

## **GLOSSARY**

**Acyclovir:** an antiviral drug that inhibits DNA synthesis in cells.

**Aetiology:** a term that refers to the causes of diseases or pathologies.

**Ammon's horn sclerosis:** is the most common type of neuropathological damage seen in individuals with temporal lobe epilepsy. This type of neuron cell loss, primarily in the hippocampus, can be observed in approximately 65% of people suffering from this form of epilepsy.

**Antidiuretic Hormone (ADH):** a hormone which stimulates intestinal activity and inhibits the secretion of urine.

**Apnoea:** a general term meaning the cessation of breathing.

**Apyrexic:** relating to the normal human body temperature.

**Ataxic:** loss of ability to coordinate muscle movement.

**Basal cisterns:** a wide cavity where the arachnoid (a layer of the meninges, membranes that contain the central nervous system) extends across between the two temporal lobes.

**Basal ganglia:** are a group of nuclei of varied origin in the brain that act as a cohesive functional unit. They are situated at the base of the forebrain and are associated with a variety of functions, including voluntary motor control, and procedural learning relating to routine behaviours or "habits".

**Brain-stem death:** brain damage resulting in the irreversible loss of brain function, rendering the individual incapable of life without the aid of a ventilator.

**Catarrh:** a disorder of inflammation of the mucous membranes.

**Calcification:** the deposition of calcium salts in the body tissue, normally the bones and teeth.

**Cefotaxime Sodium (Claforan):** an antibiotic used against infections of the respiratory tract.

**Cerebral Oedema:** a swelling of the brain caused by the engorgement of blood vessels or an excess accumulation of water in the intracellular and/or extracellular spaces of the brain.

**Cerebellum:** a region of the brain that plays an important role in motor control. It is also involved in some cognitive functions such as attention and language, and probably in some emotional functions such as regulating fear and pleasure responses.

**Cheyne-Stokes respiration:** an abnormal pattern of breathing characterized by progressively deeper and sometimes faster breathing, followed by a gradual decrease that results in a temporary stop in breathing called an apnea. The pattern repeats, with each cycle usually taking 30 seconds to 2 minutes.

**Clinical psychology:** the scientific discipline concerned with the practical application of research findings in the fields of physical and mental health.

**Clonus:** a succession of intermittent muscular relaxations and contractions usually resulting from a sustained stretching stimulus, often a sign of brain or spinal cord disease.

**Cogwheel rigidity:** tension in a muscle which gives way in little jerks when the muscle is passively stretched.

**Coning:** the process by which the brain swells to such an extent that it is forced down and into the main cavity within the skull, causing irreparable damage to the brain and brain-stem.

**Coroner:** an independent legal officer of the Crown who is responsible for deciding whether to hold a post-mortem and an inquest in cases of sudden, unexpected or unnatural death.

**Corpus callosum:** a wide, flat bundle of neural fibers beneath the cortex that connects the left and right cerebral hemispheres and facilitates inter-hemispheric communication.

**Cortex:** the tissues that form the outer part of an organ and which are positioned just below the capsule (the fibrous or membranous envelope of organs or outer membrane) eg. the cerebral cortex of the brain.

**CT (computerised tomography) scan:** an X-ray examination technique in which only structures in a particular plane produce clearly focused images.

**Cyanosis:** the appearance of a blue or purple coloration of the skin or mucous membranes due to the tissues near the skin surface being low on oxygen.

**Deep white matter:** Brain tissue composed of myelin-coated nerve cell fibres. White matter carries information between the nerve cells in the brain and spinal cord. The inner portion of the cerebrum is composed of white matter.

**Dentate nucleus:** located within the deep white matter of each cerebellar hemisphere, it is the largest single structure linking the cerebellum to the rest of the brain.

**Diazepam (Diazemuls):** a benzodiazepine (psychoactive) drug commonly used for treating anxiety, insomnia, and seizures. Diazemuls will be given by a doctor or a nurse as a slow intravenous injection (into a vein), or as a continuous infusion (into a vein).

**Diencephalon lesion:** any abnormality in the tissue of the part of the brain that includes the thalamus.

**Dysplasia:** is a term used in pathology to refer to an abnormality of development.

**Dopamine:** a catecholamine (substances produced in the body from dietary amino acids) found in the basal nuclei of the brain whose function is to convey inhibitory influences to the system.

**Effacement:** the shortening, or thinning of a tissue.

**Electroencephalography (EEG):** the recording of electrical activity along the scalp.

**Encephalitis:** the inflammation or infection of the brain usually caused by a viral or bacterial infection.

**Enteroviruses:** a family of viruses which tend to invade the central nervous system through the gut.

**Emesis:** vomiting.

**Epilepsy:** a recurrent and paroxysmal disorder starting suddenly and ceasing spontaneously due to occasional sudden excessive rapid and local discharge of the nerve cells in the grey matter (cortex) of the brain.

**Extra-ocular:** relating to the six muscles that control the movements of the eye.

**Exudation:** the process in which some of the constituents of the blood pass slowly through the walls of the small blood vessels in the course of inflammation.

**Fixed, dilated pupils:** no pupillary light reflex.

**Fundus:** the point on the retina opposite the pupil through which nerve fibres and blood vessels traverse the retina.

**Fundoscopy:** a test that allows a health professional to see inside the fundus of the eye and other structures using an ophthalmoscope (or funduscope).

**Glasgow Coma Score:** an internationally accepted measure of depth of coma, the lower the number the deeper the coma.

**Grey matter:** is a major component of the central nervous system, consisting of neuronal cell bodies, in contrast to white matter, which does not.

**Gyrus:** a term applied to the convolution of the brain.

**Haemorrhage:** is the loss of blood or blood escape from the circulatory system.

**Hepsal (Heparin Sodium):** flushing solution for maintenance of patency of intravenous devices (prevents blockages).

**Hippocampus:** a major component of the brain. It belongs to the limbic system and plays important roles in the consolidation of information from short-term and long-term memory and spatial navigation.

**Hypotonic:** refers to one solution which has a greater osmotic pressure than another.

**Hyponatraemia:** a serum concentration of sodium below the normal range which may be produced by dilution of the blood (giving large volumes of salt-poor solutions intravenously), excessive water retention (inappropriate secretion of antidiuretic hormone), excessive sodium loss and, rarely, by inadequate salt intake.

**Hypernatraemia:** An abnormally high plasma concentration of sodium ions

**Hypokalaemia:** condition of below normal levels of potassium in the blood serum

**Hypothalamus:** that part of the fore-brain situated beneath, and linked with the thalamus (one of two masses of grey matter important for sensory impulses) on each side and forming the floor of the third ventricle. Contains nerve centres for the regulation of vital processes eg. body temperature and sexual function.

**Hypovolemia:** a blood disorder consisting of a decrease in the volume of circulating blood.

**Hypsarrhythmia:** an abnormal pattern, consisting of high amplitude and irregular waves and spikes in a background of chaotic and disorganized activity seen on EEG, frequently encountered in an infant diagnosed with infantile spasms, although it can be found in other conditions.

**Iatrogenic:** induced by a physician- i.e. a drug induced disease or episode.

**Idiopathic:** an adjective used primarily in medicine meaning *arising spontaneously or from an obscure or unknown cause*.

**Ischaemia:** a restriction in blood supply, generally due to factors in the blood vessels, with resultant damage or dysfunction of tissue.

**Intravenous:** a term used which means inside a vein.

**Intubation:** a simple operation consisting of the introduction through the mouth into the larynx, of a tube designated to keep the air passage open at this point.

**Laminar:** flat.

**Leigh's disease:** a rare neurometabolic disorder that affects the central nervous system- characterized by movement disorders.

**Mammillary bodies:** are a pair of small round bodies, located on the undersurface of the brain, that form part of the limbic system (a set of brain structures which support a series of functions including emotion and long term memory).

**Mannitol:** an osmotic diuretic given by a slow intravenous infusion to reduce oedema of the brain.

**Midazolam:** a short-acting drug in the benzodiazepine (psychoactive) class that is used for treatment of acute seizures, moderate to severe insomnia, and for inducing sedation and amnesia before medical procedures.

**Meninges:** the membranes surrounding the brain and spinal cord.

**Meningoencephalitis:** the term applied to infection of the membranes (or meninges) of the brain and the underlying brain matter. In practically all cases of meningitis (an inflammation affecting the membranes of the brain or spinal cord or both, caused by bacteria, viruses etc) there is some involvement of the underlying brain and where this is considerable, this term is used.

**Metabolism:** tissue change, and all the physical and chemical processes by which the living body is maintained, and also those by which the energy is made available for various forms of work.

**Mmol/l:** Millimoles per litre. A mole is an amount of a substance that contains a large number (6 followed by 23 zeros) of molecules or atoms. A millimole is one thousandth of a mole.

**Myelinolysis:** a neurological disease caused by severe damage of the myelin sheath (a substance made up of protein and phospholipids that surround the axons of some neurones) of nerve cells in the brainstem.

**Necrosis:** death of a limited portion of tissue.

**Neuroblastoma:** a malignant growth comprising embryonic nerve cells.

**Neurology:** the branch of medical practice which is concerned with the study of the nervous system and its disorders. Specialist in neurology are known as 'neurologists'.

**Neurones:** also known as a nerve cell, this is a basic cellular building block of the nervous system which contains billions of neurones linked in a complex network to keep the body informed about the outside world and to organise appropriate responses.

**Neuronal migration defect (or disorder):** congenital brain abnormality caused by the abnormal migration of neurons in the developing brain and nervous system.

**Non-convulsive/non-fitting Status Epilepticus:** A series of rapidly repeated seizures without clonic or tonic activity or other convulsive motor activity. Consciousness is not regained between seizures.

**Osmolality:** is a measure of the osmoles (the number of moles of a chemical compound that contribute to a solution's osmotic pressure) of solute per kilogram of solvent (osmol/kg or Osm/kg).

**Paediatrician:** a medical specialist skilled in the care of children's health and diseases.

**Papilloedema:** swelling of the optic disc specifically due to raised intra-cranial pressure.

**Paraventricular:** alongside a ventricle. The paraventricular nucleus lies adjacent to the third ventricle. The third ventricle is one of four connected fluid-filled cavities comprising the ventricular system within the human brain.

**Peribronchial thickening:** excess fluid or mucus buildup in the small airway passages of the lung causes localized patches of lung collapse.

**Parietal:** the term applied to anything pertaining to the wall of a cavity.

**Perivascular:** in and around the blood vessels.

**Phenytoin sodium:** a commonly used antiepileptic.

**PICU:** Paediatric Intensive Care Unit.

**Pigmentation:** the colouring matter of various secretions e.g. blood.

**Plantar reflex:** a reflex stimulated from the sole of the foot.

**Post-ictal:** following a seizure

**Postictal acute encephalopathy:** a sudden degenerative disease of the brain which appears post seizure.

**Prodrome:** an early symptom (or set of symptoms) that might indicate the start of a disease before specific symptoms occur.

**Purkinje cells:** a class of neurons located in the cerebellar cortex.

**Pyrexia (or fever):** a common medical sign characterized by an elevation of temperature above the normal range of 36.5–37.5°C due to an increase in the body temperature regulatory set-point.

**Rarefaction:** is the reduction of a medium's density, or the opposite of compression.

**Registrar:** a doctor who is receiving advanced training in a specialist field of medicine in order eventually to become a consultant.

**Respiratory Arrest:** the cessation of breathing. It is a medical emergency and is usually related to or coincides with a cardiac arrest.

**Respiratory rate:** the rate at which air passes into and out of the lungs so that the blood can absorb oxygen and give off carbon dioxide and water. This occurs 18 times a minute in a healthy adult at rest.

**Routes of Medication:** the method by which medication is administered to a patient, to include- *Topical*: having a local effect; where a substance is applied to a localized area of the body or to the surface of a body part. *Oral*- through the mouth. *Per Rectum*- through the rectum.

**Salaam attacks (or infantile spasms):** a rare but serious type of epilepsy usually starting in the first eight months of life.

**Senior House Officer:** a junior doctor undergoing training within a certain speciality who is supervised by consultants and registrars, who oversee his/her training and are their designated clinical (and in many cases educational) supervisors.

**SIADH:** Syndrome of inappropriate antidiuretic hormone secretion. Inappropriate antidiuretic hormone secretion produces a disorder of fluid and electrolyte balance which results in the inability to excrete dilute urine.

**Sodium Valproate:** an anti-convulsive drug.

**Status Epilepticus:** repeated epileptic fits with no return to consciousness between them. Breathing stops between each fit and the body is deprived of oxygen which causes damage to the brain.

**Subacute:** the description applied to a disease the duration of which lies between the acute and chronic.

**Subclinical:** without clinical presentation

**Subependymal zone:** a cell layer surrounding the lateral ventricles in the brain.

**Temporal:** referring or relating to the muscles, bone or blood vessels around the temple.

**Thrombosis:** the formation of a blood clot within the vessels or heart.

**Tympanometry:** an examination used to test the condition of the middle ear and mobility of the eardrum and the conduction bones by creating variations of air pressure in the ear canal.

**Uncal: Pertaining to the Uncus** - the hooklike anterior end of the hippocampal gyrus on the temporal lobe of the brain.

**Vascular:** relating to the blood vessels.

**Ventilation:** the procedure, usually carried out in an intensive care unit, in which a device called a 'ventilator' takes over a person's breathing.

**Ventricle:** one of the pumping chambers of the heart.

**Ventricular System:** is a set of structures containing cerebrospinal fluid in the brain. It is continuous with the central canal of the spinal cord.