

## NEUROANATOMY 2024/2025

<p><b>29.10.2024</b> (Tuesday)</p>	<p>Cranium – review.</p> <p><b>General anatomical terms of nervous system:</b> neuron classification, synapse, neuroglia, white and grey matter, nuclei, ganglia and plexus. Anatomical, clinical and functional division of the nervous system: central nervous system, peripheral nervous system and autonomic nervous system. Structure and development of nervous system: formation and evagination of the neural tube, development of encephalon and cerebral cortex. Division of the brain: ontogenetic and phylogenetic and descriptive. Classification of nervous tracts and pathways (association tract, projection tract and commissural tract of telencephalon). <b>Telencephalon:</b> general terms, cerebral cortex (palaeocortex, archicortex, neocortex), telencephalon impar, commissure of telencephalon (corpus callosum, anterior commissure, fornix), preoptic area, septum pellucidum. Cerebral hemisphere (superolateral surface, medial surface, inferior surface, longitudinal cerebral fissure). Frontal lobe, parietal lobe, occipital lobe, temporal lobe, limbic lobe and insular lobe (sulci and gyri). Localisation of functional centers within cerebral cortex: motor cortex, sensory cortex, acoustic cortex, gustatory cortex, visual cortex. Motor and sensory homunculus. Motor and sensory aphasia, agnosia, acalculia. Domination of cerebral hemisphere.</p> <p><b>Lateral ventricle</b> (parts, walls, and limitations), interventricular foramen (foramen of Monro), septum pellucidum, choroid plexus of lateral ventricle. <b>Meninges of encephalon:</b> dura mater, leptomeninx (arachnoid and pia mater), meningeal spaces. Dural venous sinuses. Cerebrospinal fluid spaces and circulation.</p> <p><b>Clinical and radiologic anatomy:</b> X-ray, CT, MR.</p>
<p><b>05.11.2024</b> (Tuesday)</p>	<p><b>Diencephalon:</b> division, external and internal features - epithalamus, thalamus, subthalamus, metathalamus, hypothalamus (white and grey matter, nuclei). Afferent and efferent tracts. Function of diencephalon. Hypophysis and neurohypophysis. 3rd ventricle (walls) lentiform nucleus, claustrum, amygdaloid body, internal capsule, external and extreme capsule, function of corpus striatum, caudate nucleus, lentiform nucleus, claustrum, amygdaloid body.</p> <p>Pathways and tracts of internal capsule, external and extreme capsule.</p> <p><b>Clinical and radiologic anatomy:</b> X-ray, CT, MR.</p>
<p><b>06.11.2024</b> (Wednesday)</p>	<p>1<sup>st</sup> retake – Axial skeleton - spotters</p>
<p><b>07.11.2024</b> (Thursday)</p>	<p>1<sup>st</sup> retake – Axial skeleton - MCQ</p>
<p><b>07.11.2024</b> (Thursday)</p>	<p><b>Mesencephalon:</b> external and internal features (cerebral peduncle and cerebral crus, substantia nigra, red nucleus). Afferent and efferent tracts, medial and lateral lemniscus, medial longitudinal fasciculus. Mesencephalic aqueduct.</p>
<p><b>13.11.2024</b> (Wednesday)</p>	<p>Flipped spotters</p>

<p><b>14.11.2024</b> (Thursday)</p>	<p><b>Rhombencephalon:</b> division and morphology.</p> <p><b>Metencephalon: pons and cerebellum.</b></p> <p>General terms, external and internal features. Hemisphere of cerebellum, vermis of cerebellum and cerebellar peduncle, archicerebellum, paleocerebellum, neocerebellum,</p> <p>vestibulocerebellum, spinocerebellum, pontocerebellum. paleocerebellum, neocerebellum, vestibulocerebellum, spinocerebellum, Cerebellar nuclei. Cerebellar tracts.</p> <p><b>Myelencephalon: medulla oblongata bulb:</b></p> <p>Cerebellar nuclei. Cerebellar tracts. General terms, external and internal features. Rhomboid fossa. Reticular formation. Nuclei of cranial nerves. Spinal lemniscus, trigeminal lemniscus 4th ventricle (pars, walls and limitation). Subarachnoid cisterns, cerebrospinal fluid (circulation).</p> <p><b>Basal forebrain and basal nuclei:</b> tracts and connections of corpus striatum, caudate nucleus, lentiform nucleus, globus pallidus, claustrum, amygdaloid body, internal, external and extreme capsule. Extrapyramidal pathways.</p> <p><b>Limbic lobe. Hippocampus:</b> hippocampal formation, hippocampal cortex.</p> <p><b>Limbic system:</b> tracts of limbic lobe and system, afferent and efferent fibres, basal nuclei. <b>Rhinencephalon:</b> olfactory pathway and connections.</p>
<p><b>19.11.2024</b> (Tuesday)</p>	<p><b>Clinical and radiologic anatomy: X-ray, CT, MR.</b></p> <p>Blood supply of the brain: arteries of the brain and circle of Willis. Cerebral veins (superficial and deep cerebral veins, veins of brainstem, cerebellar veins).</p> <p>Clinical and radiologic anatomy: X-ray, CT, MR.</p> <p><b>Spinal cord:</b> external and internal features (sections of spinal cord, anterior, posterior and lateral column, funiculi of spinal cord). Proper pathways of the spinal cord. Autonomic centre of spinal cord, ciliospinal center.</p> <p>Spinal dura mater, epidural and subdural space, spinal arachnoid mater, spinal pia mater. Subarachnoid cisterns, suboccipital puncture and lumbar puncture.</p> <p><b>Pathways of CNS:</b> classification of nervous pathways: descending pathways, motor pathways (pyramidal pathways – corticonuclear pathway and corticospinal pathway, extrapyramidal pathways, autonomic pathways). Afferent &amp; efferent connections of the pyramidal and extrapyramidal pathways. Neurotransmitters. Proper pathways of the spinal cord.</p> <p>Anatomy of motor pathways. Motor nuclei of cranial nerves, and course of their fibres (CN III, IV, V, VI, VII, IX, X, XI, XII).</p> <p><b>Sensory pathways:</b> sensory receptors, tactile sensation and proprioception, ascending</p>

	<p>(sensory) fibres: optic pathway, acoustic tracts, vestibular tracts, gustatory tracts and autonomic tracts. Pathways of pain and temperature, nondiscriminative (crude) touch and pressure.</p> <p>two-point (fine) discriminative touch and vibratory sense, proprioceptive sense. Anterolateral system. Ascending and descending pathways to the cerebellum (subconscious). Visceral pain.</p> <p>Autonomic nervous system: localization in brain and spinal cord. Function and connections.</p> <p>Sensory nuclei of cranial nerves, and course of their fibres (CN I, II, V, VII, VIII, IX, X). Clinical anatomy: Clinical aspects of the pyramidal pathways. Lower &amp; upper motor neuron syndromes. Clinical effects of pyramidal and extrapyramidal pathways lesions.</p> <p>Clinicoanatomical syndromes of the spinal cord injury. Tetraplegia, paraplegia, Brown-</p> <p>Séquard syndrome, hemiplegia, paresis, dysfunction of sensory pathways, spinothalamic tracts (localization and dysfunctions), taste pathway (course, dysfunction). The clinical signs of the lesions on different levels. Radiologic anatomy: X-ray, CT, MR.</p>
<p><b>20.11.2024</b> <i>(Wednesday)</i></p>	<p>Flipped spotters</p>
<p><b>21.11.2024</b> <i>(Thursday)</i></p>	<p>Credit – CNS – MCQ and spotters</p>