

Nervous System, Week 2: Spinal Cord, Spinal Nerves, Sensory Organs

Spinal Cord Structures

Gross anatomy of the spinal cord: <i>Exercises 16.1 and 16.2</i>	Cross section of the spinal cord: <i>Exercises 16.1 and 16.2</i>	Spinal meninges & spaces: <i>Exercises 16.1 and 16.2</i>
Cervical enlargement Thoracic region of the spinal cord Lumbar enlargement Cauda equina Filum terminale Denticulate ligaments Conus medullaris Dura mater Posterior median sulcus Anterior rootlets Posterior rootlets	Anterior median fissure Posterior median sulcus Central canal Dorsal (posterior) root (sensory) Dorsal (posterior) root ganglion Ventral (anterior) root (motor) Spinal nerves Gray matter -- Dorsal (posterior) horns Gray commissure Lateral horns Ventral (anterior) horns White matter – Posterior white columns (funiculi) Anterior white columns (funiculi) Lateral white columns (funiculi) Epidural space (present on some models)	Structures to identify: Epidural space Dura mater Subdural space Arachnoid (mater) Subarachnoid space Pia mater Filum terminale Denticulate ligaments

PNS Structures: *Exercises 16.3, 16.4, and 16.4*

Peripheral nerves	Motor Innervation (Refer to muscle tables) Generally, sensory information comes back from the same area
cervical plexus – phrenic nerve brachial plexus -- radial nerve ulnar nerve median nerve musculocutaneous nerve axillary nerve lumbar plexus -- femoral nerve obturator nerve sacral plexus -- sciatic nerve tibial nerve common fibular (peroneal) nerve deep fibular superficial fibular	Diaphragm Posterior arm and forearm 2 anterior forearm, most hand muscles Most anterior forearm muscles Anterior arm muscles Deltoid and Teres minor Anterior thigh muscles Medial thigh muscles Branches into tibial and fibular Posterior leg, plantar surface of foot Biceps femoris (short head) Anterior leg, dorsal surface of foot Lateral compartment of leg

<p>Eye - Superficial View <i>Exercises 17.8 and 17.9</i></p> <p>optic nerve (CNII)</p> <p>Fibrous Tunic--Sclera Cornea</p> <p>Extrinsic eye muscles Lacrimal gland Nasolacrimal duct (difficult to see) Lacrimal Caruncle Orbital Fat Pad Conjunctiva (not in lab manual) Tapetum lucidum</p>
<p>Eye - Internal View</p> <p>anterior chamber posterior chamber</p> <p>aqueous humor</p> <p>Lens Vitreous Chamber Vitreous humor</p> <p>Vascular tunic Choroid layer Ciliary body with ciliary muscles Iris Ora serrata</p> <p>Nervous tunic</p> <p>retina</p> <p>optic disc ("blind spot") macula lutea</p> <p>fovea centralis See Fig. 17.7 for optic disc and fovea centralis</p>

<p>Extrinsic (extraocular) eye muscles <i>Exercise 11.3 and Exercise 17.8</i></p> <p>Inferior oblique Inferior rectus Lateral rectus Medial Rectus Superior oblique Superior rectus</p>

<p>Histology of the Cochlea slide <i>Exercise 17.6</i> Vestibulocochlear nerve</p> <p>Tectorial membrane</p> <p><i>Cochlear duct (scala media)</i></p> <p><u>Spiral organ (organ of corti)</u></p>

<p>Ear Models <i>Exercise 17.6 and 17.10</i></p>
<p>External Ear</p> <p>Auricle (pinna) External acoustic canal (meatus)</p>
<p>Middle Ear</p> <p>tympanic membrane ear ossicles malleus incus stapes oval window (covers the scala vestibule) round window (covers the scala tympani) Auditory (Eustachian) tube</p>
<p>Inner Ear (within the temporal bone)</p> <p>Composed of: bony structures (bony labyrinth), <i>membranous structures (membranous labyrinth)</i>, and <u>sensory structures</u></p> <p>Cochlea (senses sound) contains <i>cochlear duct</i> <u>spiral organ (organ of corti)</u> with a tectorial membrane Vestibule (senses acceleration and deceleration) contains <i>sacculle and utricle</i> Semicircular canals (senses angular movement) contains <i>semicircular ducts</i> with <i>ampulla</i> Vestibular branch of CNVIII Cochlear branch of CNVIII and cochlear nerve Internal acoustic meatus</p>