

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 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)	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

Eye - Superficial View

Exercises 17.8 and 17.9

optic nerve (CNII)

Fibrous Tunic--Sclera

Cornea

Extrinsic eye muscles

Lacrimal gland

Nasolacrimal duct (difficult to see)

Lacrimal Caruncle

Orbital Fat Pad

Conjunctiva (not in lab manual)

Eye - Internal View

anterior chamber

posterior chamber

aqueous humor

Lens

Vitreous Chamber

Vitreous humor

Vascular tunic

Choroid layer

Ciliary body with ciliary muscles

Iris

Ora serrata

Nervous tunic

Retina

optic disc ("blind spot")

macula lutea

fovea centralis

See Fig. 17.7 for optic disc and

fovea centralis

Ear Models Exercise 17.10 and figures 17.8 and 17.9

External Ear

Auricle (pinna)

External acoustic canal

Middle Ear

tympanic membrane

ear ossicles

malleus

incus

stapes

oval window (covers the scala vestibule)

round window (covers the scala tympani)

Auditory (Eustachian) tube

Inner Ear

Bony structures, membranous structures, sensory structures

Cochlea cochlear duct Spiral organ (organ of corti)

Senses sound with a tectorial membrane

Vestibule Saccule and Utricle Macula

Senses linear and vertical movement

Semicircular canals Semicircular ducts Cupula

With ampulla

Senses rotational movement

Vestibular branch of CNVIII

Cochlear branch of CNVIII

Internal acoustic meatus