COURSE NAME : CLINICAL NEUROLOGY

COURSE CODE : 746285

TITLE : NEUROANATOMY – PART II

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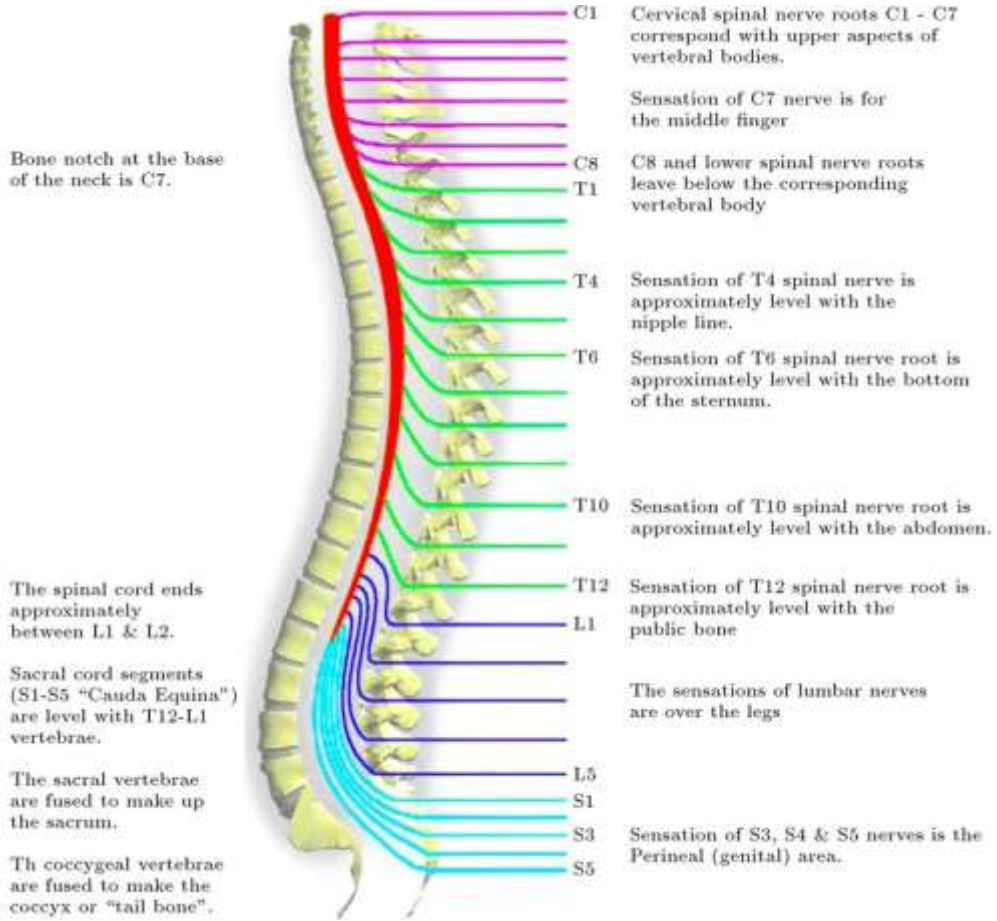
DESIGNATION : ASSOCIATE PROFESSOR

INTRODUCTION TO NEUROANATOMY

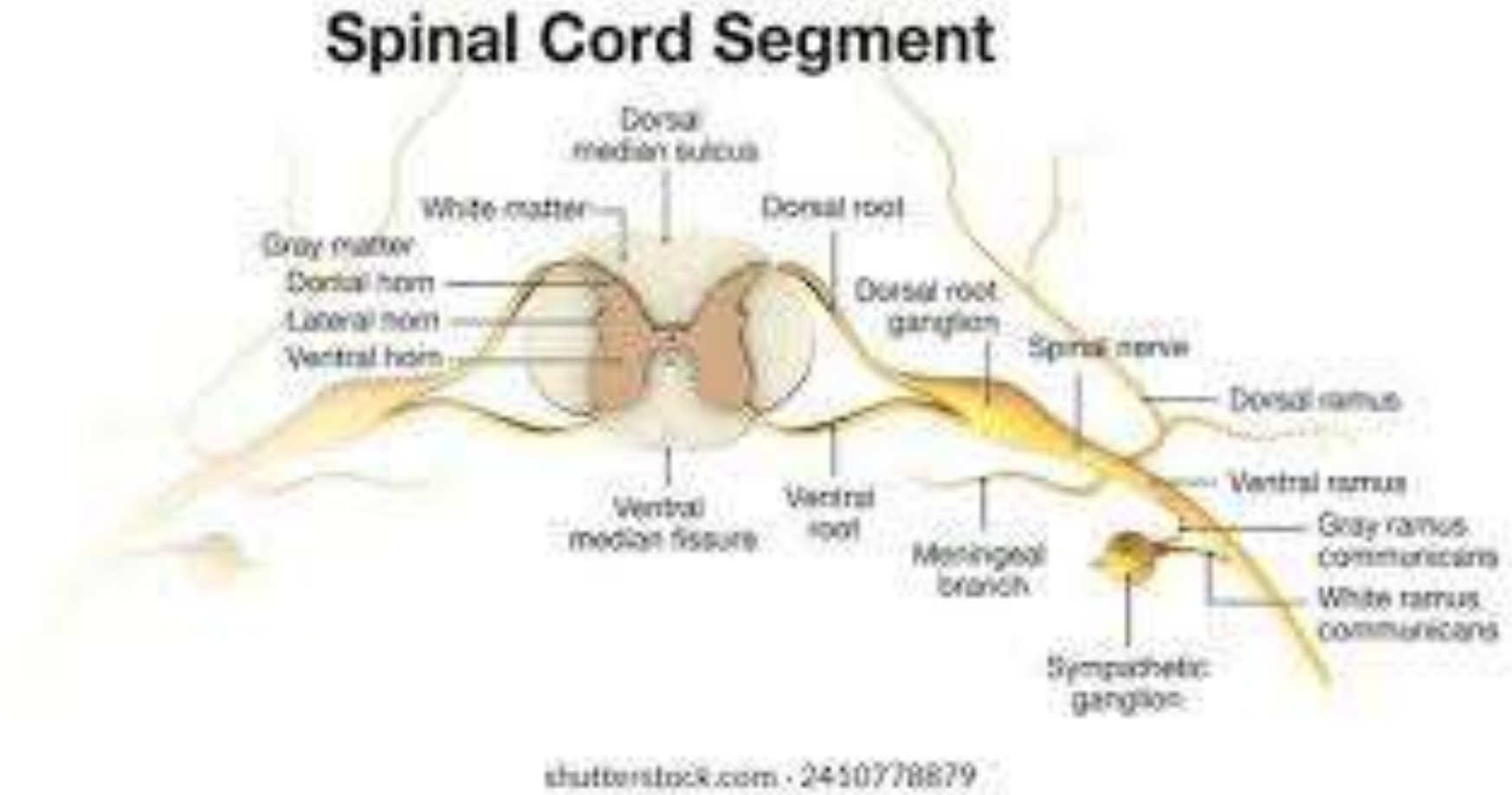
RELATIONSHIP OF SPINAL NERVE TO THE SPINAL CORD SEGMENTS



RELATIONSHIP OF SPINAL NERVE TO THE SPINAL CORD SEGMENTS

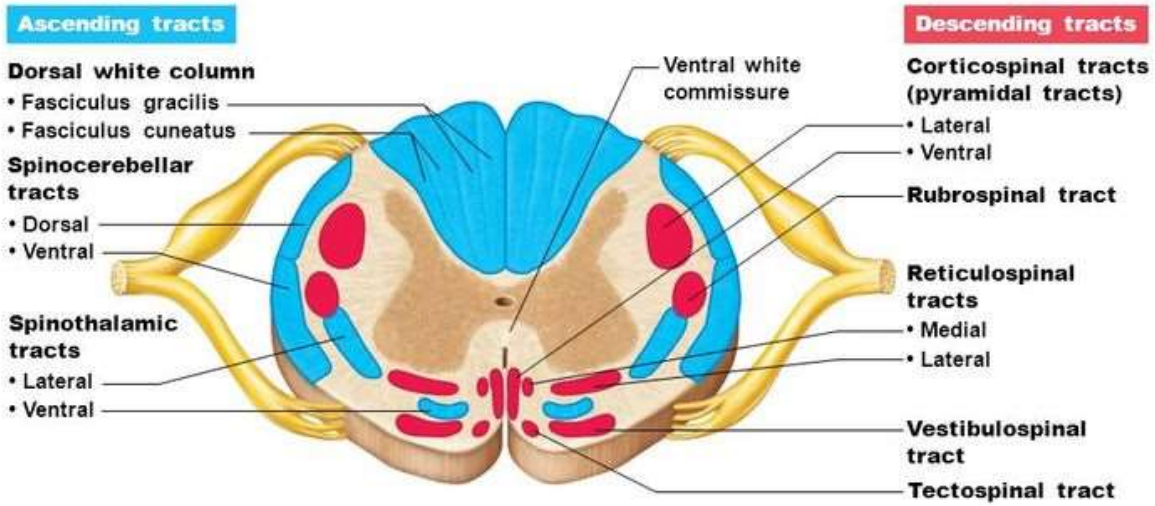
Author	Range	Mean	Number and Age of Subjects/ Magnetic Resonance Imaging Method
Arai et al. (2001)	T11-12 disc to center of L3 body	Middle ⅓ and distal ⅓ of L1	*n* = 602 Age = 8 mo to 84 yr T1† 5 mm†
Demiryürek et al. (2002)	T11-12 disc to upper ⅓ of L3	T12-L1 disc	*n* = 639 Age = 20-69 yr T1 4 mm
Macdonald et al.* (1999)	Mid ⅓ of T11 to mid ⅓ of L3	Median level: mid ⅓ of L1	*n* = 136 Age = 30-70 yr T2 4 mm
Malas et al. (2000)	T12-L2	Most frequently seen: L1-2 disc	*n* = 25 Age = 22-72 yr T1 and T2 5 mm
Saifuddin et al. (1998)	Mid ⅓ of T12 to upper ⅓ of L3	Lower ⅓ of L1	*n* = 504 Age = 16-85 yr T1 5 mm

RELATIONSHIP OF SPINAL NERVE TO THE SPINAL CORD SEGMENTS

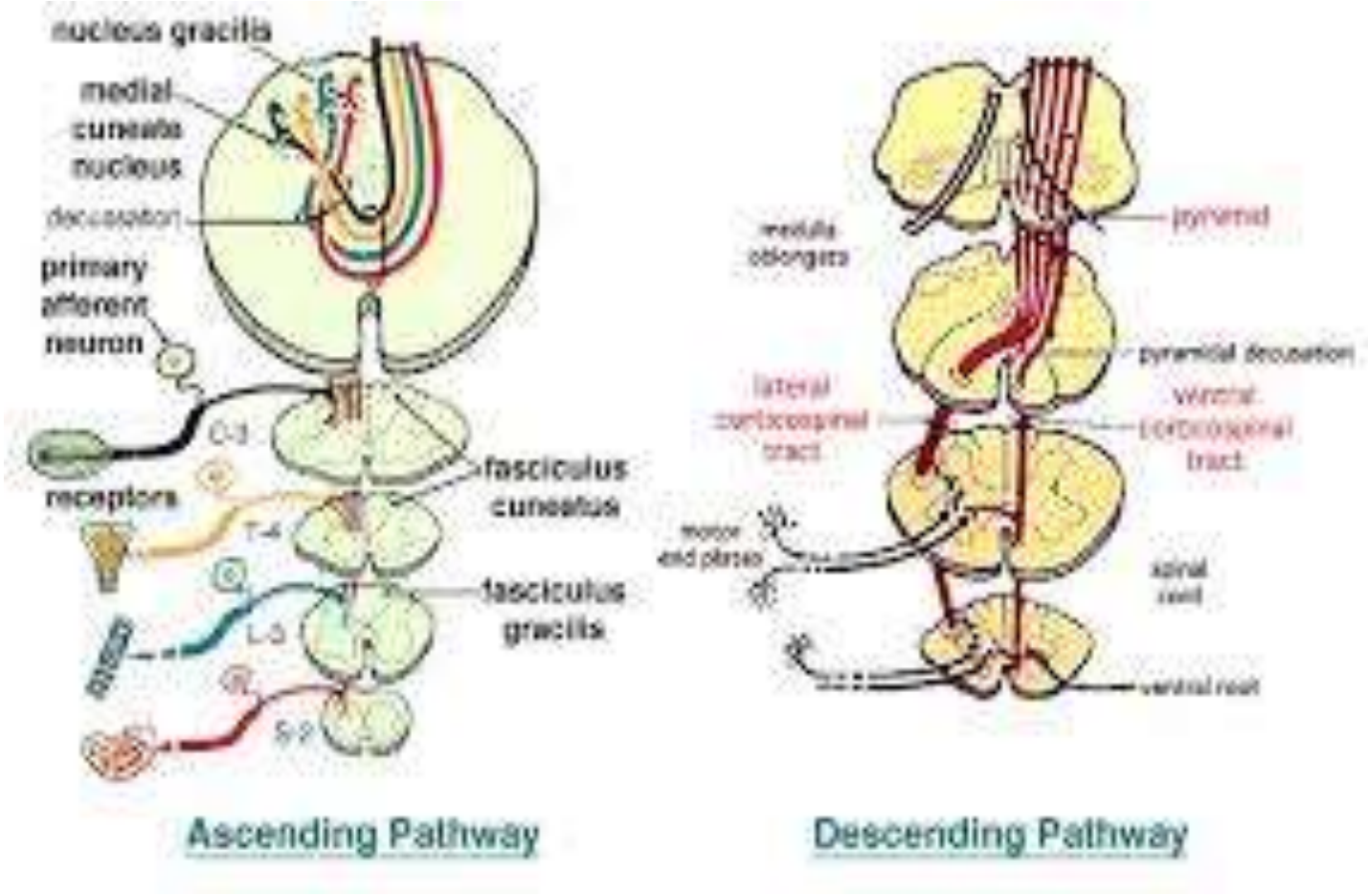


TRACTS OF THE SPINAL CORD

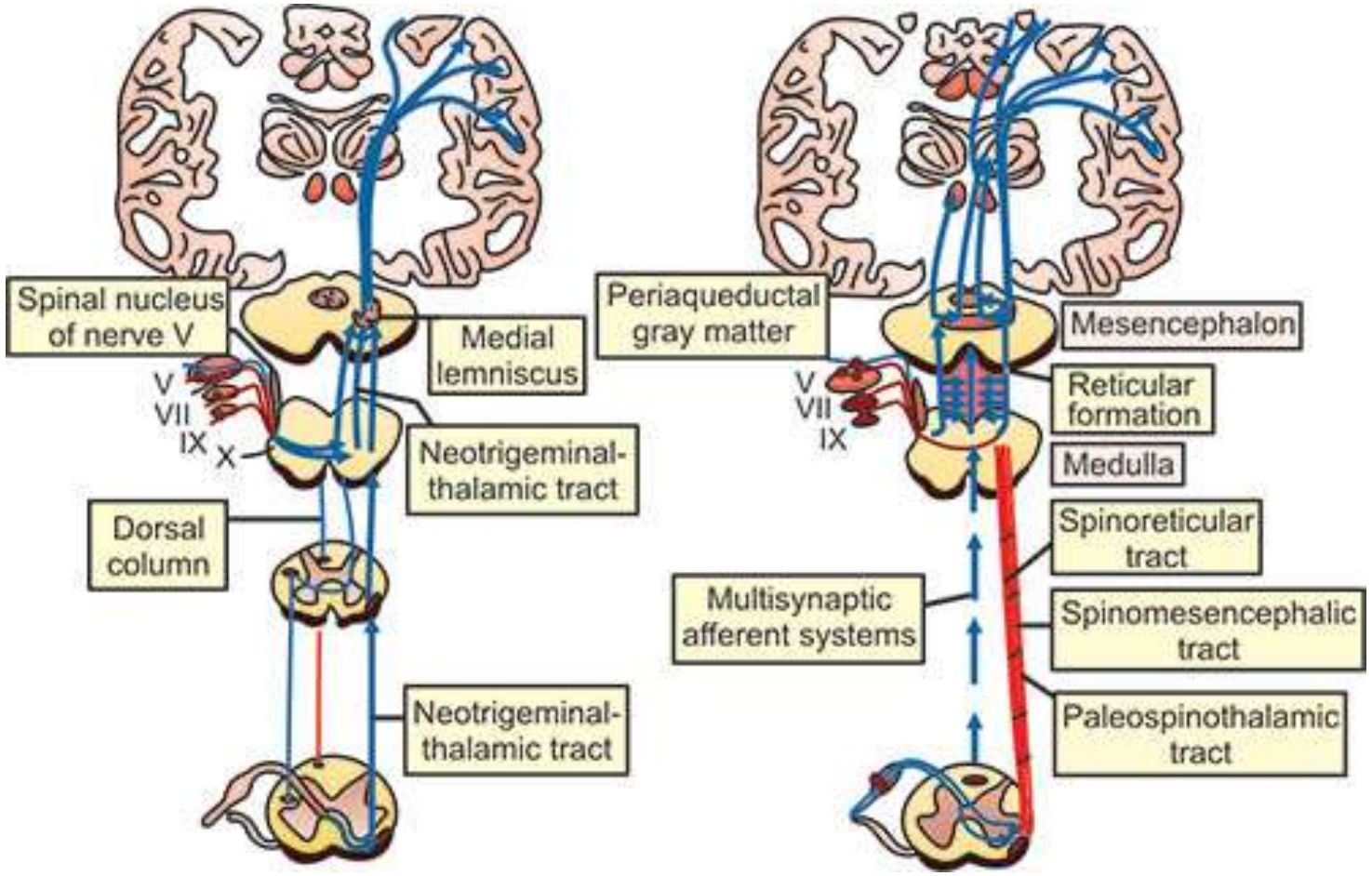
Figure 12.31 Major ascending (sensory) and descending (motor) tracts of the spinal cord, cross-sectional view.



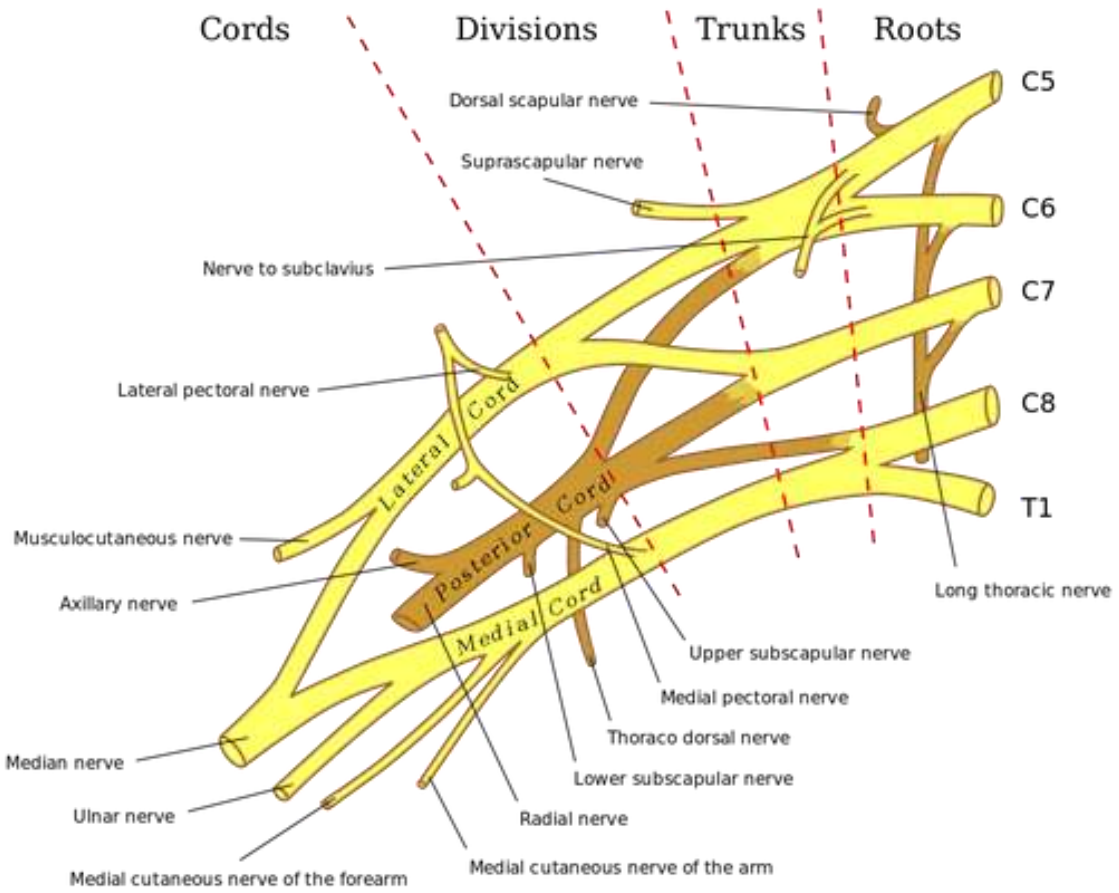
TRACTS OF THE SPINAL CORD



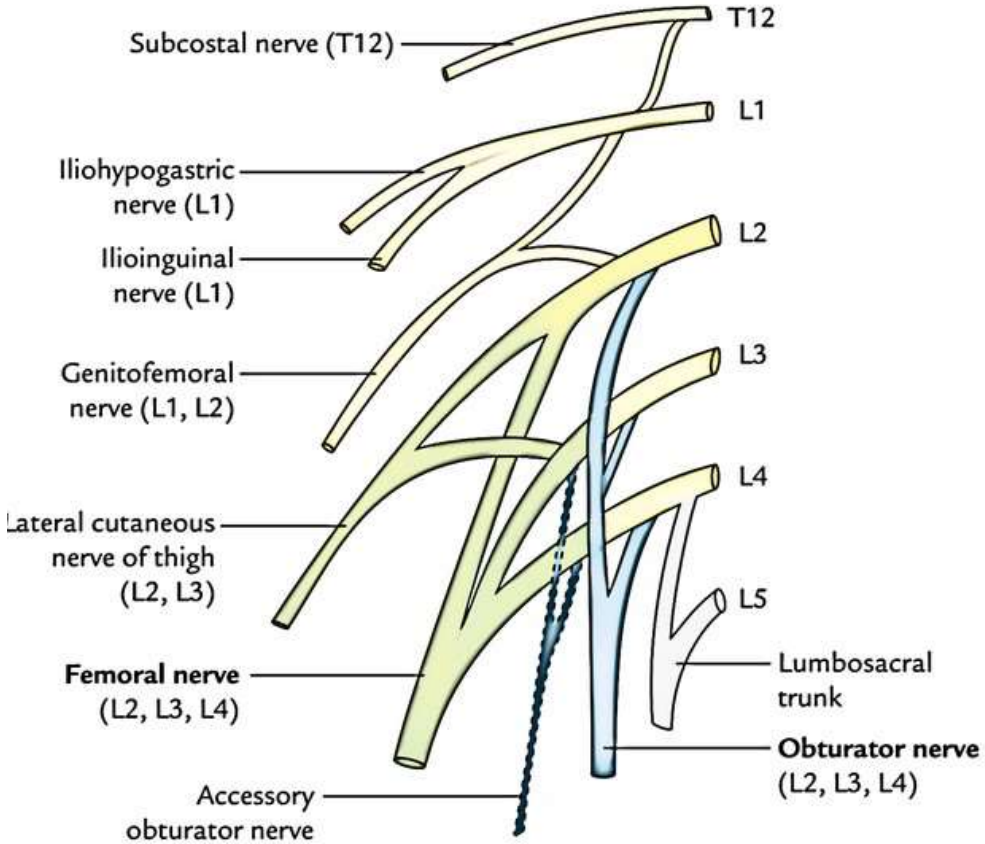
TRACTS OF THE SPINAL CORD



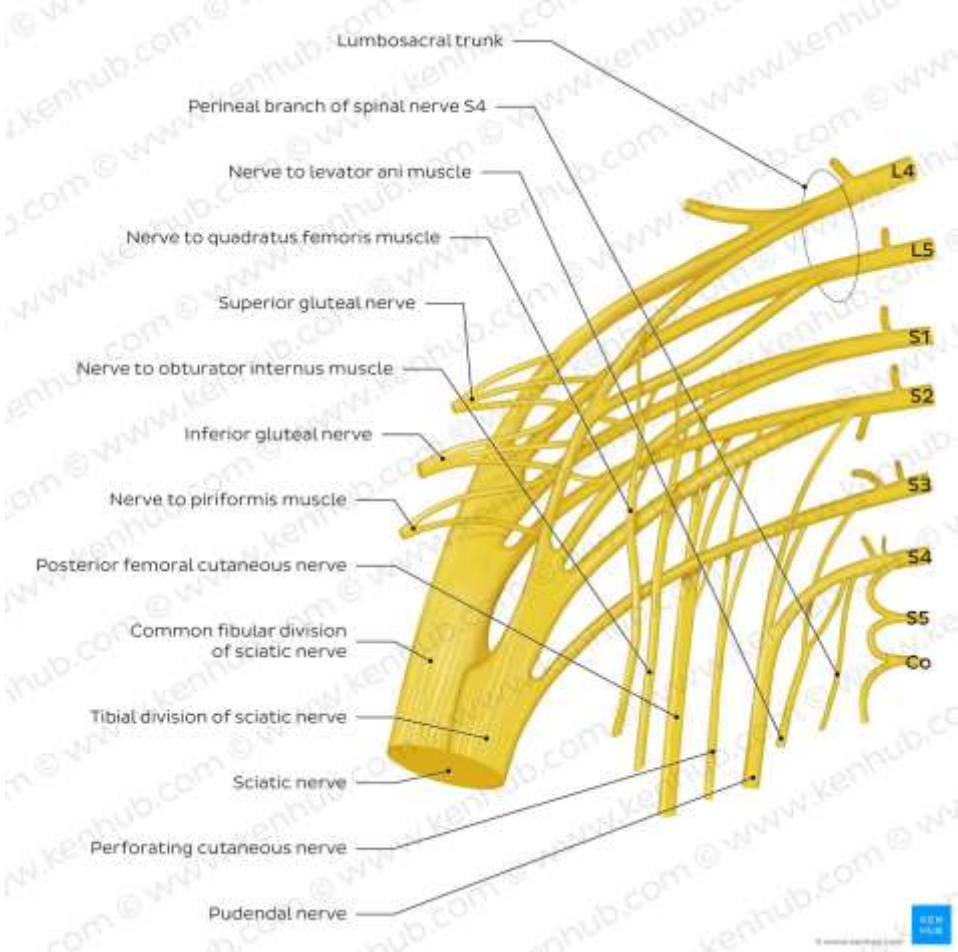
BRACHIAL PLEXUS



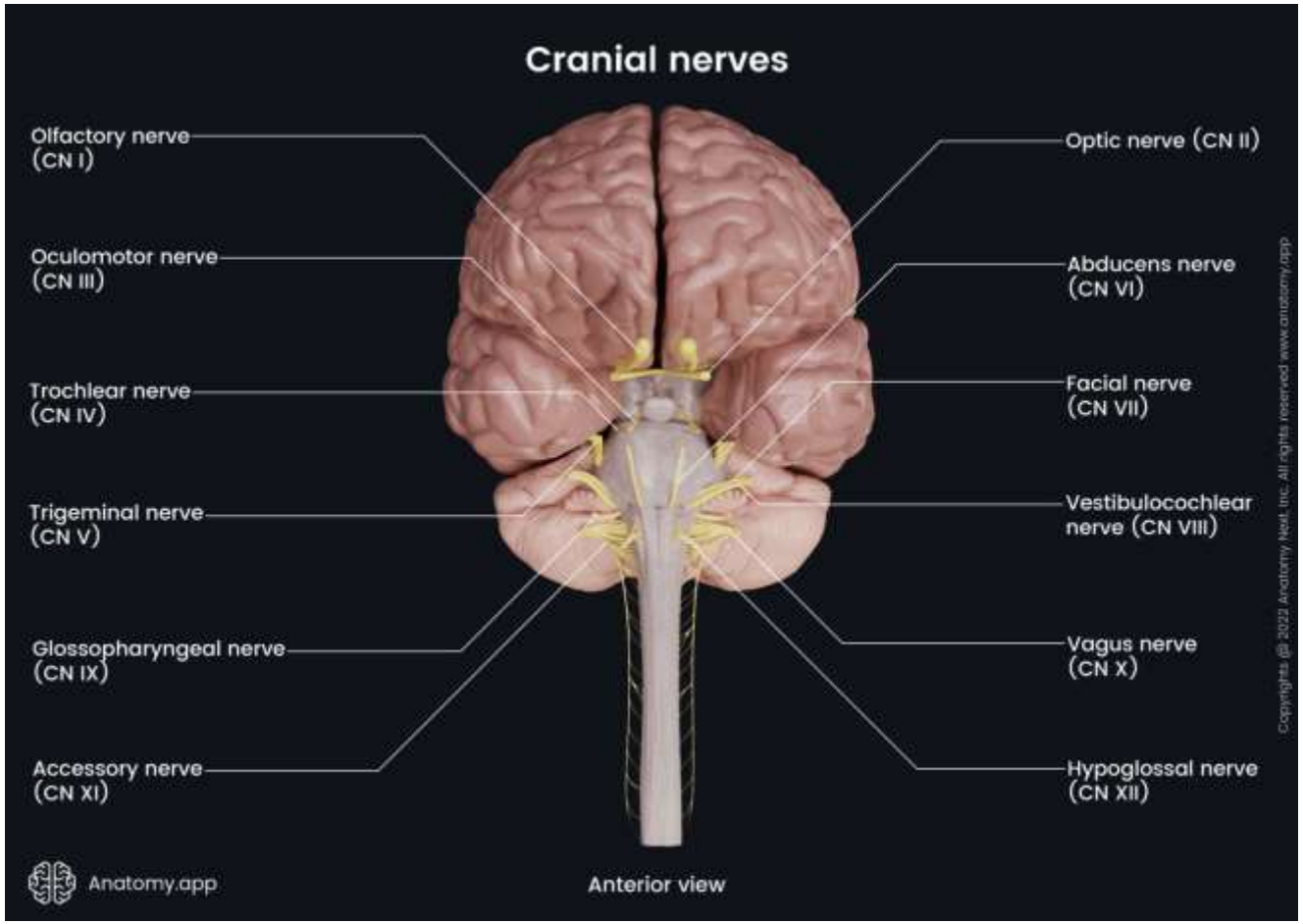
LUMBAR PLEXUS



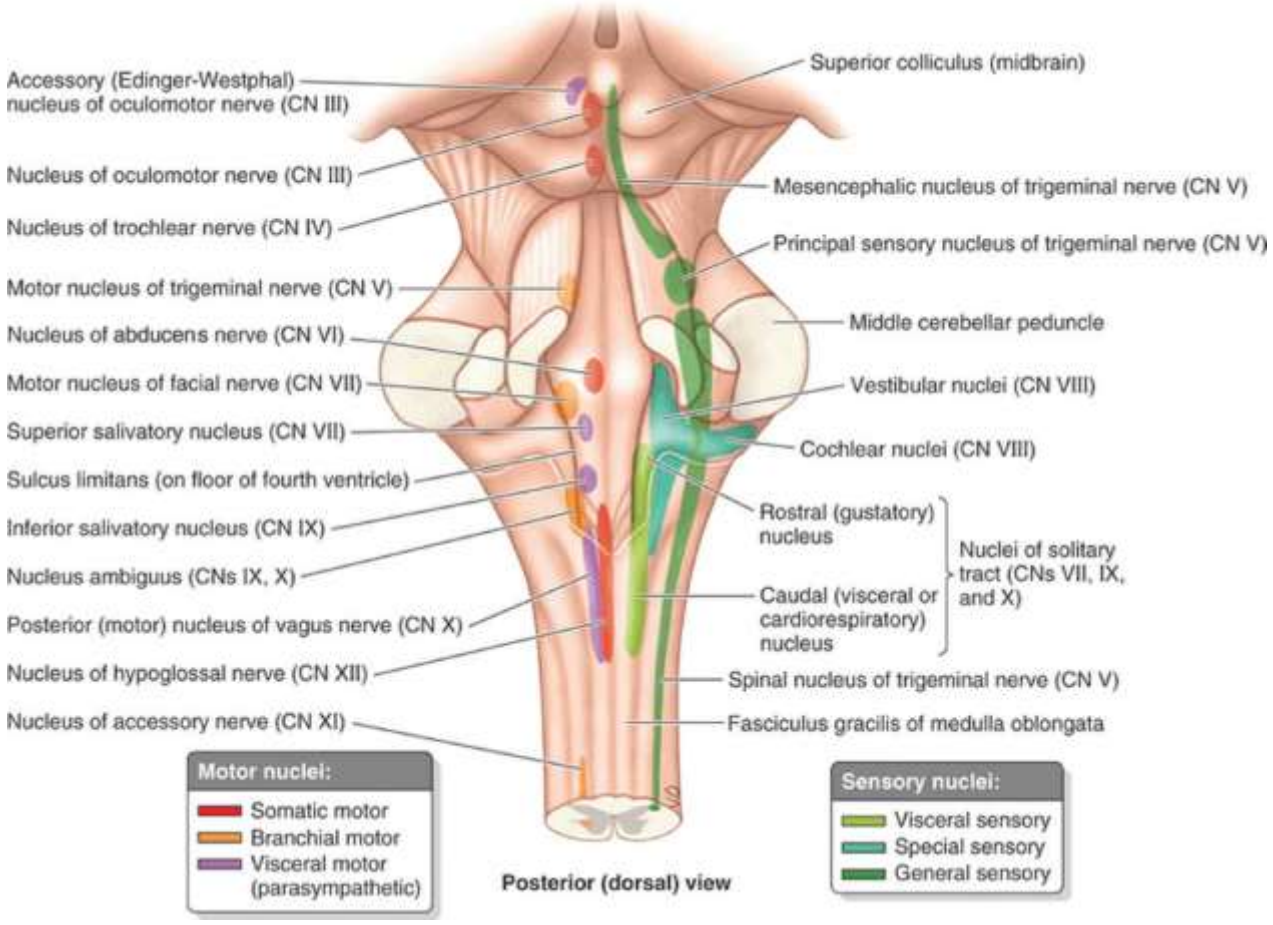
SACRAL PLEXUS



CRANIAL NERVES



CRANIAL NERVES



INCLASS ASSESSMENT

1. A spinal cord segment is best defined as:
a) The length of spinal cord corresponding to one vertebra
b) The region of spinal cord that gives rise to one pair of spinal nerves
c) A group of three vertebrae and their ligaments
d) The distance between two intervertebral discs

2. Which ascending tract primarily conveys fine touch, vibration, and conscious proprioception from the lower limb to the brain?
a) Lateral spinothalamic tract
b) Anterior spinocerebellar tract
c) Fasciculus gracilis of the dorsal column
d) Vestibulospinal tract

3. The brachial plexus is formed by the ventral rami of which spinal nerves?
a) C1–C4
b) C5–T1
c) T1–T12
d) L1–L4

INCLASS ASSESSMENT

4. The lumbar plexus arises mainly from the anterior rami of:
a) T12–L3
b) L1–L4
c) L4–S4
d) S1–S5

5. Which of the following cranial nerves is correctly matched with its type (sensory, motor, or mixed)?
a) Optic nerve (II) – mixed
b) Trigeminal nerve (V) – mixed
c) Abducens nerve (VI) – sensory
d) Vagus nerve (X) – purely motor

INCLASS ASSESSMENT

ANSWERS

1. b) The region of spinal cord that gives rise to one pair of spinal nerves
2. c) Fasciculus gracilis of the dorsal column
3. b) C5–T1
4. b) L1–L4
5. b) Trigeminal nerve (V) – mixed

THANK YOU!!!!

References Books:

- Hankey Greame - Clinical Neurology
- Bickerstaff - Clinical Neurological Examination
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- Demyers - The Neurologic Examination
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- Satish Khadilker - Neuromuscular Disorders
- Vishram Singh - Texbook of Clinical Neuro Anatomy 2nd edition
- Kenneth W. Lindsay - Neurology and Neurosurgery Illustrated