

CHAPTER IX

NERVOUS SYSTEM

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CHAND
NERVOUS SYSTEM

VOCABULARY

Afferent Nerve: (Sensory Nerve)	Carries impulses to the brain and spinal cord
Brain stem:	Consists of the medulla oblongata, pons and midbrain (adj: Medullary; pontine) (pl. medullae; pl. pontes)
Cerebellum: (pl. cerebella) (adj. cerebellar)	The part of the brain located beneath the posterior part of the cerebrum; it coordinates voluntary (opp. involuntary) movements
Cerebral cortex:	Outer region of the cerebrum consisting of gray matter
Cerebrum: (pl. cerebra) (adj. cerebral)	Largest part of the brain; consisting of two cerebral hemispheres
Convolution: (Gyrus; pl. gyri)	Elevated portion of cerebral cortex
Efferent Nerve: (Motor Nerve)	Carries impulses from the CNS to organs to produce responses
Ganglion: (pl. ganglia) (adj. ganglionic)	A group of nerve cell bodies located outside the central nervous system
Gray matter:	Consists of cell bodies of neurons, their processes, neuroglia and blood vessels
Hypothalamus: (adj: hypothalamic)	Part of the cerebrum that controls body temperature, sleep, appetite, emotions, autonomic and endocrine functions
Meninges: (adj: meningeal)	Layers of connective tissue membranes (adj: membranous) that surround the brain and spinal cord
Myelin: (opp. Non-myelinated; unmyelinated)	The lipid substance forming a sheath around certain nerve fibres (adj. myelinated)

Neuroglia: (adj. neuroglial)	The supporting Connective tissue of the CNS. Its cells do not transmit impulses
Neuron: (adj. neuronal)	A conducting cell of the nervous system
Neurotransmitter:	A chemical substance that transfers impulses across a synapse e.g. acetylcholine; epinephrine
Plexus:	An interlacing network of nerves or blood vessels. e.g. choroid plexus
Sulcus: (Pl. sulci) (Fissure)	A groove separating adjacent gyri
Synapse: (adj. synaptic)	The region of junction between two adjacent neuronal endings
Thalamus: (pl. thalami) (adj. thalamic)	Part of the cerebrum that serves as a relay station for all sensations except olfaction (adj. olfactory)
Ventricles: (adj. ventricular)	Spaces within the brain containing cerebrospinal fluid (CSF)
White matter:	Consists of processes of neurons, neuroglia and blood vessels, but no cell bodies

COMBINING FORMS

COMBINING FORM	DENOTING RELATIONSHIP TO	COMBINED WITH	MEANING	TERM	MEANING
Encephalo__	brain	__cele	hernia	Encephalocele	A hernia of the brain through an opening in the skull
Encephalo__	brain	meningitis	Inflammation of the meninges	Encephal meningitis Meningocephalitis Meningocephalitis Meningocerebritis	Inflammation of the brain and its meninges
Encephalo__	brain	myelitis	Inflammation of the spinal cord	Encephalomyelitis Myeloencephalitis	Inflammation of the brain and spinal cord
Encephalo__	brain	__pathy	disease	Encephalopathy (Encephalopathia)	Any degenerative disease of the brain
Encephalo__	brain	myelopathy	Disease of the spinal cord	Encephalomyelopathy Myeloencephalopathy	Disease of the brain and spinal cord
Encephalo__	brain	myeloneuropathy	Disease of the spinal cord and peripheral nerves	Encephalomyeloneuropathy	Disease of the brain, spinal cord and peripheral nerves
Encephalo__	brain	myelocele	Hernia of the spinal cord	Encephalomyelocele	Herniation of the brain substance and spinal cord
Topo__	place	__algia	Pain	Topalgia	Pain fixed in one spot

PREFIXES

PREFIX	MEANING	COMBINED WITH	MEANING	TERM	MEANING
A_	Not	Phasia	Speech	Aphasia (adj.: aphasic)	Inability to speak
A_	Not	Gnosia	Perception	Agnosia	Loss of power to recognize sensory stimuli
A_	Not	Graphia	Writing	Agraphia	Inability to express thoughts in writing
A_	Not	Lexo_	Word	Alexia	Inability to read
A_	Not	Praxis	Performance of an action	Apraxia	Inability to carry out a purposeful movement
A_	Not	Taxo_	Order, coordination	Ataxia (ataxy)	Irregularity of muscular action
An_	Not	Algesia	Pain	Analgesia Analgia (adj.: analgesic)	Absence of sensibility to pain
An_	Not	Hidrosis	Sweating	Anhidrosis	Loss of sweating
Brady_	Slow	Kinesia	Movement	Bradykinesia (Bradykinesis)	Abnormal slowness of movement
Dys_	Difficult	Graphia	Writing	Dysgraphia	Inability to write properly
Dys_	Difficult	Arthria	Articulation of speech	Dysarthria (adj.: dysarthric)	Imperfect articulation of speech
Dys_	Difficult	Lexo_	Word	Dyslexia	Inability to read understandingly
Epi_	Upon or over	Dural	Pertaining to the dura mater	Epidural (extradural)	Situated outside the dura Mater
-hyper_	Excess	Kinesia	Movement	Hyperkinesia (Hyperkinesis)	Abnormally increased motor function
-hyper_	Excess	Esthesia	Feeling	Hyperesthesia (adj. Hyperesthetic)	Abnormally increased sensitivity of the skin or of an organ of special sense
Hyper_	Excess	Algesia	Pain	Hyperalgesia Hyperalgia (adj.: hyperalgesic)	Excessive sensitivity to pain
Hypo_	Under (diminished)	Esthesia	Feeling	Hypoesthesia (adj. Hypoesthetic)	Abnormally decreased sensitivity of the skin or of an organ of special sense
Hypo_	Diminished	Algesia	Pain	Hypoalgesia (Hypalgia)	Diminished sensitiveness to pain
Intra_	Within	Theco_	Sheath (meninges)	Intrathecal	Delivered into the subarachnoid space
Poly_	Many	Neuritis	Inflammation of a nerve	Polyneuritis (adj. Polyneuritic)	Inflammation of many nerves
Poly_	Many	Myopathy	Disease of muscles	Polymyopathy	Disease affecting several muscles simultaneously
Sub_	Underneath	Dural	Pertaining to the dura mater	Subdural	Between the dura and arachnoid maters
Sub_	Underneath	Arachnoid	Arachnoid mater	Subarachnoid	In the subarachnoid space between the arachnoid and pia maters

SUFFIXES

SUFFIX	MEANING	COMBINED WITH	MEANING	TERM	MEANING
__algia	Pain	Neuro__	Nerve	Neuralgia	Pain along the course of one or more nerves
__gram	x-ray record	Myelo__	Spinal cord	Myelogram	X-ray of the spinal cord
__graphy	The making of x-ray films	Encephalo	Brain	Encephalography	The making of x-ray films of the brain
__itis	Inflammation of	Encephalo	Brain	Encephalitis	Inflammation of the brain
__itis	Inflammation of	Ventriculo	Ventricle of the brain	Ventriculitis	Inflammation of a ventricle of the brain
__lemma	Sheath	Neuri__ Neuro__	Nerve	Neurilemma Neurolemma (adj: neurilemmal)	The thin membrane around a nerve fibre
__malacia	Softening	Encephalo__	Brain	Encephalomalacia	Softening of the brain
__megaly	Enlargement	Ventriculo	Ventricle of the brain	Ventriculomegaly	Enlargement of a ventricle of the brain as in hydrocephalus
__oma	Tumor	Glio__	Neuroglia	Glioma	A tumor of neuroglial tissue
__paresis	Partial paralysis	Hemi__	Half	Hemiparesis	Partial weakness affecting one side of the body
__pathy	Disease	Neuro__	Nerve	Neuropathy	Disease of the peripheral nervous system
__pathy	Disease	Myelo__	Spinal cord	Myelopathy	Disease of the spinal cord

VOCABULARY

Alzheimer disease: (AD)	Progressive degeneration and atrophy of the brain associated with deterioration of mental capacity (dementia) beginning in middle age
Amyotrophic Lateral Sclerosis (ALS):	A progressive disorder characterized by degeneration of motor neurons in the spinal cord and brain stem
Aneurysm: (adj: aneurysmatic; aneurysmal)	A sac formed by the dilatation of the wall of an artery, a vein, or the heart
Aura:	Peculiar sensation appearing before more definite symptoms
Autonomic nervous system:	Sympathetic and parasympathetic parts of the nervous system concerned with regulation of the activity of cardiac muscle, smooth muscle and glands
Bell's palsy:	Unilateral facial paralysis due to disorder of the facial nerve
Cauda Equina: Horse Tail:	Collection of Spinal nerves roots below the level of the spinal cord
Cerebral palsy:	Partial paralysis and lack of muscular coordination caused by damage to the cerebrum during gestation or in the perinatal period
Chorea: (adj: choreal; choreic; choreiform)	Involuntary, quick, jerky, irregular movements that are non repetitive
Coma: (adj: comatose)	A state of unconsciousness from which the patient cannot be aroused
Effector:	A muscle or gland which contracts or secretes in direct response to a nerve impulse
Embolus: (pl: emboli)	A clot that breaks from an area of the body and travels to a distant vessel and occludes it (adj: embolic). There are also fat and air emboli

Epilepsy: (adj: epileptic)	Paroxysmal transient disturbances of brain function characterized by recurrent seizure activity
Huntington Disease:	A hereditary nervous disorder due to degenerative changes in the cerebrum leading to dementia and choreoform movements
Leptomeninges: (adj: leptomeningeal)	The pia and arachnoid mater (Meninx: singular of meninges)
Lethargy:	A condition of drowsiness or indifference (adj: lethargic)
Migraine: (adj: migrainous)	Cephalgia affecting half of the head; hemicephalgia Migraineur: a person suffering from migraine
Multiple Sclerosis (MS):	Destruction of the myelin sheath on neurons in the CNS causing paresthesias, muscle weakness and unsteady gait and paralysis (gait = manner of walking)
Myasthenia Gravis:	A neuromuscular disorder characterized by fatiguable weakness (asthenia) of skeletal muscles
Nystagmus: (Nystaxis) (adj: nystagmic)	An involuntary rapid movement of the eyeball which may be horizontal, vertical, rotatory or mixed
Palliative:	Relieving symptoms but not curing the disease
Parkinson's disease: (Parkinsonism) (adj: parkinsonian)	Degeneration of dopaminergic neurons leading to tremors, slowness of movement and abnormal body posture
Receptors:	Sensory nerve terminals which respond to stimuli of various kinds
Seizure:	A sudden disturbance of brain function
Shingles:	Disease affecting peripheral nerves caused by a herpes virus (herpes zoster)
Spina bifida:	Congenital defect in the spinal column due to imperfect union of vertebral parts (occulta and cystica: Meningocele: Myelomeningocele; Myelocele

Stimulus: (adj: stimulant)	Any agent or act that produces functional reaction in a receptor (pl.: stimuli)
Stupor:	Partial or nearly complete unconsciousness (adj: stuporose; stuporous; stuporized)
Syncope: (Fainting) (adj: syncopic; syncopal)	Sudden and temporary loss of consciousness caused by inadequate flow of blood to the brain
Thrombus:	Blood clot resulting in occlusion (blocking) of a vessel (adj: thrombic; pl: thrombi)
Tremor: (adj: tremulous)	An involuntary oscillatory movement around a joint

COMBINING FORMS

COMBINING FORM	DENOTING RELATIONSHIP TO	COMBINED WITH	MEANING	TERM	MEANING
Cerebello__	Cerebellum	Pontine	Pertaining to the pons	Cerebellopontine	Related to cerebellum and pons
Lepto__	Thin, delicate	Leptomeninges	Pia and arachnoid	Leptomeningitis	Inflammation of the pia-arachnoid
Polio__	Gray matter of the nervous system	Myelitis	Inflammation of the spinal cord	Poliomyelitis	An acute viral disease affecting the motor neurons in the spinal cord
Polio__	Gray matter of the nervous system	Encephalitis	Inflammation of the brain	Polioencephalitis	Inflammatory disease of the gray matter of the brain
Polio__	Gray matter of the nervous system	Encephalomyelitis	Inflammation of the brain and spinal cord	Polioencephalomyelitis	Inflammatory disease of the gray matter of the brain and spinal cord
Polio__	Gray matter of the nervous system	Myelopathy	Any disease of the spinal cord	Poliomyelopathy	Any disease affecting gray matter of spinal cord
Radiculo__	Nerve root	Medullary	Spinal cord	Radiculomedullary	Affecting nerve roots and the spinal cord
Radiculo__	Nerve root	Ganglionitis	Inflammation of a ganglion	Radiculoganglionitis	Inflammation of the posterior spinal nerve roots and their ganglia
Radiculo__	Nerve root	Myelopathy	Any disease of spinal cord	Radiculomyelopathy	Disease of the nerve roots and spinal cord
Radiculo__	Nerve root	Neuropathy	Disease of nerves	Radiculoneuropathy	Disease of the nerve roots and nerves

PREFIXES

PREFIX	MEANING	COMBINED WITH	MEANING	TERM	MEANING
An__	Negative	Encephalon	Brain	Anencephaly (adj: Anencephalic; anencephalous)	Congenital absence of the brain
An__	Not	__esthesia (adj: esthetic)	Feeling Perception	Anesthesia (adj: anesthetic)	Absence of feeling or sensation
Cata__	down	__plexy	Stroke	Cataplexy (Cataplexis) (adj: cataplectic)	Abrupt muscular weakness and hypotonia triggered by an emotional stimulus (anger, fear, surprise)
Di__	Two	__plegia	Paralysis	Diplegia	Paralysis affecting like parts on both sides of the body
Extra__	Outside	Cerebral	Pertaining to the cerebrum	Extracerebral	Outside the cerebrum (could by intracranial)
Hemi__	Half	__plegia	Paralysis	Hemiplegia	Paralysis of one side of the body
Hyper__	Excess	Hidrosis	Sweating	Hyperhidrosis (Hyperhidrosis) (Polyhidrosis)	Excessive sweating (adj: hyperhidrotic)
Ir__	Negative	Compatible (n. compatibility)	Capable of harmonious coexistence	Incompatible (n.: incompatibility)	Not suitable for harmonious coexistence
Intra__	Within	Cerebral	Pertaining to the cerebrum	Intracerebral	Within the cerebrum
Intra__	Within	Cranial	Pertaining to the cranium	Intracranial	Within the cranium
Mono__	One/single	__plegia	Paralysis	Monoplegia (adj: monoplegic)	Paralysis of one limb
Para__	Beside	__plegia	Paralysis	Paraplegia (adj: paraplegic)	Paralysis of the legs and lower part of the body
Para__	Beyond	__esthesia	Feeling Perception	Paraesthesia (adj: paraesthetic)	Abnormal sensation such as burning and prickling
Poly__	Many	Dysplasia	Abnormality of development	Polydysplasia	Faulty development in several organs or systems
Poly__	Many	Gyria	Gyri	Polygyria (polymicrogyria)	More than the normal number of gyri in the brain
Tetra__	Four	__plegia	Paralysis	Tetraplegia (Quadriplegia)	Paralysis of all 4 limbs (adj: quadriplegic)
Tri__	Three	__plegia	Paralysis	Triplegia	Paralysis of 3 limbs

SUFFIXES

SUFFIX	MEANING	COMBINED WITH	MEANING	TERM	MEANING
__algia	Pain	Causo__	Burning	Causalgia (Thermalgia)	Burning pain due to injury to a peripheral nerve
__cele	Hernia	Meningo__	Meninges	Meningocele	Hernial protrusion of the meninges through a bony defect
__cele	Hernia	Myelo	Spinal cord	Myelocele	Hernial protrusion of the substance of the spinal cord through a defect in the vertebral arch
__cele	Hernia	Meningomyelo	Meninges and spinal cord	Meningomyelocele (Myelomeningocele)	Hernial protrusion of part of the meninges and spinal cord through a defect in the vertebral column
__ectomy	Excision	Radiculo__	Nerve root	Radiculectomy (Radicectomy)	Excision of a rootlet
__itis	Inflammation of	Radiculo__ (adj: radicular)	Nerve root	Radiculitis	Inflammation of nerve root
__lepsy	Seizure	Narco	Stupor	Narcolepsy (adj: narcoleptic)	Uncontrollable desire for sleep or sudden attacks of sleep occurring at intervals
__oma	Tumor	Astrocyto__	Astrocyte Neuroglial cell	Astrocytoma (Glioma)	Tumor caused by proliferation of astrocytes
__pathy	Disease	Radiculo__	Nerve root	Radiculopathy	Any disease of nerve roots

ACRONYMS

AD:	Alzheimer's disease
AFP:	Alpha-fetoprotein (elevated levels in amniotic fluid and maternal blood are associated with congenital malformations) Increased serum level in adults is associated with hepatocellular carcinomas, liver cirrhosis, viral hepatitis.
ALS:	Amyotrophic lateral sclerosis
AVM:	Arteriovenous malformation
CNS:	Central nervous system
CSF:	Cerebrospinal fluid
EEG:	Electroencephalogram
ICP:	Intracranial Pressure
LP:	Lumbar Puncture
MS:	Multiple sclerosis
RIND:	Reversible, ischemic neurological deficit
TENS:	Transcutaneous electrical nerve stimulation
TIA:	Transient ischemic attack
tPA:	Tissue plasminogen activator (plasminogen: precursor of plasmin which dissolves fibrin clots and degrades fibrinogen and coagulation factors V and VII)

ASSIGNMENT # 11

Write the meaning for each of the following terms and the adjective(s):

TERM	MEANING	ADJECTIVE
1. Abasia:		
2. Aboulia: (Abulia)		
3. Akinesia: (Acinesia)		
4. Acousticophobia:		
5. Ataxia:		
6. Anosmia:		
7. Atony: (Atonia)		
8. Ballismus: (Ballism)		
9. Clonus: (Clonism; clonismus)		
10. Concussion:		
11. Contusion:		
12. Decussation:		
13. Dementia:		
14. Hemianosmia:		
15. Lobe:		
16. Nociception:		

ASSIGNMENT # 12

Write the meaning and adjective(s) for each of the following terms:

TERM	MEANING	ADJECTIVE
1. Odaxesmus		
2. Olfaction		
3. Odor		
4. Pallesthesia		
5. Pallanesthesia		
6. Panesthesia		
7. Paralexia (Dyslexia)		
8. Paralysis		
9. Paresis		
10. Perception		
11. Prodrome		
12. Radiculopathy		
13. Reaction		
14. Somnolence		
15. Spasm		
16. Stereognosis (opposite: astereognosis; astereoagnosis; stereoanesthesia)		

ASSIGNMENT # 13

PREFIX	SUFFIXES	COMBINING FORM Denoting Relationship to:
__en: inside	__itis: inflammation of	Mening (o) } Membrane that envelops the
	__cele: hernia	Meningi (o) } brain and spinal cord
	__oma: tumor	Encephal (o): The brain
	__plegia: paralysis	Myel (o): The spinal cord
	__lith: stone	Cephal (o): Head

Use the above prefix, suffixes and combining forms to produce the medical terms for each of the following meanings:

1. Inflammation of the spinal cord _____
2. Inflammation of the meninges _____
3. Any swelling or tumor of the brain _____
4. Inflammation of the brain and meninges _____
5. Hernial protrusion of the meninges through a bony defect _____
6. Inflammation involving both the brain and spinal cord _____
7. Protrusion of the spinal cord through a defect in the vertebral arch _____
8. A benign tumor of the meninges _____
9. Inflammation of the meninges, brain and spinal cord _____
10. Hernia of part of the brain and meninges through a skull defect _____
11. Hernial protrusion of the spinal cord and its meninges through a defect in the vertebral arch _____

DICTATION

The nervous system is divided into central and peripheral parts. The central nervous system consists of the brain and spinal cord, while the peripheral nervous system consists of cranial and spinal nerves. Within the central and peripheral nervous systems there is a large group of neurons that function involuntarily and are collectively known as Autonomic Nervous System. This latter system consists of sympathetic and parasympathetic parts.

The sympathetic nerves enhance the functions of different body systems in times of stress or crisis: they increase the heart rate and blood pressure; they dilate the pupils and airways; they stimulate the suprarenal glands to secrete adrenaline (epinephrine); and they slow digestion. Stimulation of the parasympathetic nerves causes opposite effects.

Spinal nerves branch and regroup to form networks known as plexuses e.g. the cervical, brachial, lumbar, sacral and coccygeal plexuses.

Nerve fibres are either myelinated or non-myelinated. Nerve impulses are conducted faster in myelinated fibres. Neurons connect to each other at spaces known as synapses. The transfer of an impulse across a synaptic cleft depends on the release of neurotransmitters.

The brain within the cranial cavity, and the spinal cord in the vertebral canal, are surrounded by three meninges: dura, arachnoid and pia maters. The subarachnoid space, between the arachnoid and pia maters, is filled with cerebrospinal fluid which acts as a cushion and protects the brain and spinal cord from shock.

Inflammation of the meninges, meningitis can be caused by pyogenic organisms such as meningococci and streptococci, or by viruses.

DICTATION

Demyelination in the white matter of the central nervous system can affect the cerebrum, cerebellum and spinal cord. The myelin sheaths degenerate and myelin is removed by microglial cells leading to proliferation of other neuroglial cells. Loss of myelin sheath impedes the conduction of nerve impulses in the affected neurons.

Demyelination in the cerebral cortex can result in agnosia, alexia, aphasia, agraphia or apraxia depending on the cortical area involved. If the effects are not that severe the patient may then have dyslexia and dysgraphia. If the cerebellum is affected the patient will have ataxia and dysarthria. If the basal ganglia are involved the patient may have bradykinesia, tremors and rigidity.

Demyelinating diseases of the nervous system are first diagnosed as encephalopathies; or encephalomyelopathy or encephalomyeloneuropathy. Through clinical examination and appropriate investigations encephalomyelitis and encephalomeningitis can be excluded.

Demyelination can also affect peripheral nerves, both afferent (sensory) and efferent (motor) thereby causing flaccid paralysis, hypoalgesia and hypoesthesia. The initial impression is that the patient has a peripheral neuropathy or polyneuritis.

QUIZ # 24

Narcolepsy	Leptomeningitis	Epilepsy	Seizure
Leptosomatic	Stuporous	Lethargic	Stimuli
Coma	Polioencephalitis	Consciousness	
Drowsy	Comatosed	Aura	

Fill in the spaces in the passage below with the appropriate term from the above list

A young _____ man, who was known to have _____, was driving a car when he felt an _____; but before he could stop his car he got a _____, and collided head-on with another car. He was rushed to King Fahd Hospital of the University Emergency Room. He was found to be _____, and could not be aroused by painful _____. He was obviously in deep _____. There were some skull and leg bruises but no wounds.

Four days later the patient became _____ and thereafter he became _____, but did not recover complete _____. The attending nurses reported that the patient was _____ and thought he had _____. To prevent _____ and _____ the patient was given intravenous antibiotics.

QUIZ # 25

I. Write one SYNONYM for each of the following terms: (1 mark)

1. Convolution: _____
2. Sulcus: _____
3. Encephal meningitis: _____
4. Extradural: _____
5. Tetraplegia: _____
6. Fainting: _____
7. Parkinson's Disease: _____
8. Anencephalic: _____
9. Hyperhidrosis: _____
10. Aneurysmal: _____

II. Write the PLURAL for each of the following terms: (1/2 mark)

1. Sulcus: _____
2. Ganglion: _____
3. Thalamus: _____
4. Cerebellum: _____
5. Gyrus: _____
6. Embolus: _____

III. Write the OPPOSITE for each of the following terms: (One mark)

1. Afferent: _____
2. Myelinated: _____
3. Extradural: _____
4. Hyperkinesia: _____
5. Algesia: _____
6. Hyperesthesia: _____
7. Praxis: _____

- 8. Voluntary: _____
- 9. Intracerebral: _____
- 10. Compatible: _____
- 11. Hidrosis: _____

IV. Write the ADJECTIVE for each of the following terms: (One mark)

- 1. Neuron: _____
- 2. Ventricle: _____
- 3. Ganglion: _____
- 4. Medulla: _____
- 5. Pons: _____
- 6. Thalamus: _____
- 7. Hyperesthesia: _____
- 8. Ataxia: _____
- 9. Neurilemma: _____
- 10. Migraine: _____
- 11. Stimulus: _____
- 12. Leptomeninges: _____
- 13. Coma: _____
- 14. Epilepsy: _____
- 15. Syncope: _____
- 16. Parkinsons: _____
- 17. Tremor: _____
- 18. Leptosome: _____
- 19. Narcolepsy: _____
- 20. Cerebellum: _____
- 21. Synapse: _____
- 22. Thalamus: _____

V. Write ONE term for each of the following meanings (2.5 marks)

- 1. The supporting connective tissue of the central nervous system: _____
- 2. The region of junction between two adjacent neurons: _____

3. An interlacing network of nerves: _____
4. A swelling or tumor of the brain: _____
5. Abscess of the brain: _____
6. Mental fatigue: _____
7. Delivered into the subarachnoid space: _____
8. Inflammation of many nerves: _____
9. Inability to speak: _____
10. Loss of power to recognize sensory stimuli: _____
11. Inability to carry out purposeful movement: _____
12. Inability to read: _____
13. Inability to express thoughts in writing: _____
14. Imperfect articulation of speech: _____
15. Irregularity of muscular action: _____
16. A tumor of neuroglial tissue: _____
17. Pain along the course of a nerve: _____
18. Muscular weakness affecting one side of the body: _____
19. Sudden disturbance of body function: _____
20. Partial or nearly complete unconsciousness: _____
21. Involuntary, quick, irregular movements: _____

- 22. Disease affecting peripheral nerves caused by a herpes virus: _____
- 23. Peculiar sensation appearing before more definite symptoms: _____
- 24. An involuntary oscillatory movement: _____
- 25. Relieving symptoms but not curing the disease: _____
- 26. Inflammation of the pia-arachnoid: _____
- 27. Paralysis of the legs and lower part of the body: _____
- 28. Uncontrollable desire for sleep: _____

VI. Write the following ACRONYMS in full: (2 marks)

- 1. AVM: _____
- 2. CVA: _____
- 3. TIA: _____
- 4. AD: _____
- 5. ALS: _____
- 6. ICP: _____
- 7. LP: _____
- 8. MS: _____
- 9. AFP: _____
- 10. EEG: _____
- 11. RIND: _____
- 12. TENS: _____

Answers to Assignment 11

TERM	MEANING	ADJECTIVE
1. Abasia	Inability to walk	Abasic; abatic
2. Aboulia (Abulia)	Inability to make decisions; lack of will	Abulic
3. Akinesia: (Acinesia) (Akinesis)	Absence or lack of control of voluntary muscle movement	Akinetic
4. Acousticophobia	Irrational fear of sounds	Acoustiphobic
5. Ataxia	Failure of movement coordination	Ataxic; atactic
6. Anosmia: (Anosphresia)	Absence of sense of smell	Anosmic; anosmatic
7. Atony (atonia) (atonicity)	Lack of normal tone	Atonic
8. Ballismus (ballism)	Sudden violent involuntary movement of an extremity	Ballistic
9. Clonus (clonism; clonismus)	Alternate muscular contraction and relaxation in rapid succession	Clonic
10. Concussion	Loss of consciousness due to sudden movement of the brain	Concussional
11. Contusion (bruise)	An injury without a break of the skin and with a subcutaneous hemorrhage	Contusive
12. Decussation (Decussatio)	Crossing over	Decussating
13. Dementia:	General loss of cognitive abilities	Demented
14. Hemianosmia	Anosmia in one of the nostrils	Hemianosmic
15. Lobe	A well-defined portion of an organ	Lobar
16. Nociception	Pain sensation	Nociceptive

Answers to Assignment 12

TERM	MEANING	ADJECTIVE
1. Odaxesmus	The biting of the tongue or cheek in an epileptic seizure	Odaxetic
2. Olfaction	The sense of smell; the ability to perceive and distinguish odors	Olfactory
3. Odor	A volatile product that is perceived by the sense of smell	Odorant (olfactant)
3. Pallesthesia (vibration sense)	The ability to feel mechanical vibrations on or near the body	Pallesthetic
5. Pallanesthesia	Lack or loss of vibration sense	Pallanesthetic
6. Panesthesia	Sum of sensations experienced	Panesthetic
7. Paralexia (Dyslexia)	Inability to read, spell and write words despite the ability to see and recognize letters	Paralexia (Dyslexic)
8. Paralysis	Loss or impairment of motor function	Paralytic
9. Paresis	Slight or incomplete paralysis	Paretic
10. Perception	The conscious mental registration of a sensory stimulus	Perceptive
11. Prodrome	A symptom indicating the onset of a disease	Prodromal; prodromic
12. Radiculopathy	Disease of nerve root	Radiculopathic
13. Reaction	Response; counteraction	Reactional
14. Somnolence	Drowsiness or sleepiness, particularly in excess	Somnolent
15. Spasm	A sudden, violent, involuntary contraction of a muscle or group of muscles associated with pain and interference with function	Spasmodic
16. Stereognosis (opposite: astereognosis; stereoaesthesia; stereoaesthesia)	The ability to perceive the form and nature of an object by touch with eyes closed	Stereognostic

Answers to Assignment 13

1. Myelitis
2. Meningitis
3. Encephaloma
4. Encephal meningitis, meningoencephalitis; meningocephalitis; Meningocerebritis
5. Meningocele
6. Encephalomyelitis; Myeloencephalitis
7. Myelocele
8. Meningioma; Meningeoma
9. Meningoencephalomyelitis
10. Encephalomeningocele; Meningoencephalocoele; Encephalocoele
11. Myelomeningocele; Meningomyelocele

Answer to Quiz 24

A young **leptosomatic** man, who was known to have **epilepsy**, was driving a car when he felt an **aura**; but before he could stop his car he got a **seizure**, and collided head-on with another car. He was rushed to King Fahd Hospital of the University Emergency Room. He was found to be **comatosed**, and could not be aroused by painful **stimuli**. He was obviously in deep **coma**. There were some skull and leg bruises but no wounds.

Four days later the patient became **stuporous** and thereafter he became **lethargic**, but did not recover complete **consciousness**. The attending nurses reported that the patient was **drowsy** and thought he had **narcolepsy**. To prevent **polioencephalitis** and **leptomeningitis** the patient was given intravenous antibiotics.

Answers to Quiz 25

QI. Synonyms

1. Gyrus
2. Fissure
3. Meningoencephalitis; Meningocephalitis; Meningocerebritis
4. Epidural
5. Quadriplegia
6. Syncope
7. Parkinsonism
8. Anencephalous
9. Hyperhidrosis; Polyhidrosis
10. Aneurysmatic

II. Plurals (1/2 mark)

1. Sulci
2. Ganglia
3. Thalami
4. Cerebella
5. Gyri
6. Emboli

QIII. Opposites

1. Efferent
2. Non-myelinated
3. Subdural
4. Bradykinesia
5. Analgesia
6. Hypoesthesia
7. Apraxia
8. Involuntary
9. Extracerebral
10. Incompatible
11. Anhidrosis

IV. Adjectives

1. Neuronal
2. Ventricular
3. Ganglionic
4. Medullary
5. Pontine
6. Thalamic
7. Hyperesthetic
8. Ataxic; atactic
9. Neurilemmal
10. Migrainous
11. Stimulant
12. Leptomeningeal
13. Comatose
14. Epileptic
15. Syncopal; Syncopic
16. Parkinsonian
17. Tremulous
18. Leptosomatic
19. Narcoleptic
20. Cerebellar
21. Synaptic
22. Thalamic

V. Meanings

1. Neuroglia
2. Synapse
3. Plexus
4. Encephaloma
5. Encephalopyosis
6. Encephalasthenia
7. Intrathecal
8. Polyneuritis
9. Aphasia
10. Agnosia
11. Apraxia
12. Alexia
13. Agraphia
14. Dysarthria

*Answers to Quiz 25 Con't:*

15. Ataxia; ataxy
16. Glioma
17. Neuralgia
18. Hemiparesis
19. Seizure
20. Stupor
21. Chorea
22. Shingles
23. Aura
24. Tremor
25. Palliative
26. Leptomeningitis
27. Paraplegia
28. Narcolepsy

VI. Acronyms:

1. Arteriovenous Malformation
2. Cerebrovascular Accident
3. Transient ischemic Attack
4. Alzheimer Disease
5. Amyotrophic Lateral Sclerosis
6. Intracranial Pressure
7. Lumbar Puncture
8. Multiple Sclerosis
9. Alpha-fetoprotein
10. Electroencephalogram
11. Reversible, ischemic neurological Deficit
12. Transcutaneous Electrical Nerve Stimulation

