; this spiral canal of the cochlea contains the membranous cochlea, or cochlear duct, in which is the spiral organ (Corti) (*Stedman's Concise Medical Dictionary* 1997).

cochlear implant An electronic device implanted under the skin that has electrodes in the middle ear on the promontory or cochlear window or in the inner ear in the cochlea. It is intended to create sound sensation in total sensory deafness. Syn: cochlear prosthesis (*Stedman's Concise Medical Dictionary* 1997).

computed tomography (CT) An imaging method providing anatomical information for a cross-sectional plane of the body. Each image is generated by a computed synthesis of X-ray transmission data obtained in many different directions in a given plane. Syn: computed axial tomography. CT was developed in 1967 by the British electronics engineer Godfrey Hounsfield and it has revolutionized diagnostic medicine. Hounsfield linked X-ray sensors to a computer and worked out a mathematical technique called algebraic reconstruction for assembling images from transmission data. In 1973, the Mayo Clinic began operating the first machine in the USA. Early machines yielded digital images with at least 100 times the clarity of normal radiographs. Subsequently, the speed and accuracy of machines has improved many times over. CT scans reveal both bone and soft tissues, including organs, muscles