



**Cerebellum**

Get the balance right

# **BTR Anatomy - 28-09-2025**

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**Dr. Zainab Vora**

**1. A 27-year-old man comes to the physician because of a 1-day history of right-sided facial weakness and sound intolerance. Three days ago, he hit the right side of his head in a motor vehicle collision. He neither lost consciousness nor sought medical attention. Sensation over the face is not impaired. Impedance audiometry shows an absence of the acoustic reflex in the right ear. Which of the following muscles is most likely paralyzed in this patient?**

- A. Tensor tympani**
- B. Posterior cricoarytenoid**
- C. Stylopharyngeus**
- D. Stylohyoid**

# Pharyngeal arch derivatives

Pharyngeal arch	Bones	Muscles	Nerve	Artery
1 <sup>st</sup>	Meckel's cartilage, Maxilla, Mandible, Malleus and incus, zygomatic bone, sphenomandibular ligament	Muscles of mastication, Mylohyoid, Anterior belly of digastric, Tensor veli palatini,	V3	Maxillary artery
2 <sup>nd</sup>	Reichert's cartilage Stapes, Styloid process, Lesser horn of hyoid bone, Stylohyoid ligament	Muscles of facial expression, Stylohyoid, Stapedius, Buccinator, Platysma, Posterior belly of digastric	VII	Stapedial artery
3 <sup>rd</sup>	Hyoid bone (Body and greater horn)	Stylopharyngeus	IX	Common carotid and internal carotid
4 <sup>th</sup>	Laryngeal cartilages	Cricothyroid, Levator palatini, Pharyngeal constrictors	Vagus nerve (X) Superior Laryngeal nerve	Left: Aortic arch Right: Proximal right subclavian artery (+ 7 <sup>th</sup> intersegmental artery + Dorsal Aorta)
6 <sup>th</sup>		All intrinsic muscles of larynx (except cricothyroid) Cricopharyngeus	Vagus nerve (X) Recurrent laryngeal nerve	PA DA

**2. A 30-year-old woman comes to the emergency department after a seizure. The patient reports pain on the left side of her face and is unable to fully open or close her mouth. She is drooling. On examination, the jaw deviates to the right and the left mandibular condyle is very prominent with a palpable depression posterior to it. The patient is diagnosed with an anterior dislocation of the left temporomandibular joint. The jaw is most likely maintained in a dislocated position due to continued spasm of which of the following muscles?**

- A. Buccinator**
- B. Genioglossus**
- C. Lateral pterygoid**
- D. Sternocleidomastoid**

**3. In which of the following vessels will the blood flow get affected if one puts a temporary clamp near the origin of the common hepatic artery?**

- 1. Right gastric**
- 2. Right gastroepiploic**
- 3. Replaced left hepatic**
- 4. Left gastroepiploic**
- 5. Left hepatic**
- 6. Superior pancreaticoduodenal**

- A. 2, 3, 4, 5**
- B. 1, 2, 5, 6**
- C. 1, 2, 4, 5**
- D. 4, 5, 6**

**4. All of the following structures are approximately 25 cm in length except:**

**A. Ureter**

**B. Duodenum**

**C. Esophagus**

**D. Transverse colon**

**Length**

**25 cm**

**45 cm**

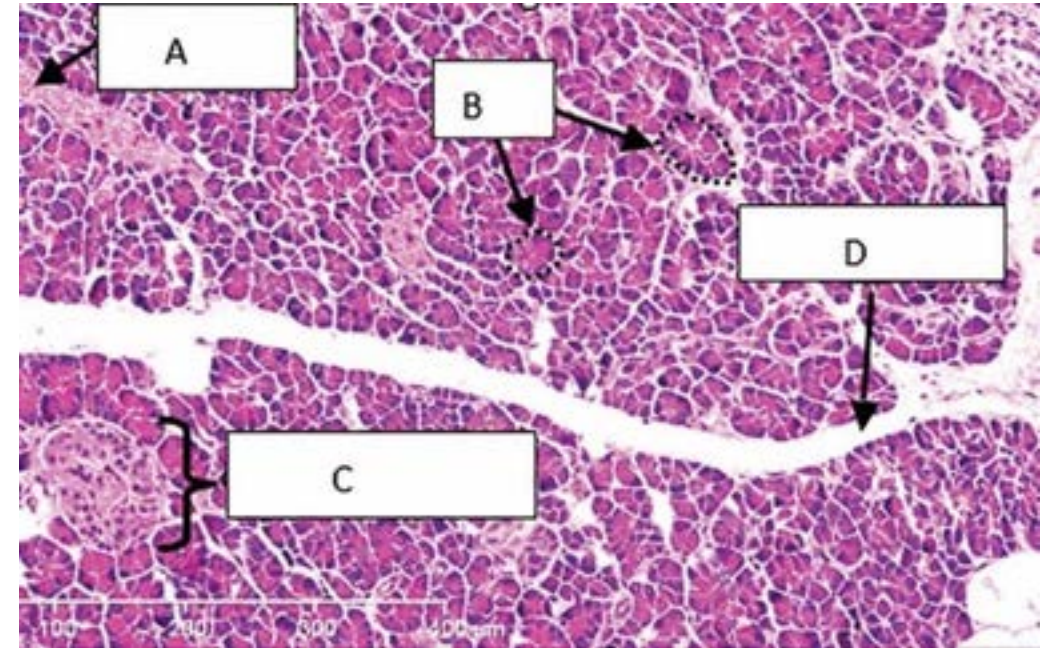
**Structures**

- Esophagus - Duodenum - Ureter - Descending colon

- Spinal cord - Thoracic duct - Vas deferens - Sartorius - Femur - Transverse colon

**5. Which of the following structure is affected in pancreas of a patient with Cystic Fibrosis? (INICET MAY 2021)**

- A. A
- B. B
- C. C
- D. D



**6. Which among the following is wrong about the venous drainage of the heart?**

- A. Coronary sinus is guarded by the thebesian valve**
- B. Middle cardiac vein lies in the posterior atrioventricular groove**
- C. Great cardiac vein accompanies left anterior descending artery**
- D. Anterior cardiac vein opens into RA directly**

**7. A 66-year-old man hospitalized 3 days ago for left lower lobe pneumonia is evaluated for persistent fever. He has been receiving the appropriate intravenous antibiotics as determined by antibiotic susceptibility testing of his sputum cultures. The patient has a history of diabetes mellitus and hypertension. His temperature is 38° C (100.4° F) and pulse is 87/min. Examination shows dullness to percussion and decreased breath sounds over the left lower lung. Imaging studies reveal a loculated, left-sided pleural effusion. A tube is placed to drain the fluid via an incision at the 5th intercostal space in the midaxillary line. Which of the following muscles is most likely to be dissected during the procedure? (Anatomy)**

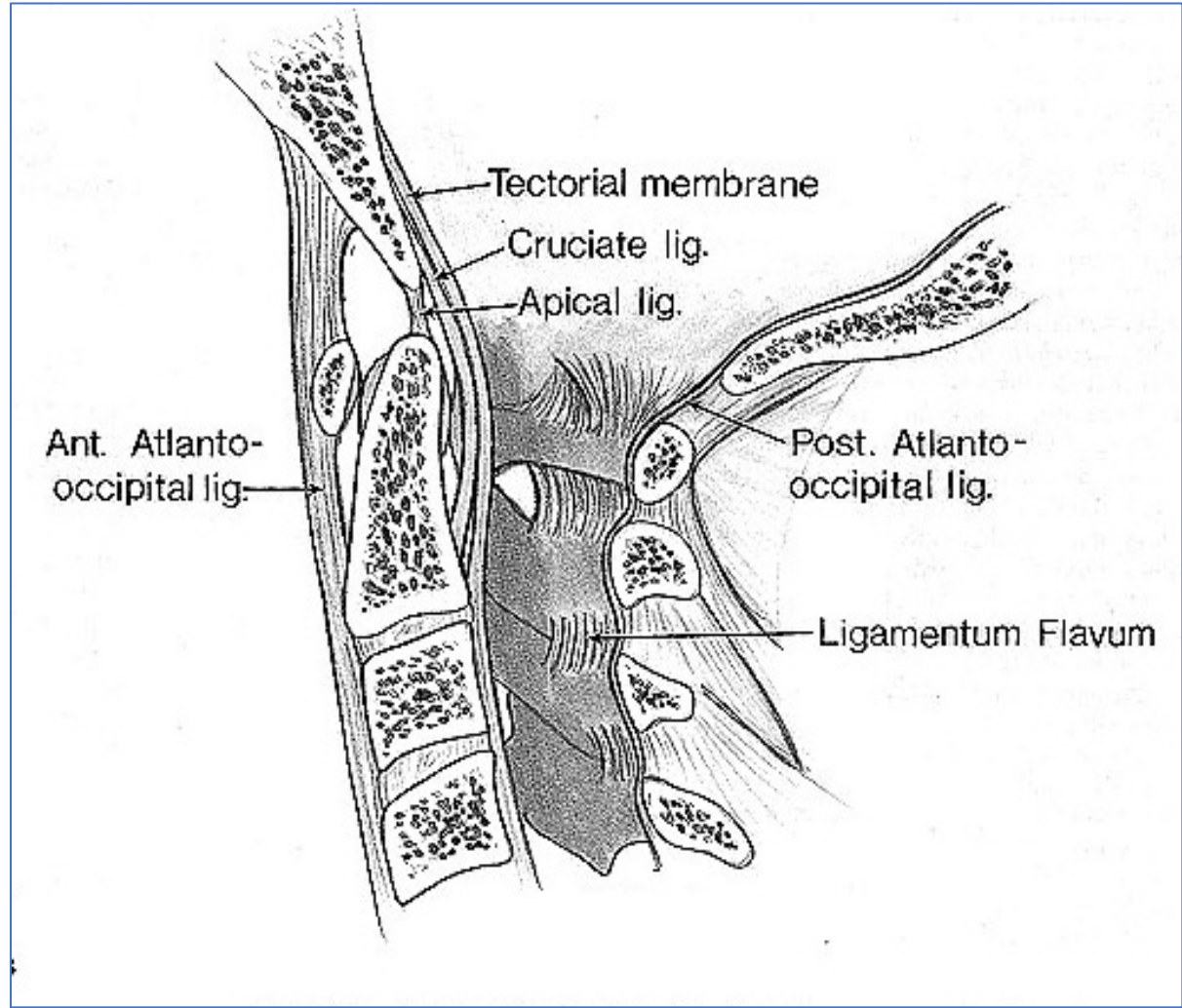
- A. External oblique**
- B. Latissimus dorsi**
- C. Pectoralis major**
- D. Serratus anterior**

**8. Which of the following types of joints is incorrectly matched?**

- A. Acromioclavicular joint – Plane synovial joint**
- B. Wrist joint – Condylloid joint**
- C. Sternoclavicular joint – Plane joint**
- D. Intercarpal– Plane synovial joint**

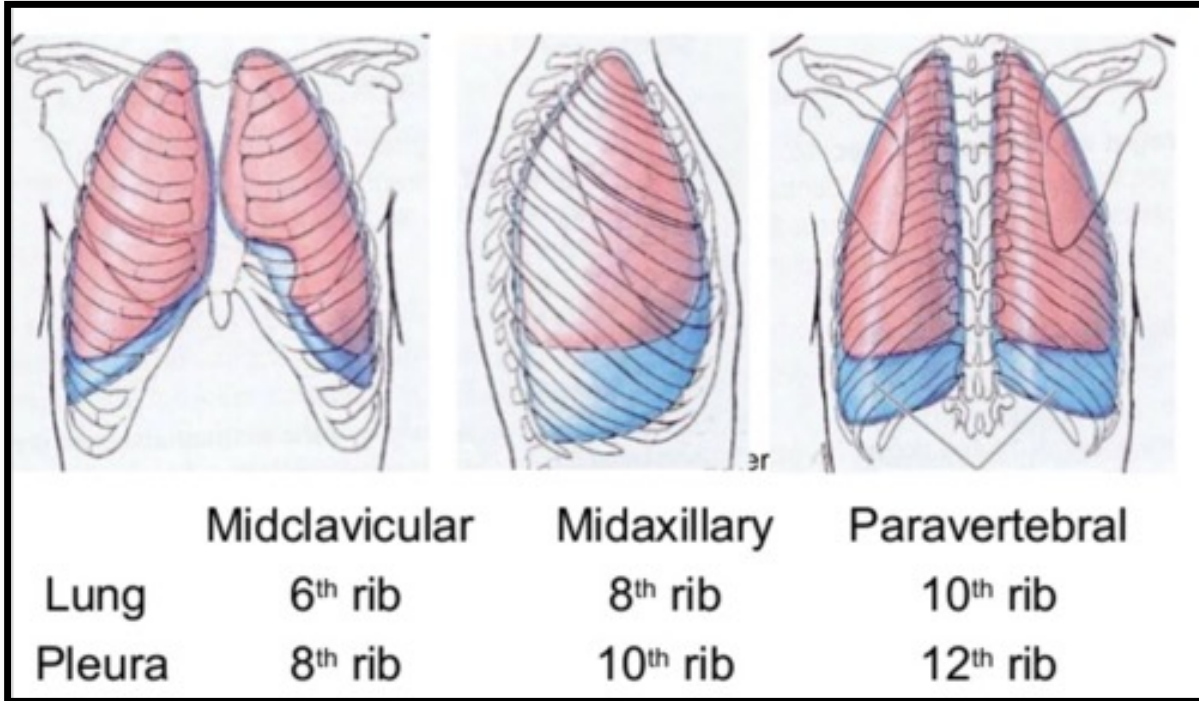
**9. During a Forensic Medicine Conference, a detailed discussion is held on the mechanisms of death in cases of judicial hanging. One of the topics focuses on the anatomical structures involved in the upper cervical spine and their role in the cause of death when subjected to the forces involved in hanging. A case is presented where an individual subjected to judicial hanging was found to have significant cervical spine injuries during the autopsy. Based on the anatomical and forensic analysis, which of the following structures is most likely to be involved in causing death due to rupture in cases of judicial hanging?**

- A. Upper Band of Cruciate Ligament**
- B. Apical Ligament of Dens**
- C. Transverse Ligament of Dens**
- D. Membrana tectoria**



**10. You should not insert the needle below which level in midaxillary line so as not to damage the liver?**

- A. 6th rib**
- B. 10th rib**
- C. 8th rib**
- D. 12th rib**



**11. In which layer of the cerebral cortex is the outer band of Baillarger seen?**

- A. External pyramidal layer**
- B. Internal granular layer**
- C. Internal pyramidal layer**
- D. External granular layer**





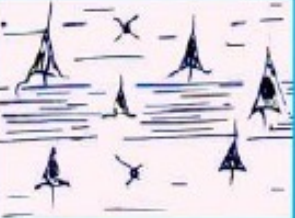

Plexiform or molecular		Transverse fibres and some scattered neurons
External granular		Mainly stellate neurons
Pyramidal		Mainly pyramidal neurons  Some stellate cells and basket cells
Internal granular		Stellate neurons Outer band of Baillarger
Ganglionic		Giant pyramidal cells Inner band of Baillarger
Multiform or polymorphous		Neurons of various sizes and shapes  Merges with white matter

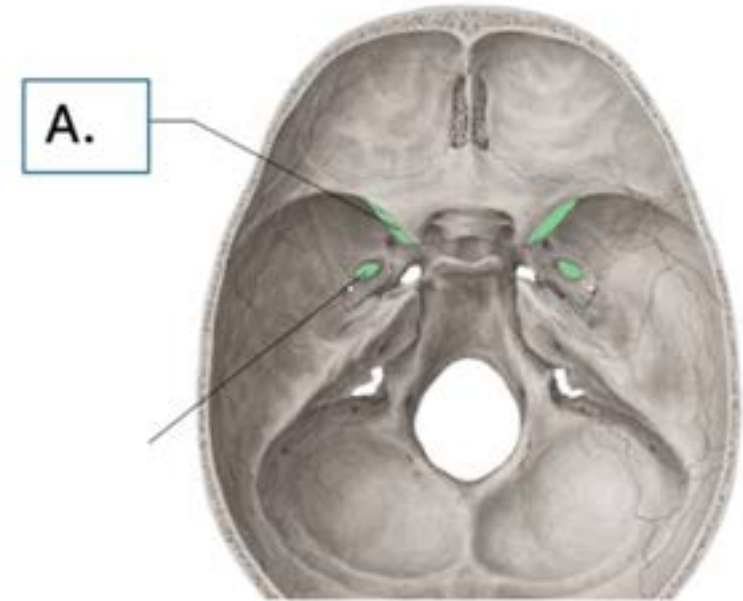
Fig. 15.2. Laminae of cerebral cortex.

**12. Which of the following brainstem nuclei is not derived from the alar plate?**

- A. Inferior olivary**
- B. Substantia nigra**
- C. Dentate**
- D. Hypoglossal**

**13. Sensation of which of the following structures are affected if a tumor or lesion compresses the structures passing through this opening of the skull marked A?**

- A. Sensation of nasopharynx**
- B. Mucosa of nasal cavity**
- C. Sensation in anterior scalp and dorsum of nose**
- D. Sensation of chin**



**14. Which of the following structures in women is homologous to gubernaculum testis in men?**

- A. Round ligament**
- B. Broad ligament**
- C. Uterosacral ligament**
- D. Cardinal ligament**

### Dihydrotestosterone

- ← Glans penis
- ← Corpus cavernosum and spongiosum
- ← Bulbourethral glands (of Cowper)
- ← Prostate gland
- ← Ventral shaft of penis (penile urethra)
- ← Scrotum

### Estrogen

- Genital tubercle
- Genital tubercle
- Urogenital sinus
- Urogenital sinus
- Urogenital folds
- Labioscrotal swelling
- Glans clitoris
- Vestibular bulbs
- Greater vestibular glands (of Bartholin)
- Urethral and paraurethral glands (of Skene)
- Labia minora
- Labia majora

**15. . Superior gluteal nerve supplies all except?**

- A. Gluteus medius**
- B. Gluteus minimus**
- C. Tensor fascia lata**
- D. Piriformis**

**16. During the clinical examination of the nervous system, which of the following nerves can be tested by touching the highlighted structure? (Anatomy)**

- A. IX
- B. X
- C. XI
- D. XII



# 17. Match the following Subarachnoid Cisterns with their respective Vascular contents:

Subarachnoid cistern	Vascular content
A. Cisterna Magna	1. Basilar artery
A. Quadrigeminal cistern	1. Vertebral artery
A. Sylvian cistern	1. Vein of Galen
A. Pontine cistern	1. MCA

- A. A-1, B-2, C-3, D-4
- B. A-2, B-3, C-4, D-1
- C. A-1, B-3, C-4, D-2
- D. A-2, B-4, C-1, D-3

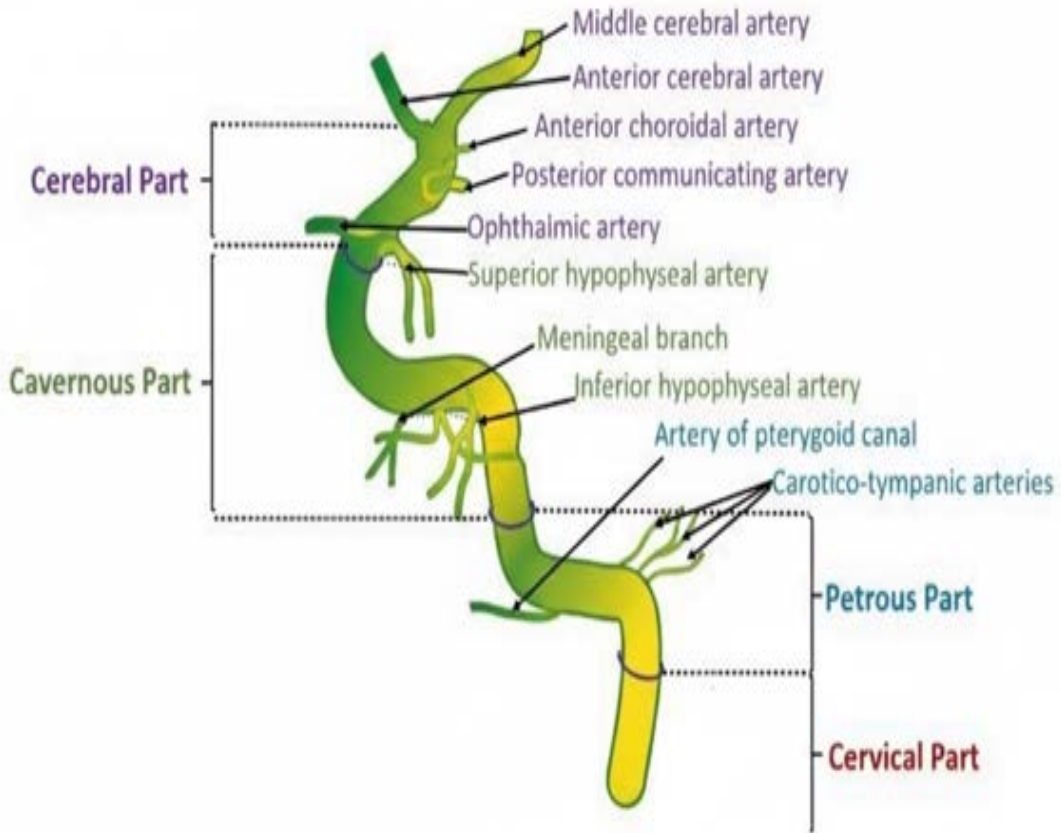
**18. A 58-year-old man comes to the physician for evaluation of increasing swelling in his left cheek and recurrent oral ulcers for 1 year. He has smoked a pack of cigarettes daily for 25 years. Examination shows firm, nontender swelling above the angle of jaw. USG guided biopsy shows adenoid cystic carcinoma. A left sided total parotidectomy is performed. This patient is at greatest risk for which of the following complications?**

- A. Hyperesthesia of the left ear lobe**
- B. Impaired taste of the posterior 1/3 of the tongue**
- C. Flushing of the right cheek while eating**
- D. Inability to wrinkle the left side of the forehead**

**19. Which of the following branches of internal Carotid artery are given off in the cervical region?**

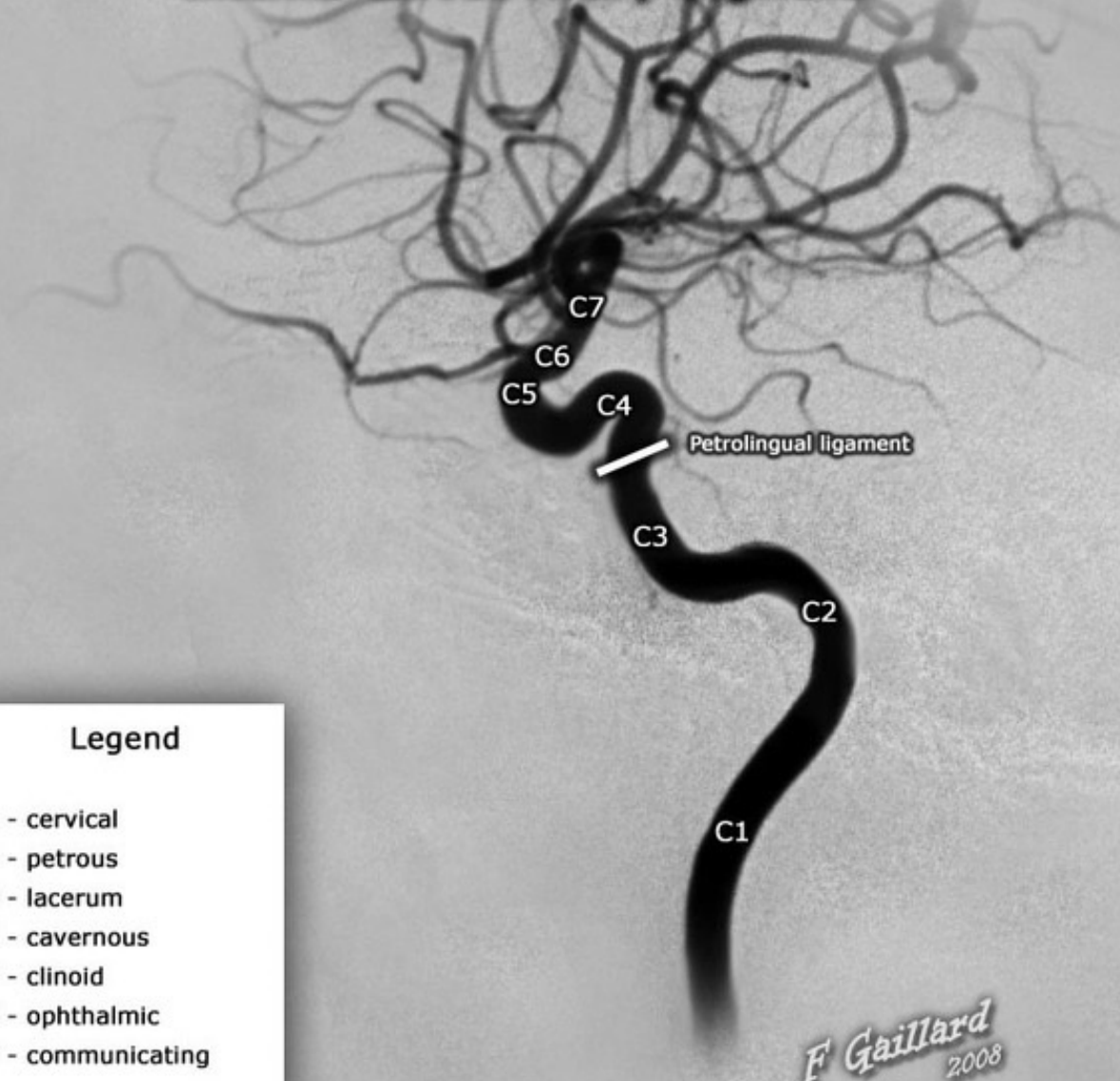
- A. Pharyngeal branches**
- B. Pterygoid branch**
- C. Caroticotympanic branch**
- D. None of the above**

### Internal Carotid Artery and its Branches



### Internal Carotid Artery Segments

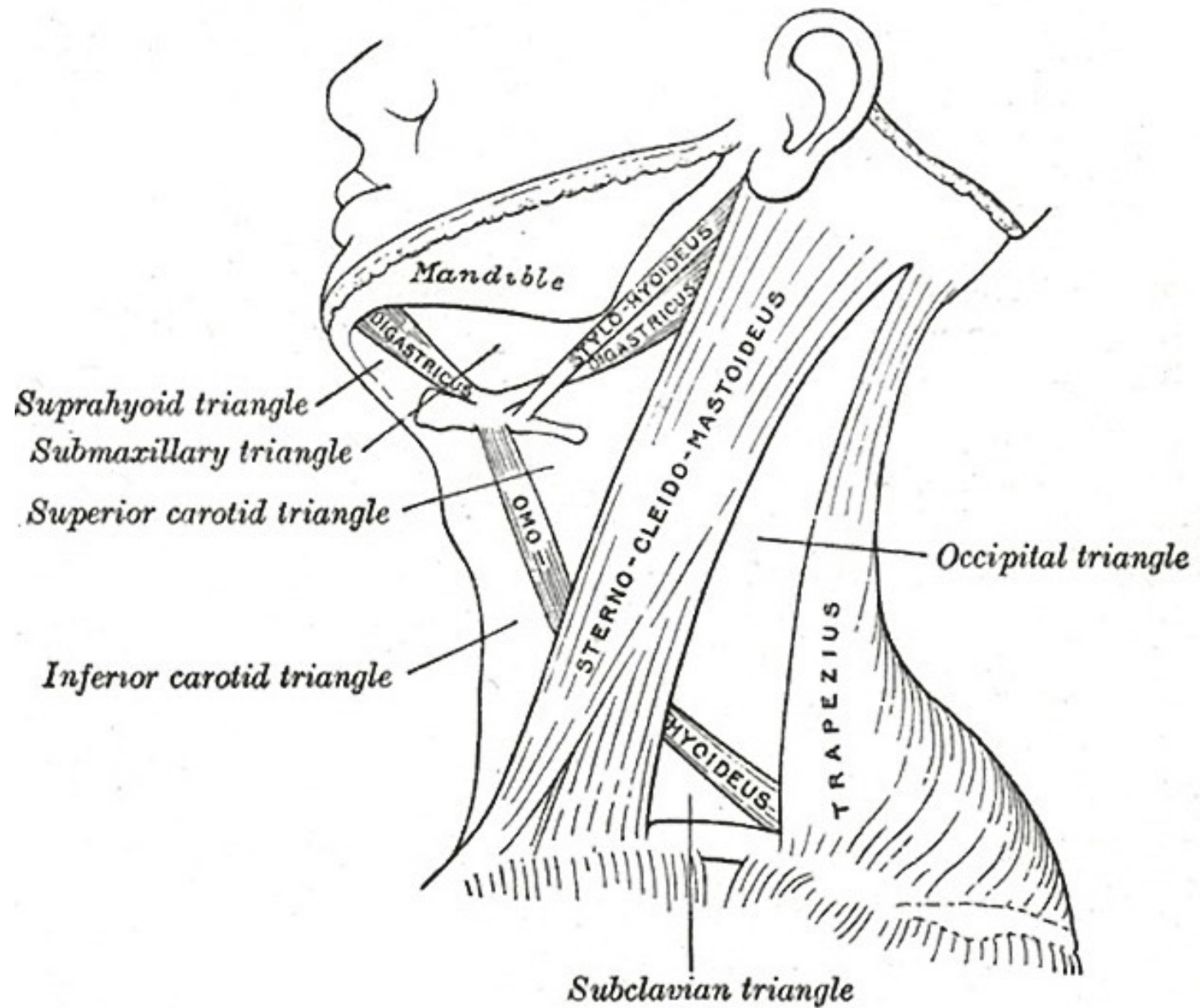
- Legend**
- C1 - cervical
  - C2 - petrous
  - C3 - lacerum
  - C4 - cavernous
  - C5 - clinoid
  - C6 - ophthalmic
  - C7 - communicating



F. Gaillard 2008

**20. Which of the following areas is not a part of anterior neck?**

- A. Subclavian triangle**
- B. Submental triangle**
- C. Digastric triangle**
- D. Carotid triangle**



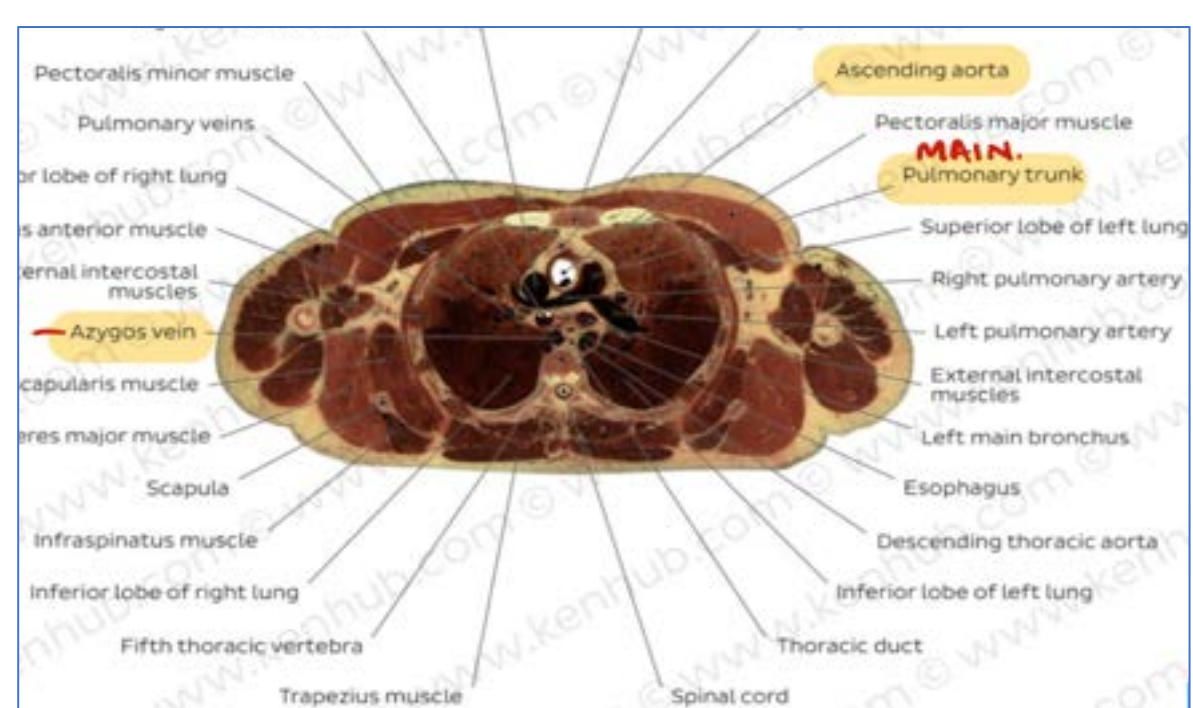
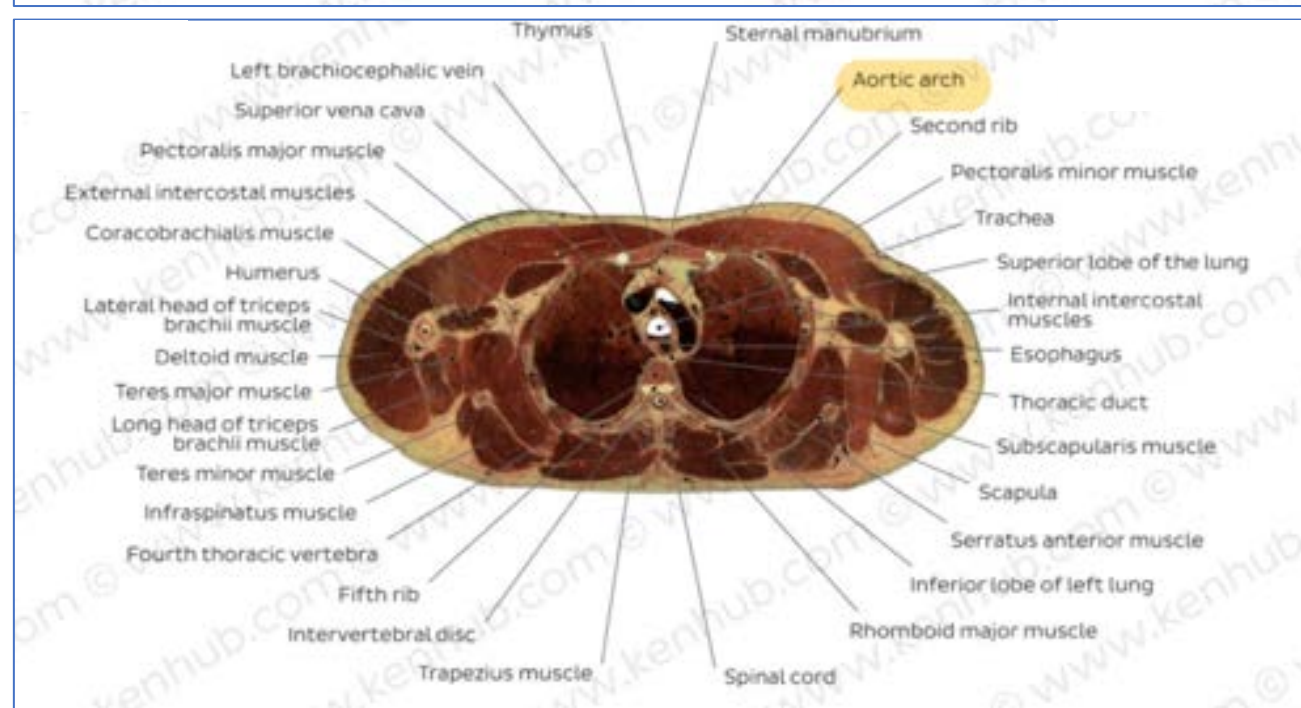
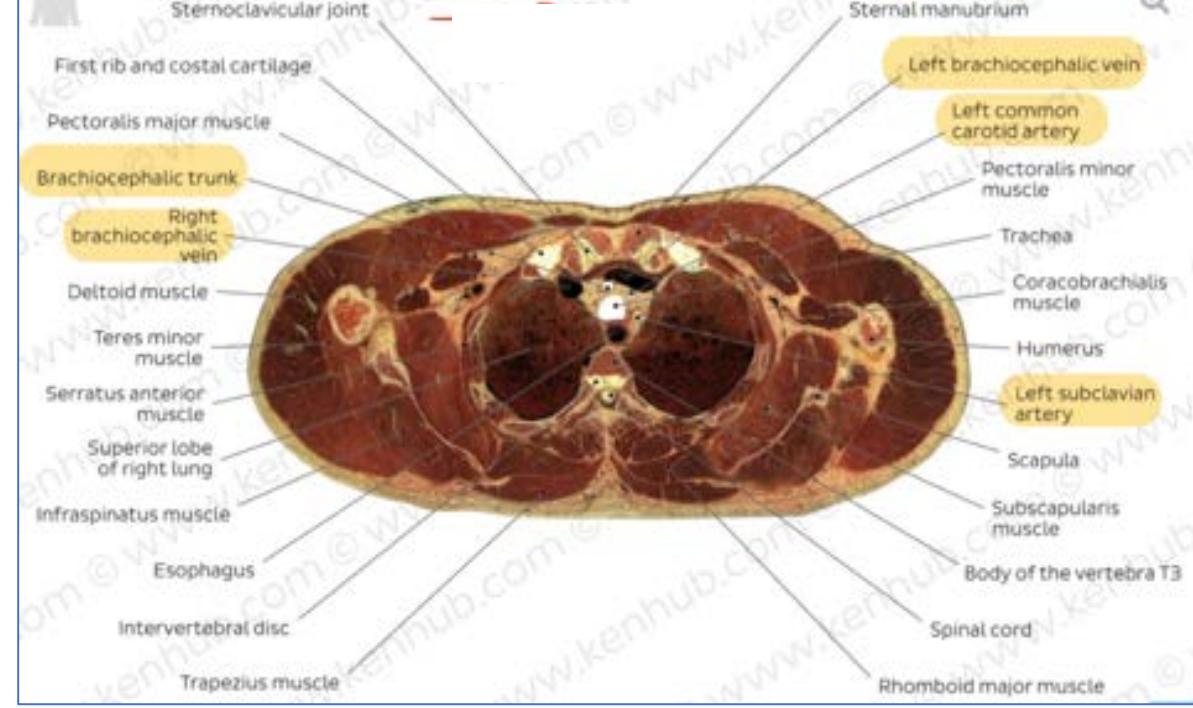
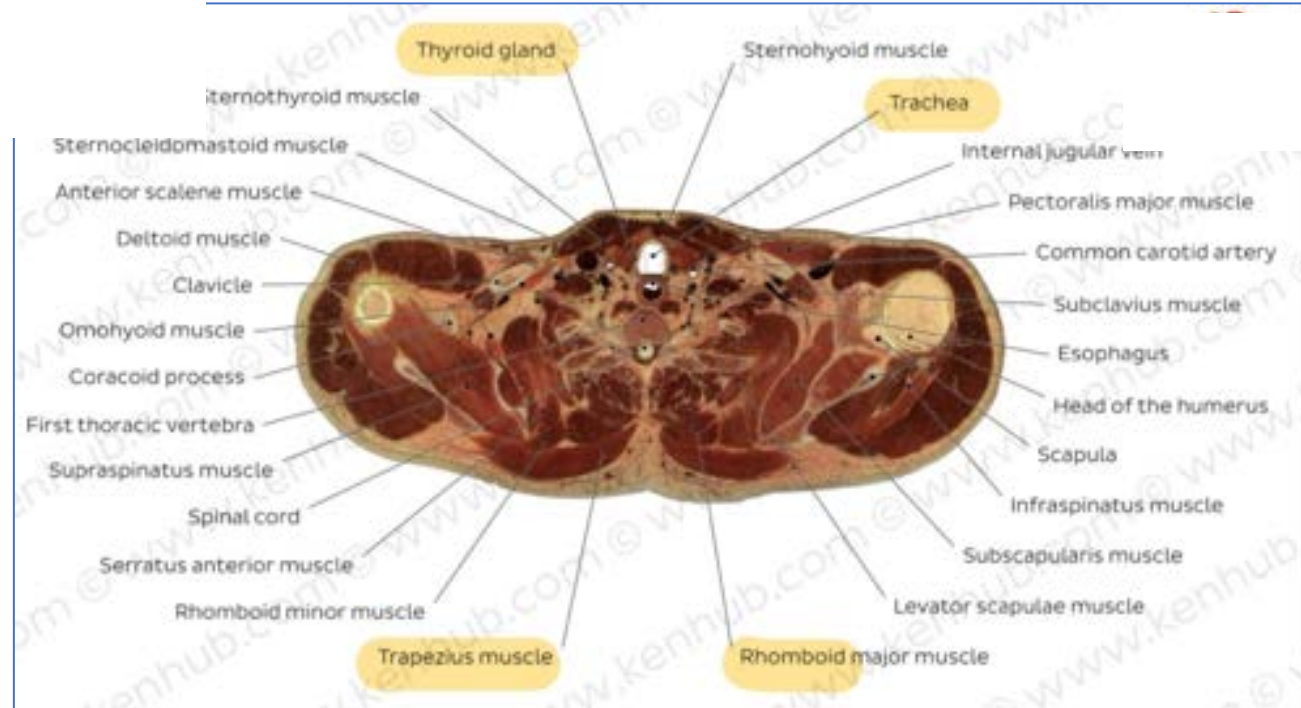
**21. Which of the following statements is true about the iliopubic tract? (Anatomy)**

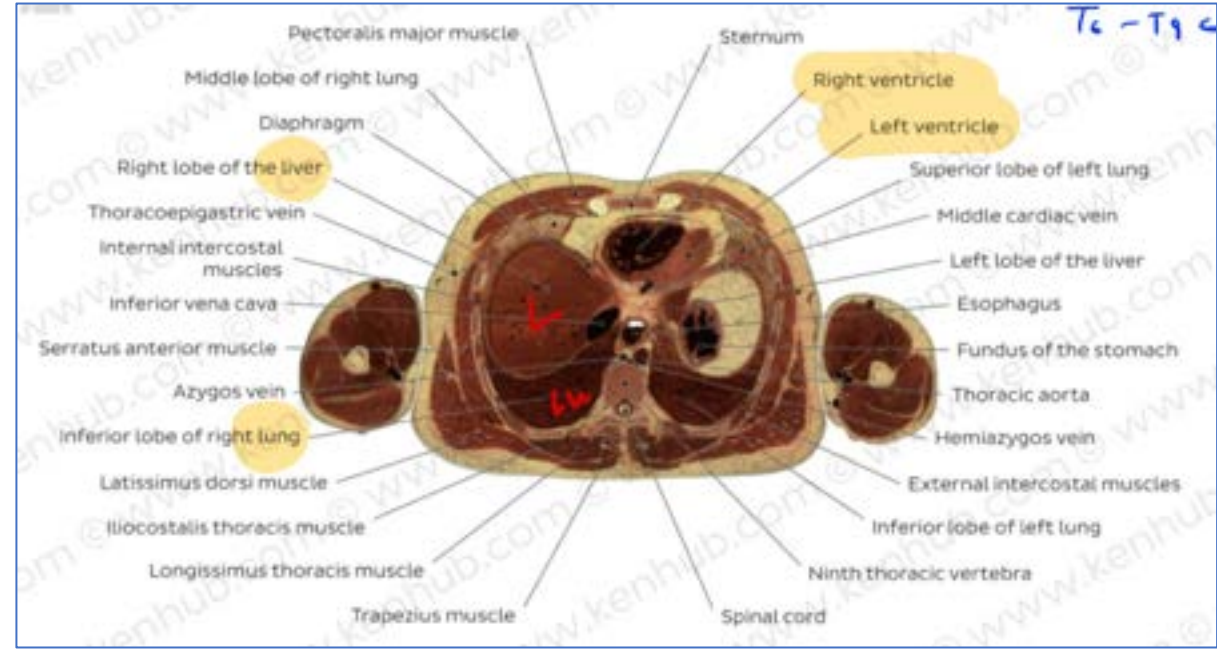
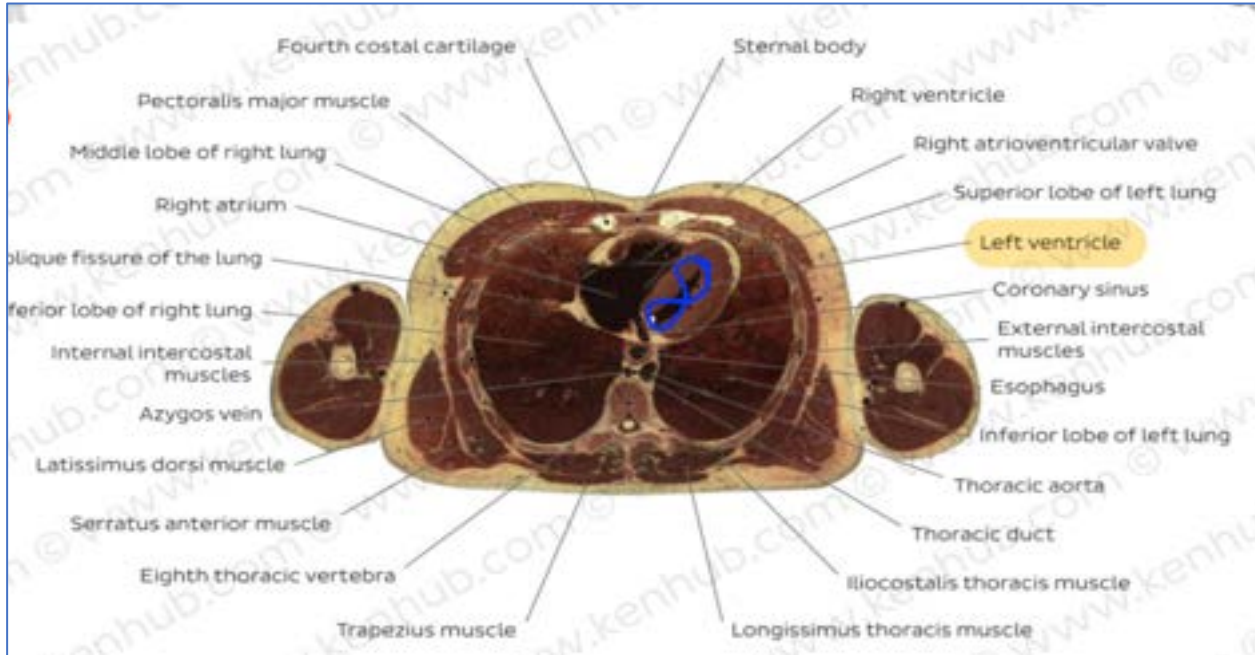
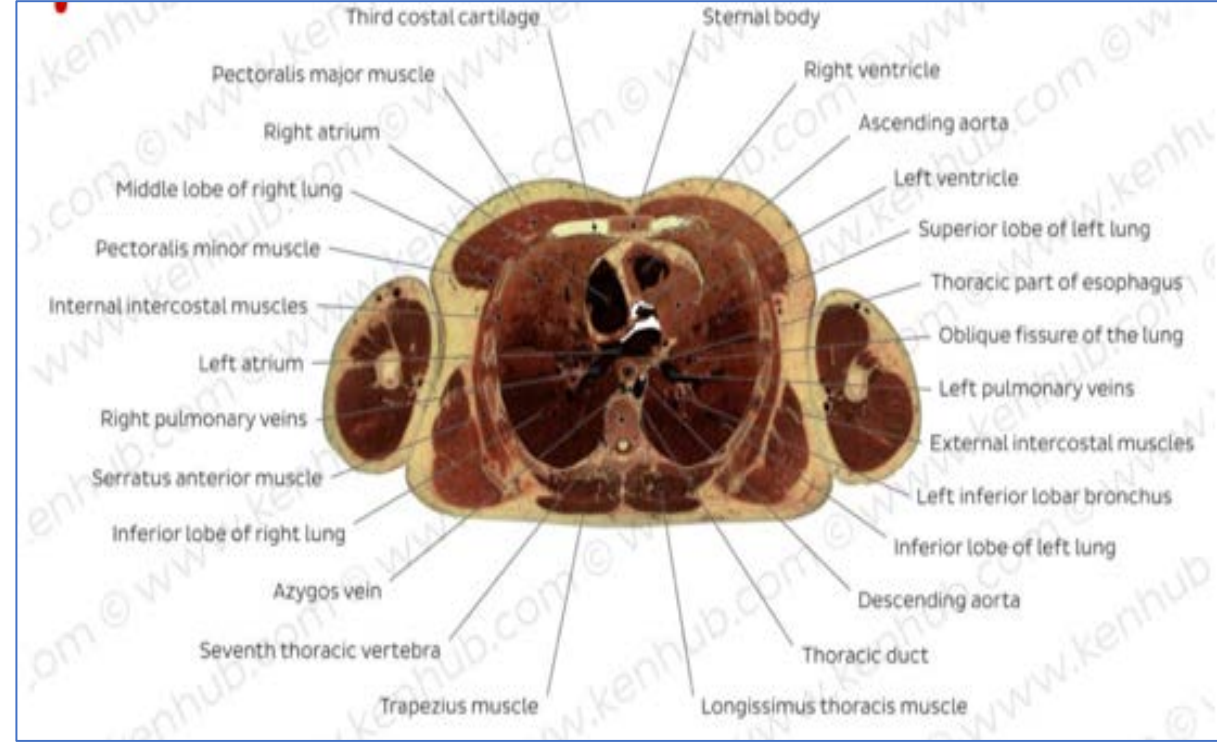
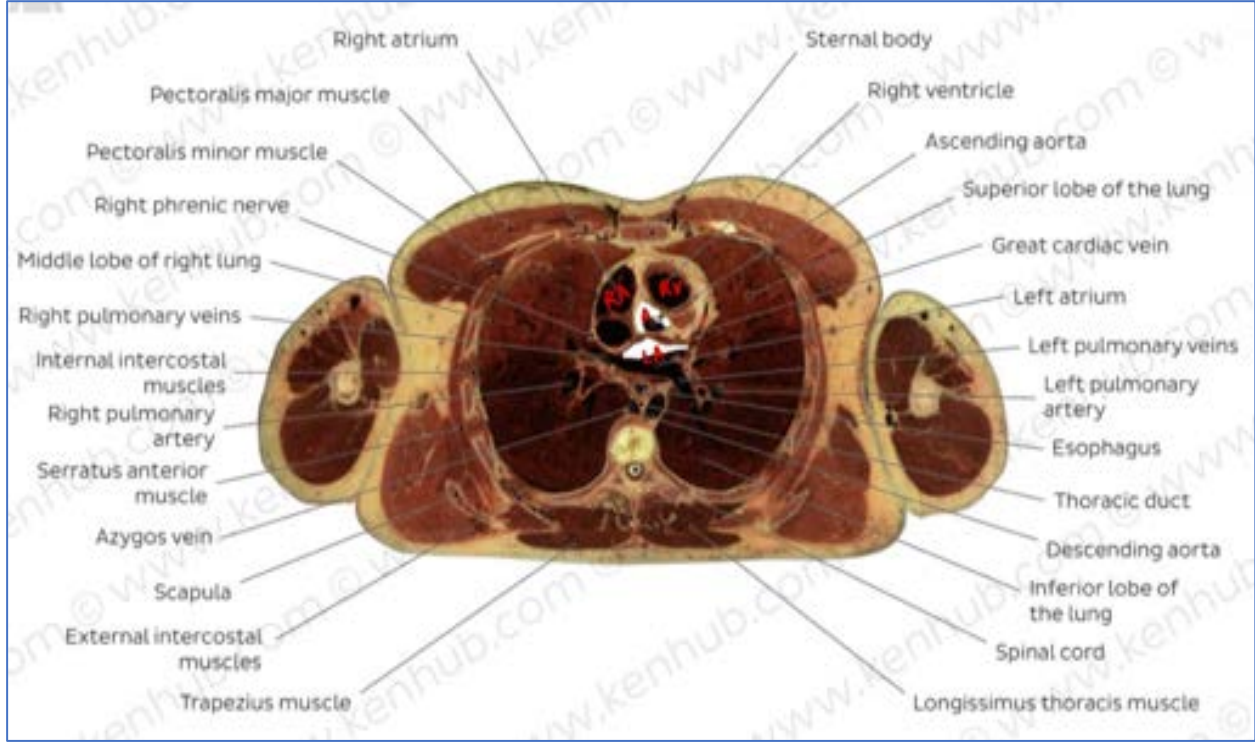
- A. It is a thickening of the lumbar fascia**
- B. It lies anterior to the Poupart's ligament**
- C. It inserts into the pubic tubercle in front of the conjoint tendon**
- D. Its fibers fan out with fascia illaca laterally**

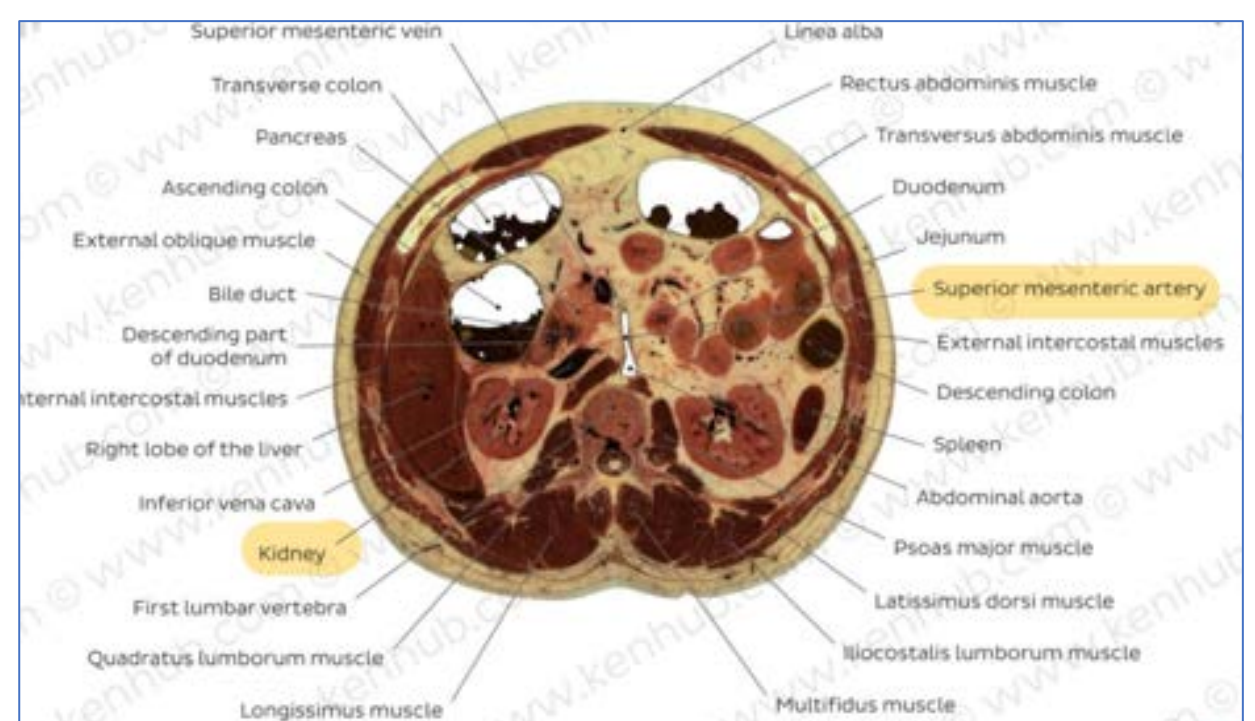
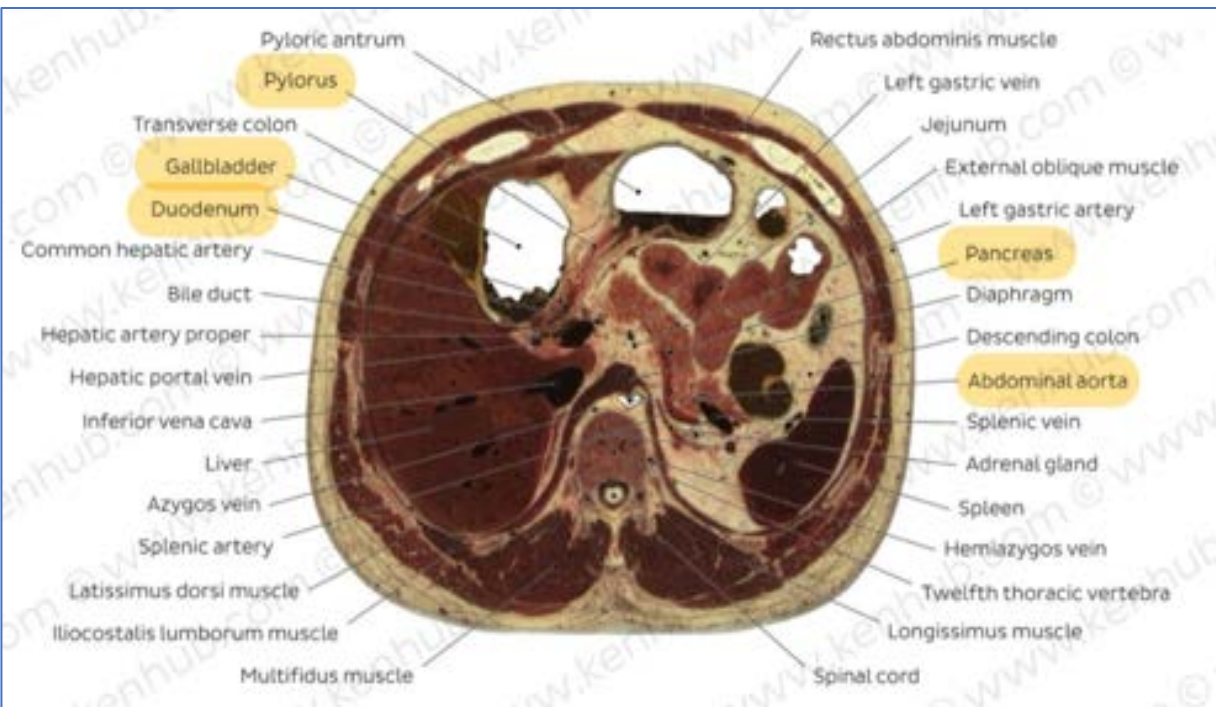
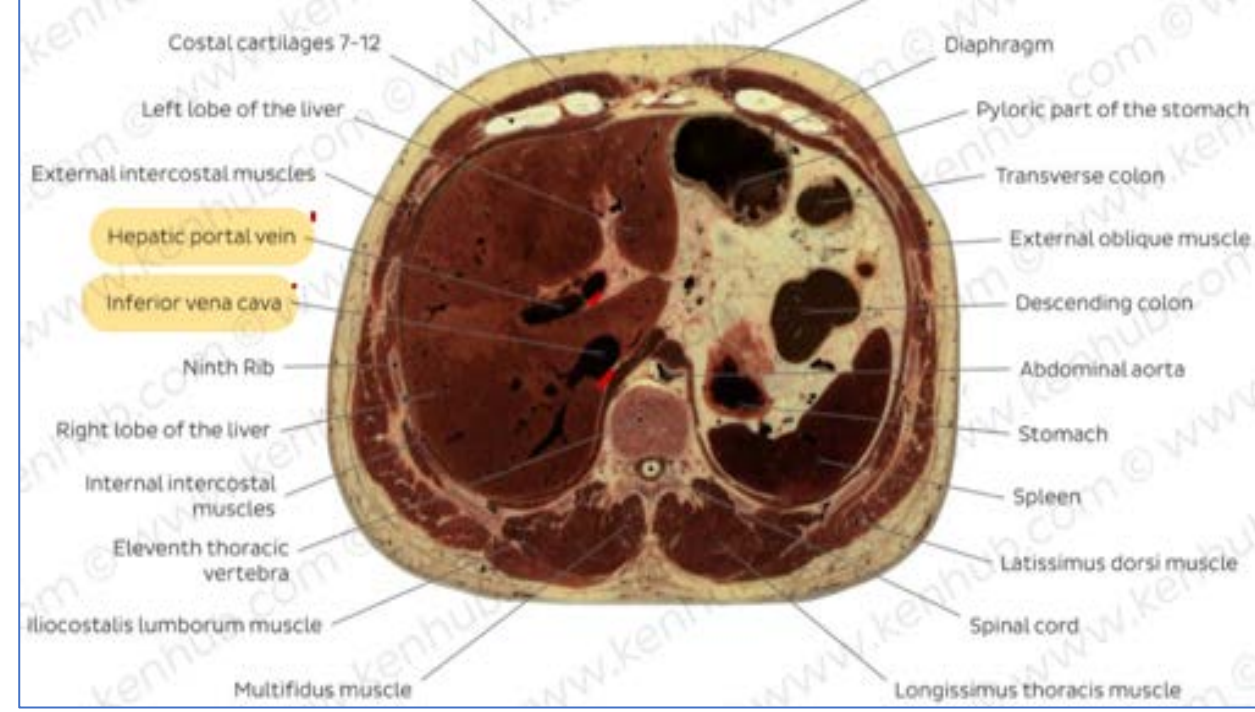
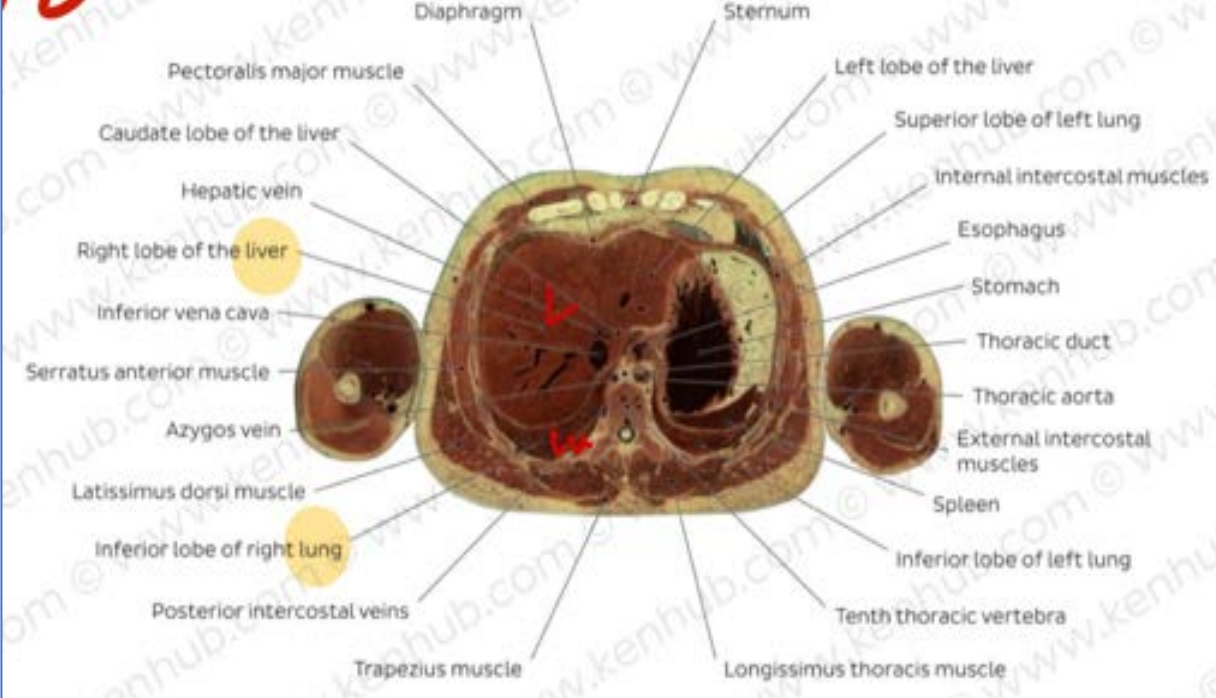
**22. What level of the vertebral column does the given cross-sectional image correspond to:**

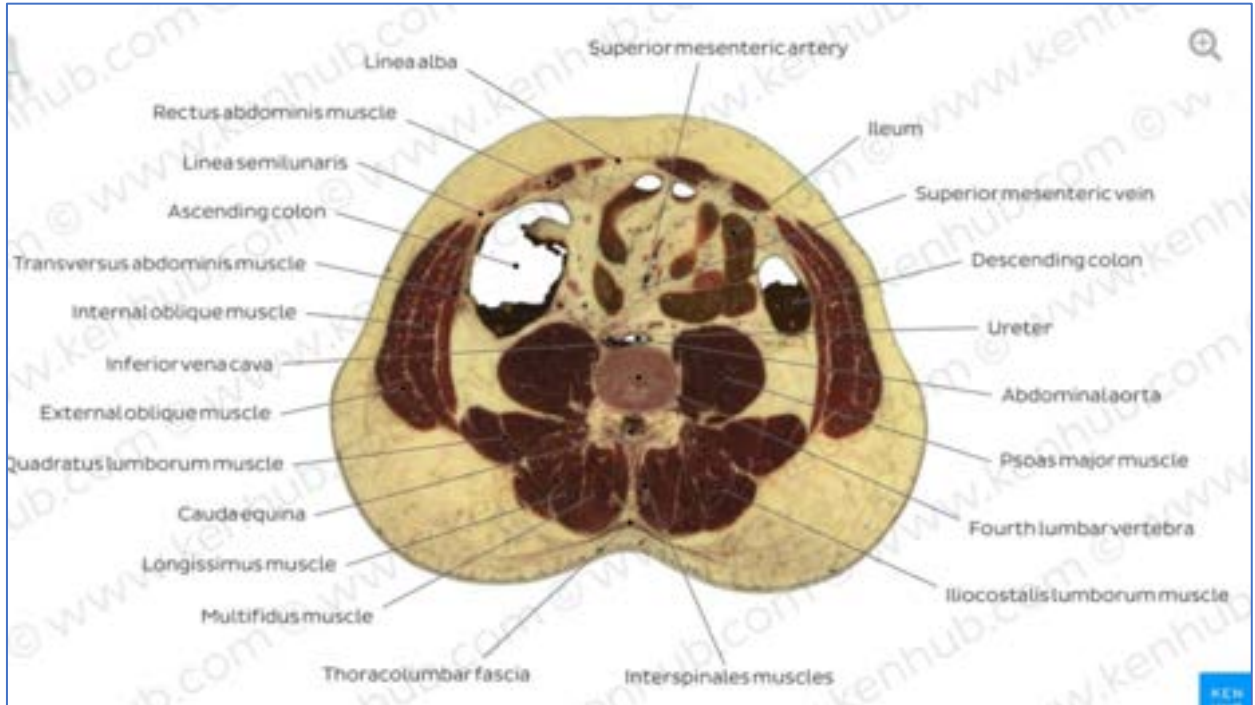
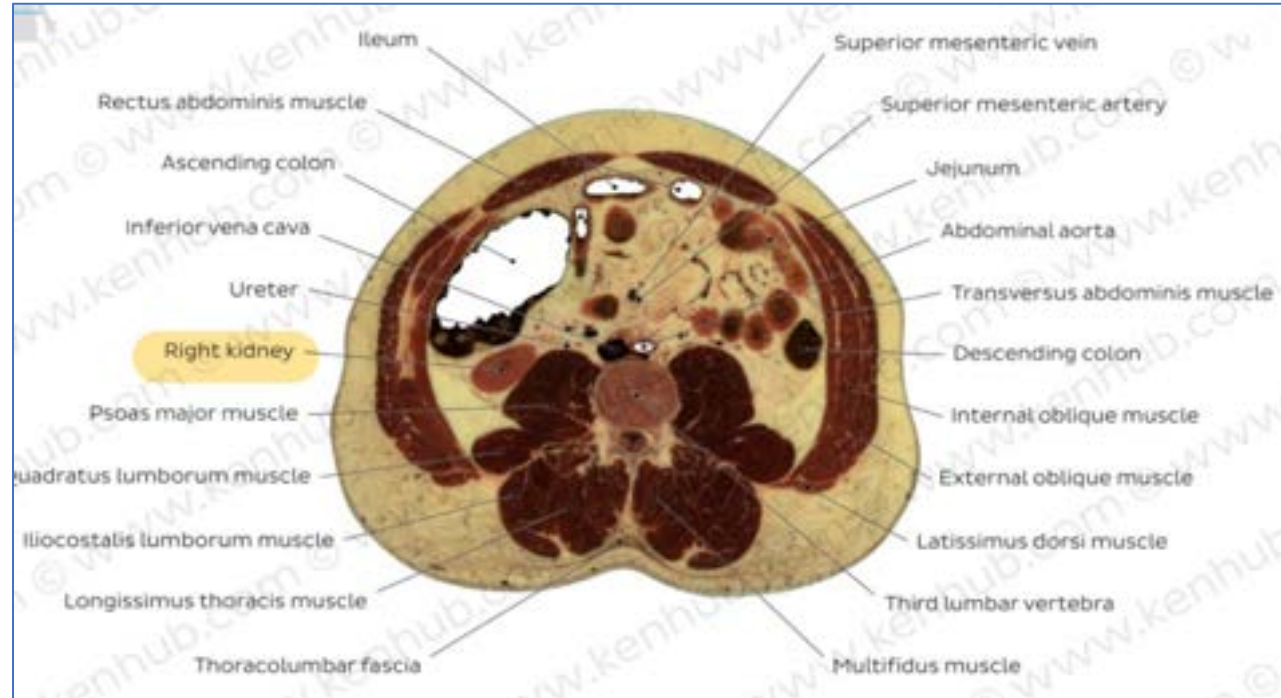
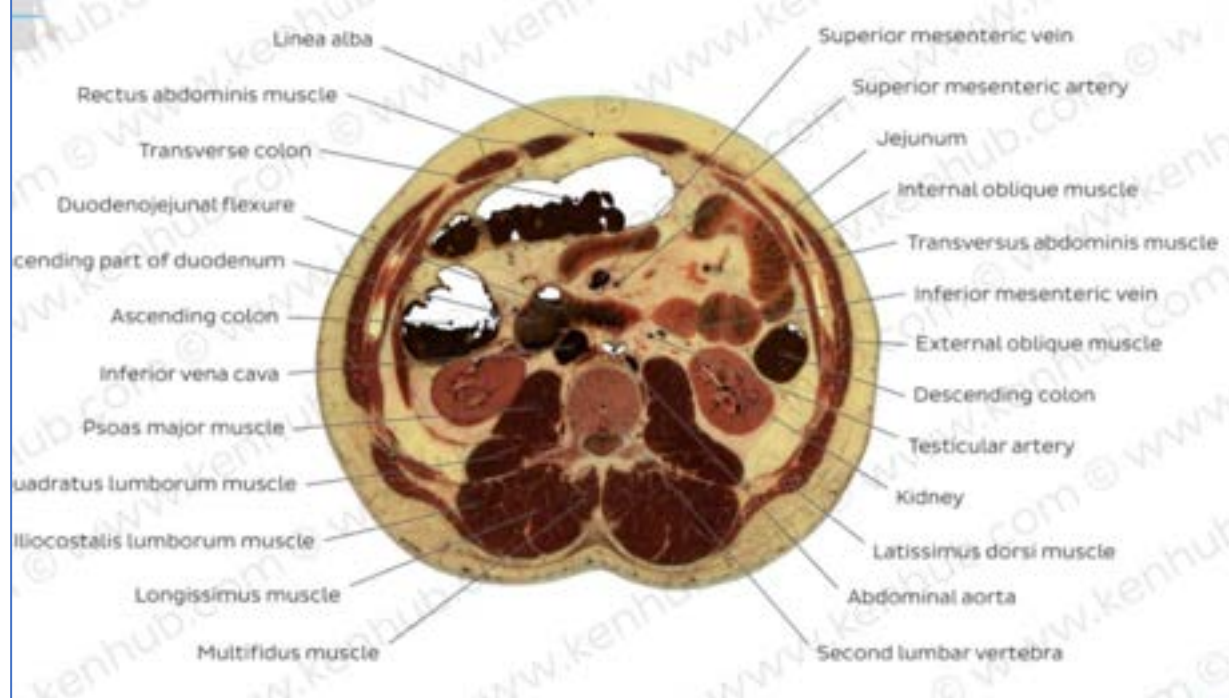
- A. T12
- B. T10
- C. T9
- D. T11





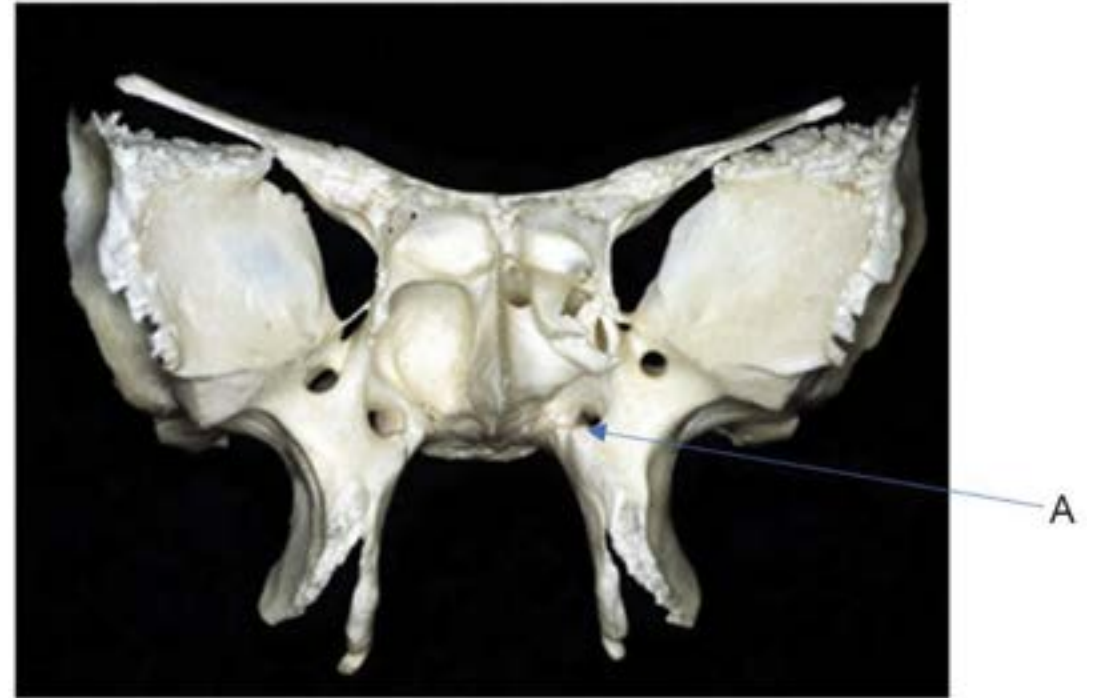


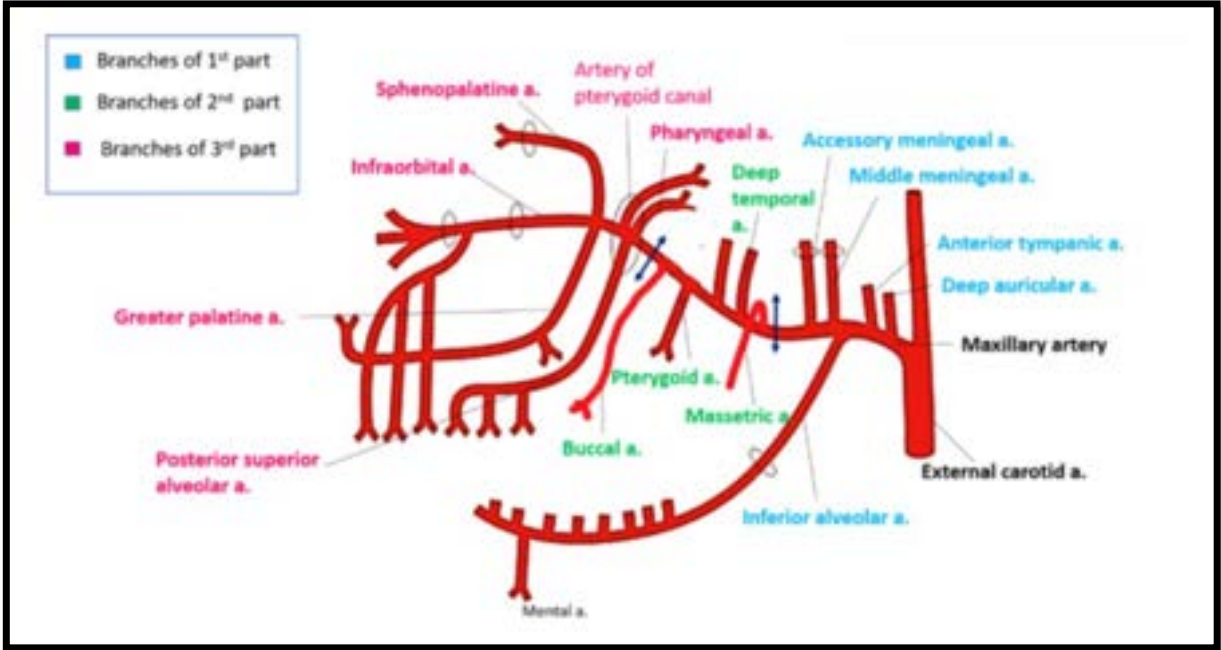




**23. The artery passing through the structure marked A is a branch of which part of the maxillary artery?**

- A. First part**
- B. Second part**
- C. Third part**
- D. Fourth part**



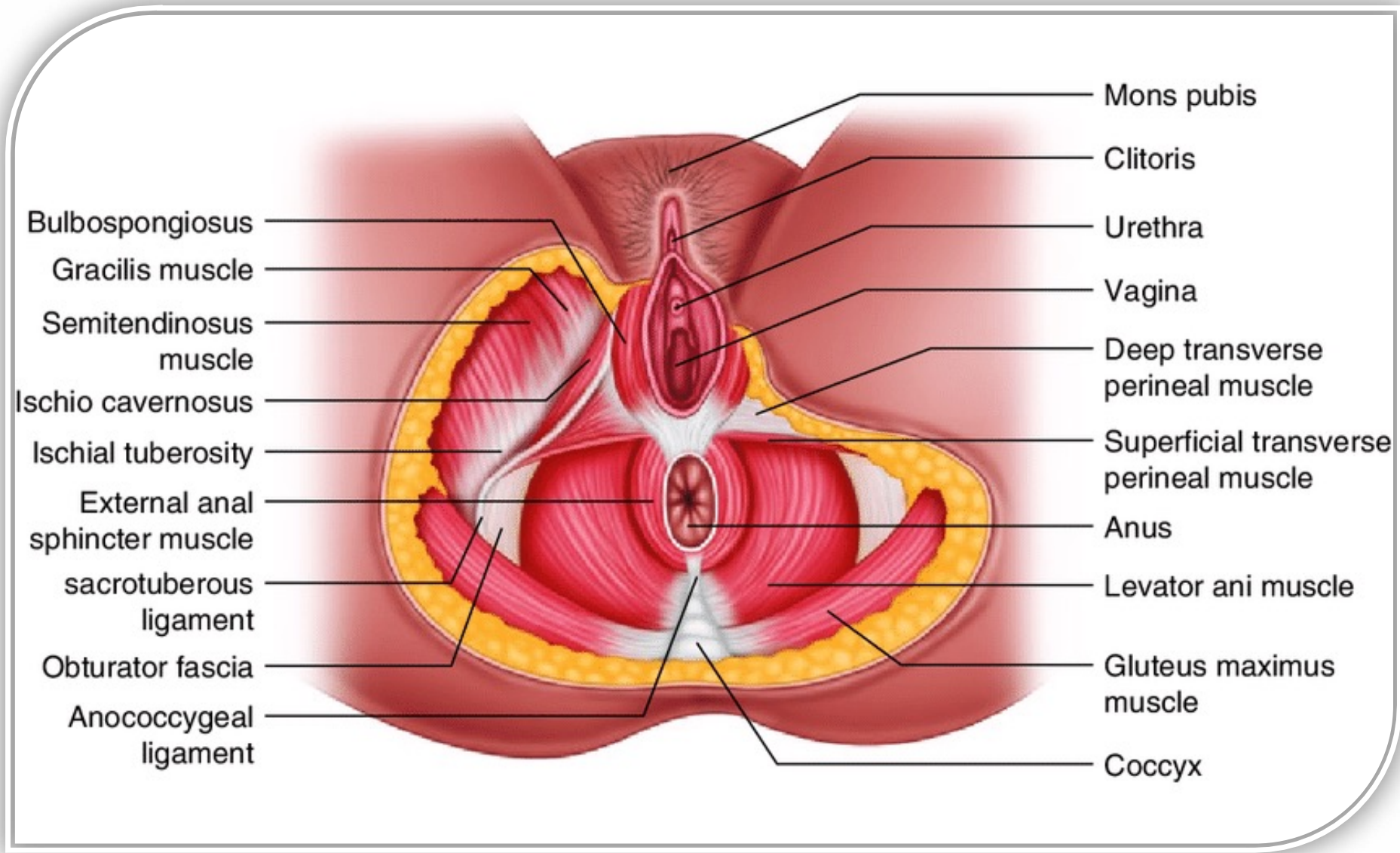


**24. A 40-year-old male patient presents with hemiplegia on the right side of the body. On examination he was having loss of proprioception, fine touch and vibration sensations on the right side. He was also unable to recognize the objects with closed eyes from the right hand. On examination the left side of the tongue was atrophied and deviation on the left side during protrusion was found. What is the likely diagnosis?**

- A. Perinaud's syndrome**
- B. Raymond syndrome**
- C. Dejerine's syndrome**
- D. Wallenberg's syndrome**

**25. Which of the following muscles is not involved in the formation of the perineal body?**

- A. Bulbospongiosus muscle**
- B. Superficial transverse perineal muscles**
- C. Deep transverse perineal muscles**
- D. Internal anal sphincter muscle**

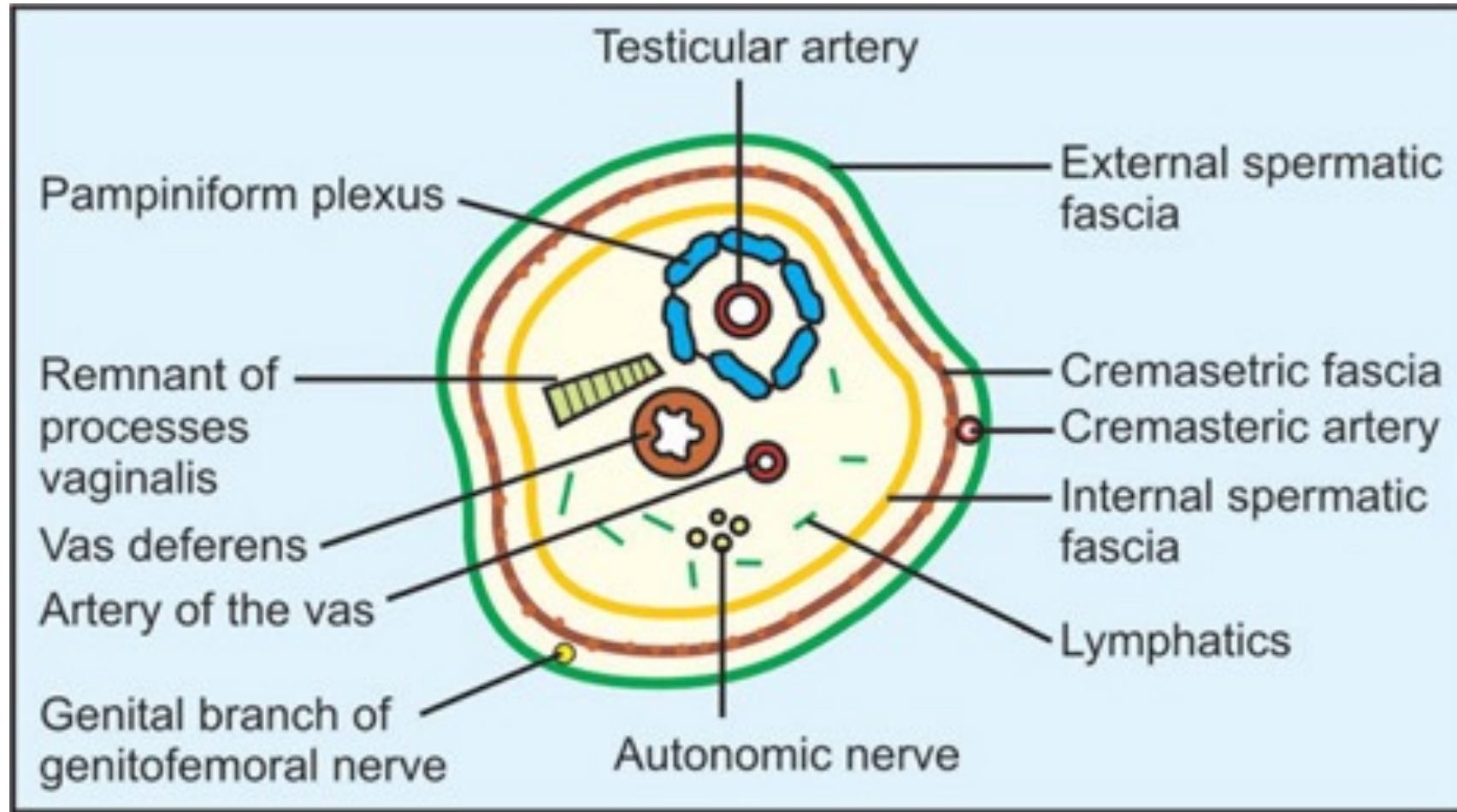


Bulbospongiosus  
Gracilis muscle  
Semitendinosus muscle  
Ischio cavernosus  
Ischial tuberosity  
External anal sphincter muscle  
sacrotuberous ligament  
Obturator fascia  
Anococcygeal ligament

Mons pubis  
Clitoris  
Urethra  
Vagina  
Deep transverse perineal muscle  
Superficial transverse perineal muscle  
Anus  
Levator ani muscle  
Gluteus maximus muscle  
Coccyx

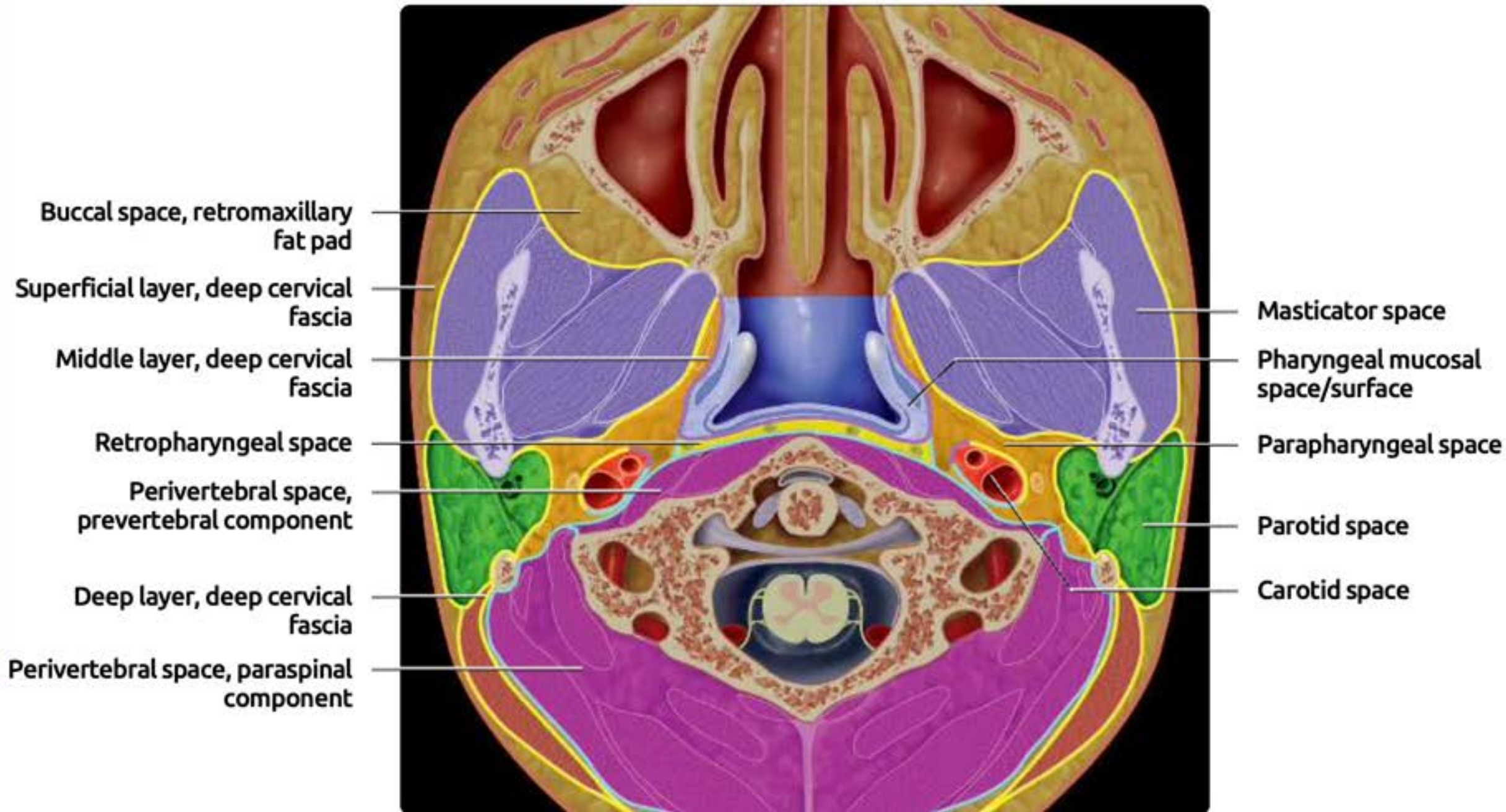
**26. Which of the following structures of the inguinal canal lies outside the internal spermatic fascia?**

- A. Pampiniform plexus of veins**
- B. Testicular artery**
- C. Testicular nerve plexus**
- D. Ilioinguinal nerve**



**27. Which of the following is not a feature of post-styloid parapharyngeal space infection?**

- A. Horner's syndrome**
- B. Vocal cord palsy**
- C. Trismus**
- D. Parotid swelling**

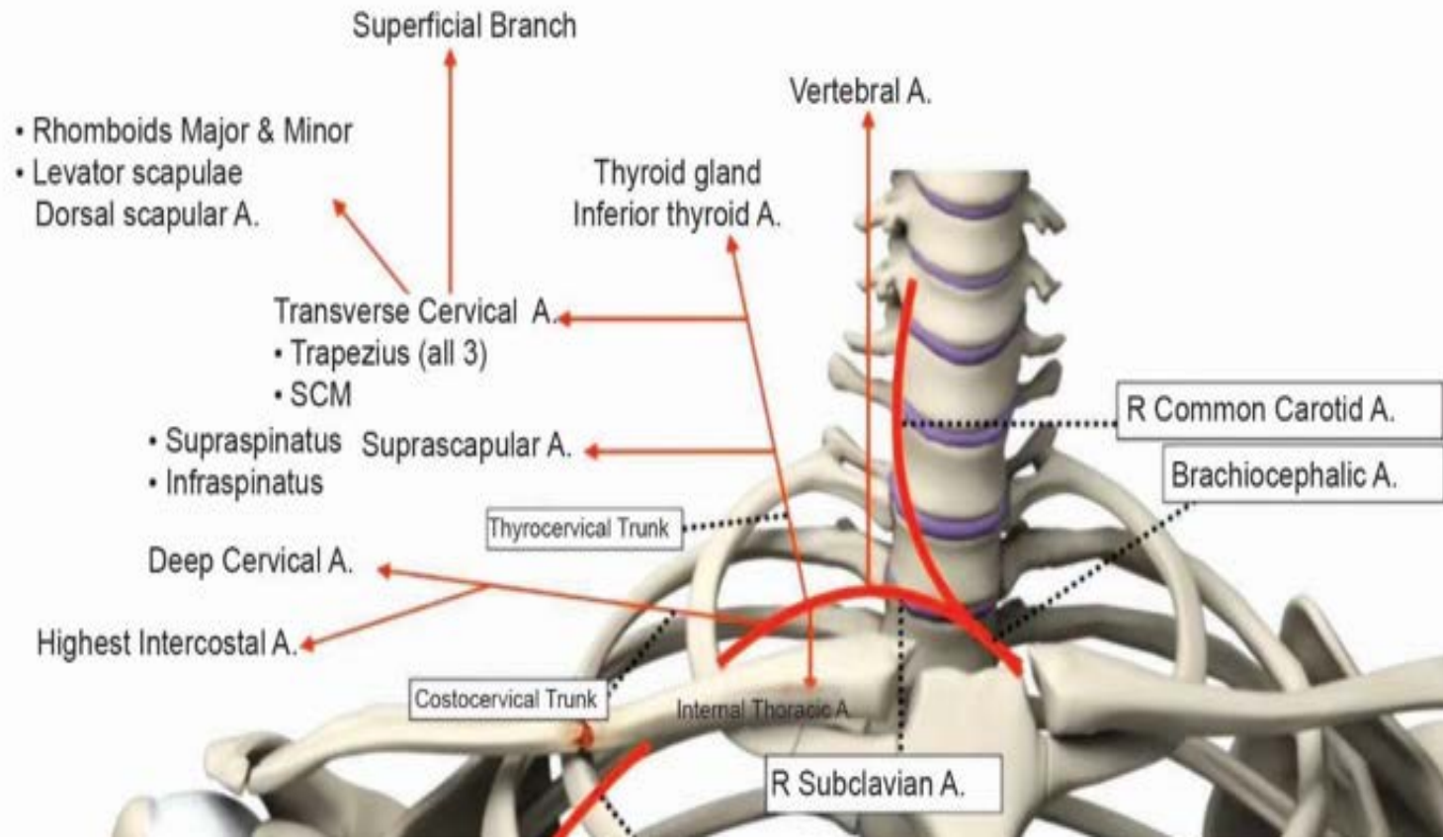


**28. All of the following peritoneal folds are correctly matched with their contents, except:**

- A. Gastrocolic ligament – Right gastric artery**
- B. Splenorenal ligament – Splenic vessels and pancreatic tail**
- C. Transverse mesocolon – middle colic vessels**
- D. Gastrosplenic ligament – Short gastric vessels**

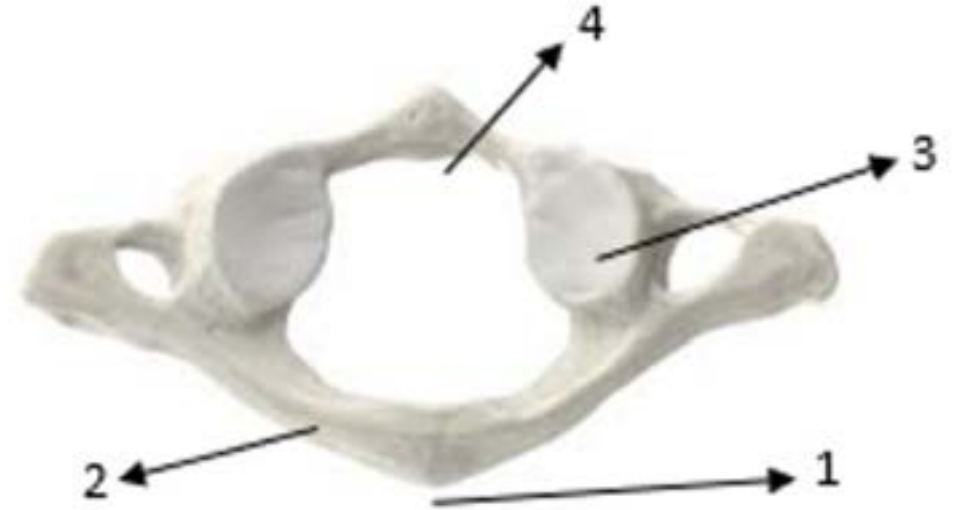
**29. During surgery on a 56-year-old man for a squamous cell carcinoma of the neck, the surgeon notices profuse bleeding from the deep cervical artery. Which of the following arteries must be ligated immediately to stop bleeding?**

- A. Inferior thyroid artery**
- B. Transverse cervical artery**
- C. Thyrocervical trunk**
- D. Costocervical trunk**



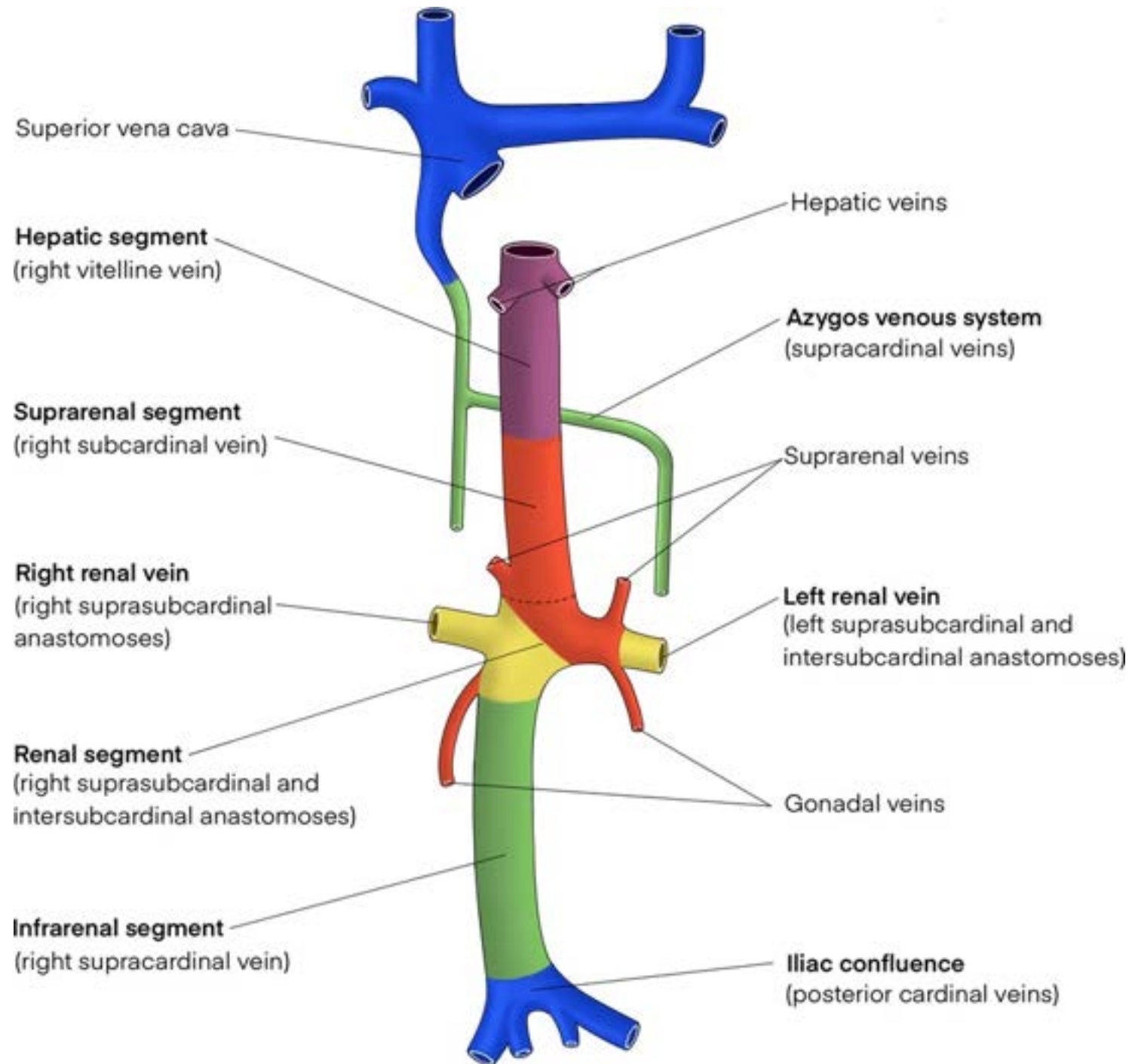
**30. Third part of vertebral artery is related to which of the following?**

- A. 4
- B. 3
- C. 2
- D. 1



**31. The hepatic sinusoids that can be observed histologically in an adult liver are derived from the?**

- A. Supracardinal veins**
- B. Anterior cardinal veins**
- C. Vitelline veins**
- D. Subcardinal veins**



**32. Which of the following structures do not pass through both greater and lesser sciatic foramens?**

- A. Pudendal nerve**
- B. Tendon of obturator internus**
- C. Nerve to obturator internus**
- D. Internal pudendal vessels**

## STRUCTURES PASSING THROUGH THE GREATER & LESSER SCIATIC FORAMINA

### VIA GREATER SCIATIC FORAMEN

- Superior gluteal vessels
- Superior gluteal nerve

### PIRIFORMIS

- Inferior gluteal vessels
- Inferior gluteal nerve
- Sciatic nerve
- Perforating cutaneous nerve
- Posterior femoral cutaneous nerve
- Nerve to quadratus femoris
- Nerve to obturator internus
- Pudendal nerve
- Internal pudendal vessels

### VIA LESSER SCIATIC FORAMEN

- Tendon of obturator internus
- Nerve to obturator internus
- Internal pudendal vessels
- Pudendal nerve



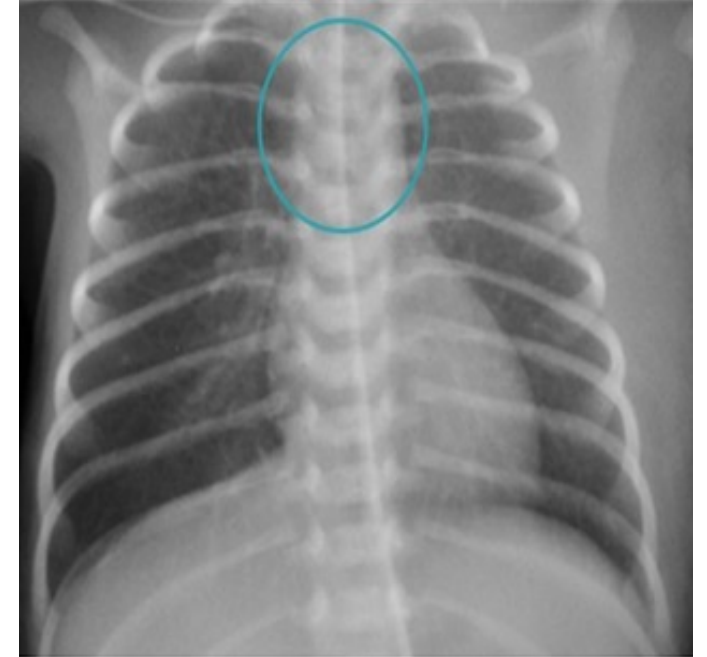
**33. A 22-year-old man comes to the OPD due to occasional dull headaches that awaken him from sleep. The patient has no associated neurologic deficits. On physical examination, there are several 3- to 5-cm flat, pigmented spots on his trunk. There are also multiple, subcentimeter, soft, fleshy, cutaneous tumors located on his trunk and neck. The predominant cells forming these tumors most likely originated from which of the following structures?**

- A. Endoderm
- B. Mesoderm
- C. Neural crest
- D. Neural tube



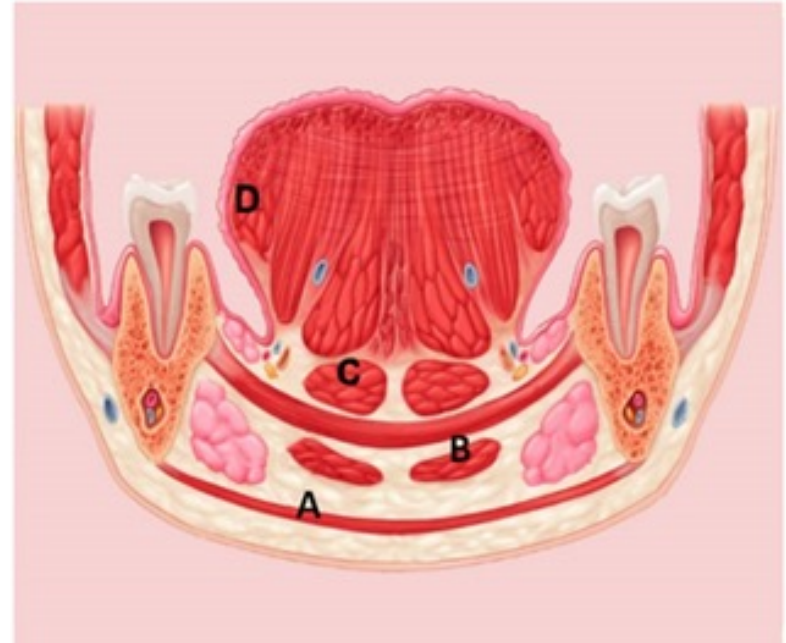
34. A 1-week-old boy is brought to the emergency department with poor feeding, lethargy, and unusual "muscle movements" involving the left thumb and hand over the last 2 days. The infant's vital signs are normal, but unusual flexion of the left wrist and thumb and extension of the fingers are observed with cuff blood pressure measurement. Physical examination reveals hypoplastic mandible, low-set ears, bifid uvula, and cleft palate. A chest x-ray is shown below. These findings most likely suggest impaired development of which of the following embryonic structures?

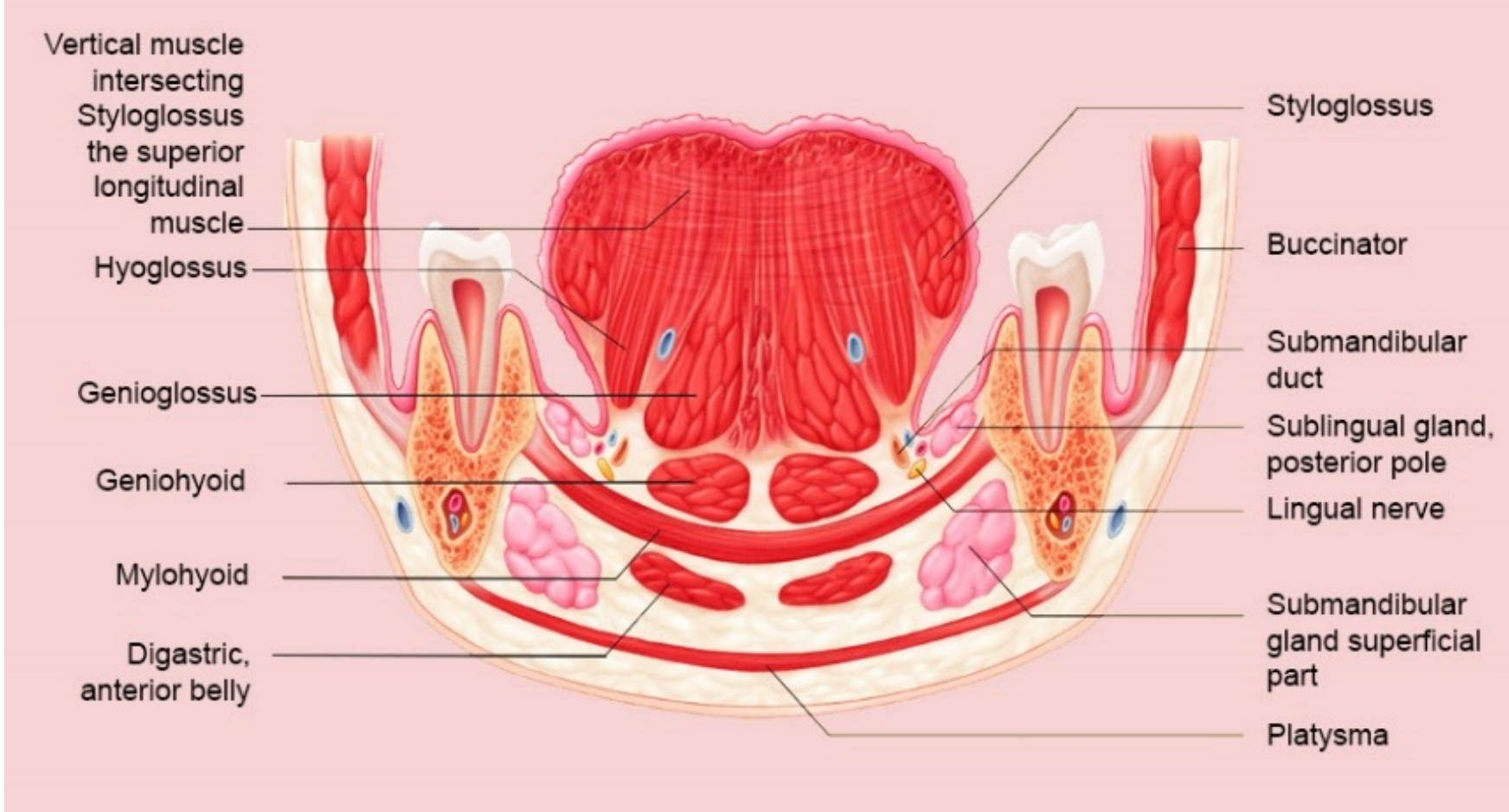
- A. Third pharyngeal pouch
- B. Foramen cecum
- C. Rathke pouch
- D. Second pharyngeal cleft



**35. Identify the incorrectly matched pair with respect to its nerve supply of the marked structures in the given image.**

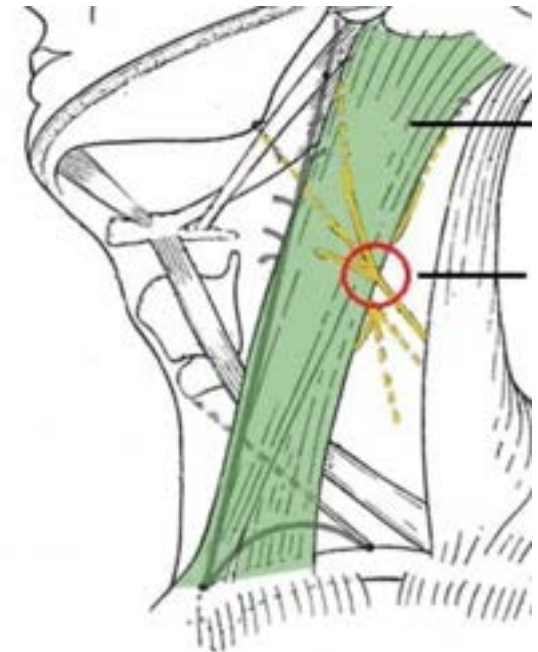
- A. Facial nerve
- B. Trigeminal nerve
- C. Glossopharyngeal nerve
- D. Hypoglossal nerve





### 36. All of the following are true about the marked point except:

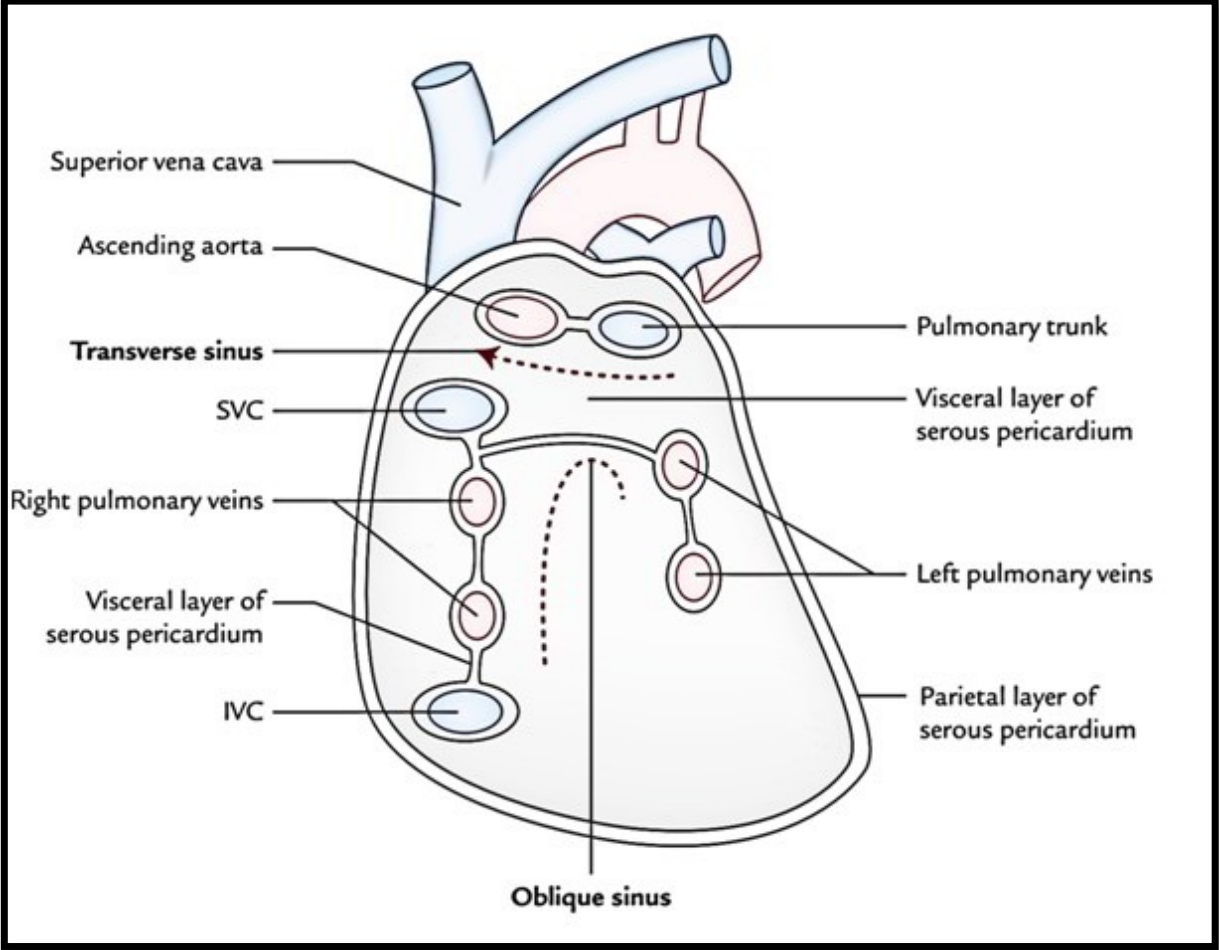
- A. Lies in front of the transverse process of the sixth cervical vertebra
- B. Blocking this point leads to weakness of sternocleidomastoid
- C. Landmark in the neck where the spinal accessory nerve emerges into the posterior triangle
- D. Formed by the C5 and C6 nerve roots, and the cutaneous branches of the cervical plexus



- Erb's point is formed by the convergence of C5 and C6 nerve roots and cutaneous branches of the cervical plexus (lesser occipital, great auricular, transverse cervical, and supraclavicular nerves).

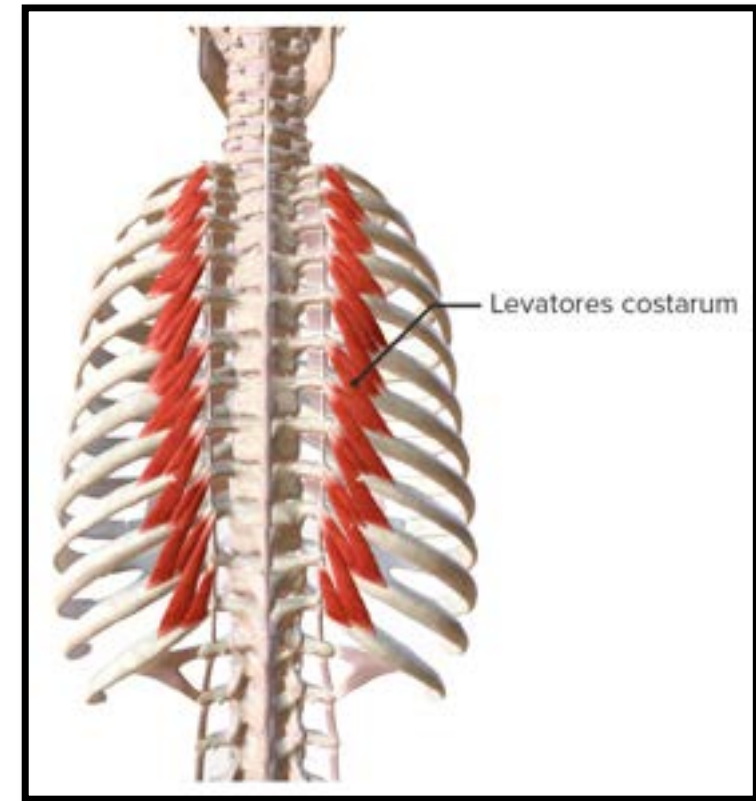
**37. Which of the following is accurate regarding pericardial sinuses?**

- A. Transverse sinus is between arterial and venous pericardial reflection.**
- B. Oblique sinus lies behind left atrium**
- C. Transverse sinus lies behind ascending aorta**
- D. Oblique sinus allows a surgeon to ligate the pulmonary vessels**



**38. Which muscle is physically in the back but functionally in the thorax?**

- A. Rhomboid
- B. Latissimus dorsi
- C. Trapezius
- D. Levator costae

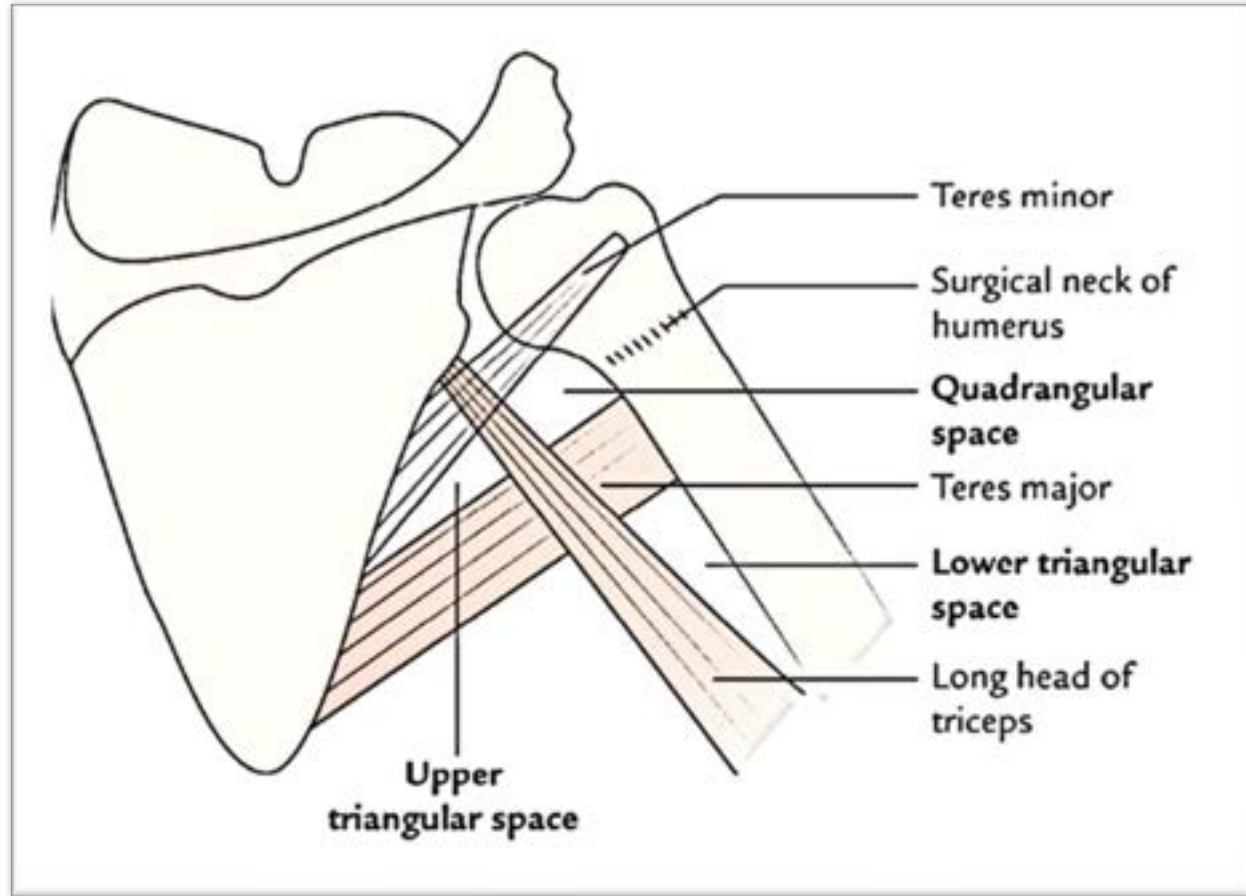


**39. At which of the following levels does an inverted Supinator jerk indicate a lesion?**

- A. C5, C6**
- B. C6, C7**
- C. L5, S1**
- D. L4, S1**

**40. All of the following form boundaries of quadrangular space except?**

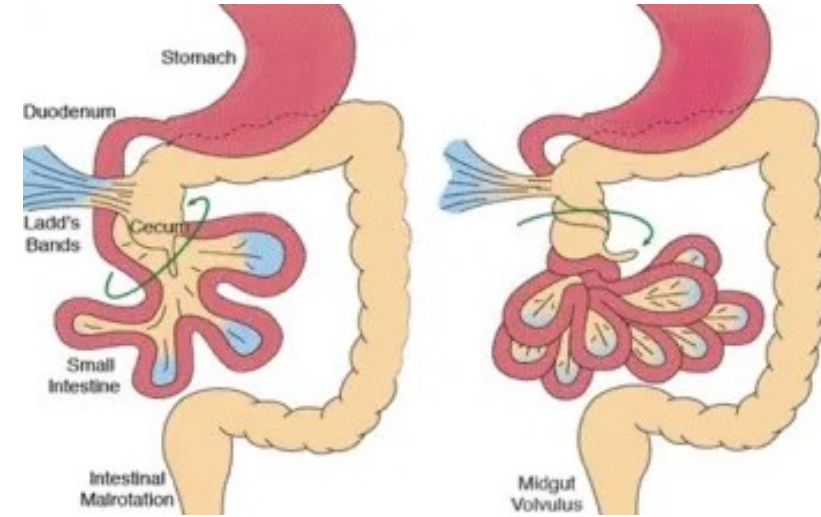
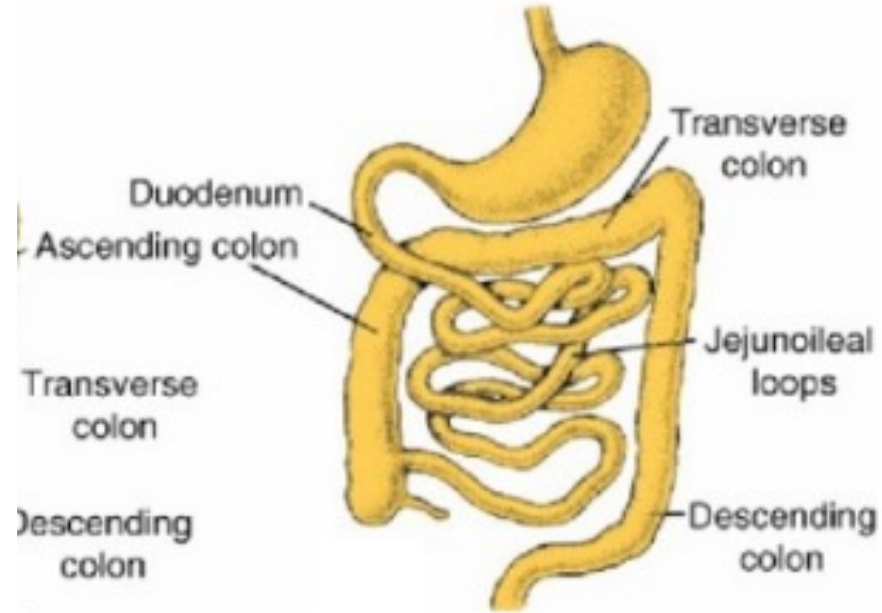
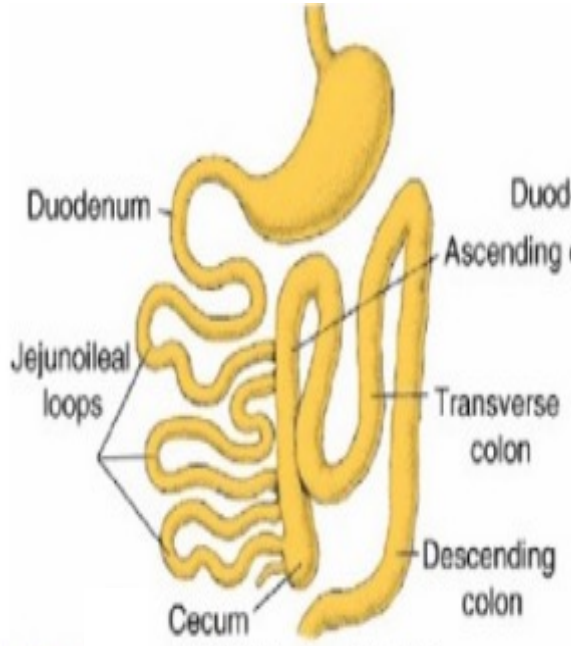
- A. Supraspinatus**
- B. Teres major**
- C. Teres minor**
- D. Long head of triceps**



**41. The caecum is found to be placed below the stomach and is midline. Which of the following abnormalities must have taken place while rotation of the gut?**

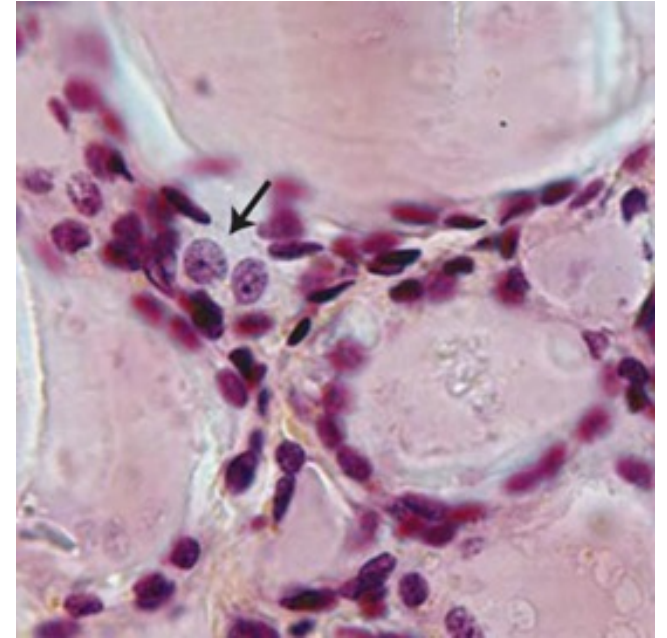
- A. Malrotation**
- B. Nonrotation**
- C. Reverse Rotation**
- D. Mixed Rotation**

# ROTATION ABNORMALITIES



**42. The hormone produced and released by the cell at the tip of the arrow binds to receptors on the surface of which of the following cells?**

- A. Osteoblasts**
- B. Chondrocytes**
- C. Osteocytes**
- D. Osteoclast**



**43. Which is the last fontanelle to close?**

- A. Anterior**
- B. Posterior**
- C. Occipital**
- D. Mastoid**

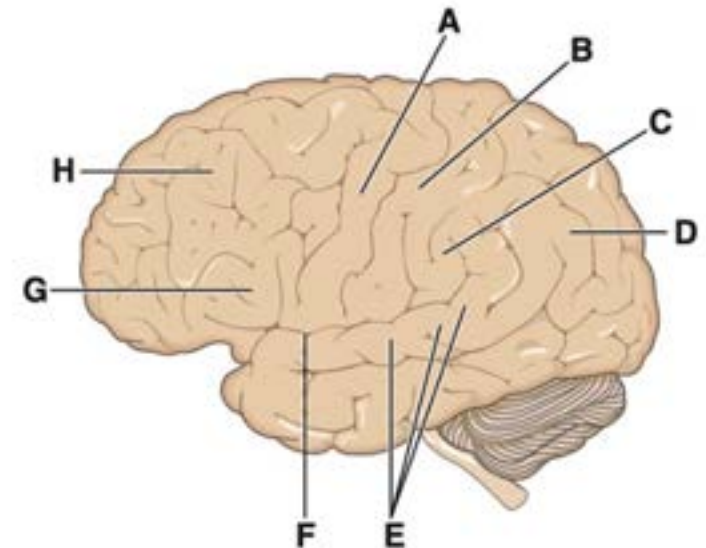
**44. A woman receives an injection of a radio- isotope to determine regional blood flow in the brain. She has a positron emission tomography scan to visualize variations in cortical blood flow. The examiner asks her to think about flexing her index finger without actually doing it. In which of the following cortical areas would you expect to see increased blood flow?**

- A. Angular gyrus**
- B. Motor strip**
- C. S-I somatosensory cortex**
- D. Supplementary motor cortex**

**45. Match the following:**

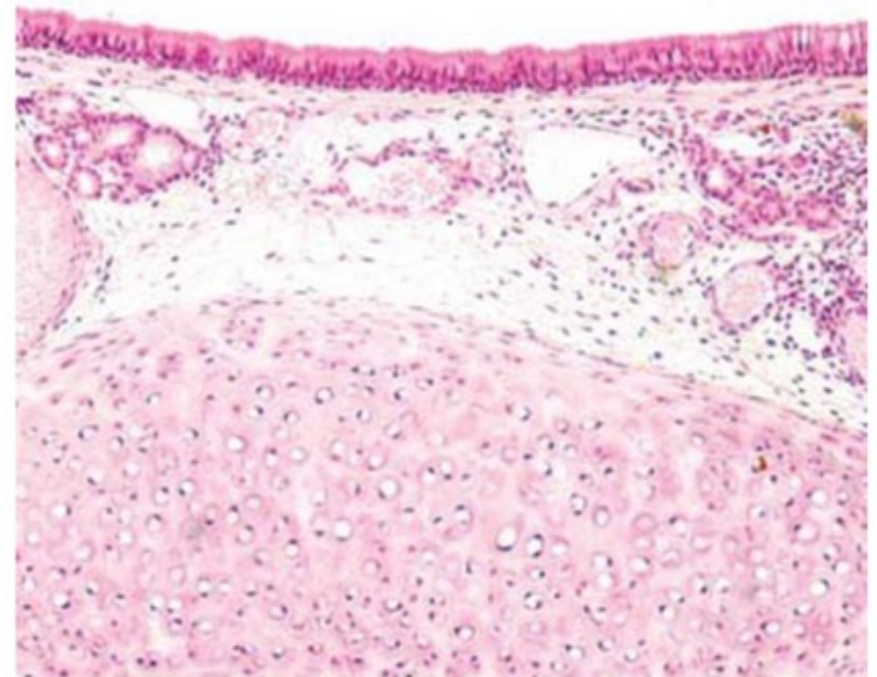
- 1. Stimulation of this area results in turning the eyes and head to the contralateral side**
- 2. A lesion here results in nonfluent, telegraphic speech**
- 3. Ablation in this area results in a contralateral upper homonymous quadrantanopia**
- 4. A lesion here results in fluent speech with neologisms**
- 5. A lesion of this area is characterized by finger agnosia, dyscalculia, dysgraphia, and dyslexia**
- 6. Destruction of this area results in an aphasia characterized by fluent speech, good comprehension, and poor repetition**
- 7. Lesions in this gyrus result in contralateral astereognosia**
- 8. Lesions in this gyrus result in contralateral spasticity**

- A. 1-H, 2-F, 3-G, 4-D, 5-E, 6-C, 7-A, 8-B**
- B. 1-H, 2-G, 3-F, 4-E, 5-D, 6-C, 7-B, 8-A**
- C. 1-H, 2-G, 3-E, 4-F, 5-D, 6-B, 7-C, 8-A**
- D. 1-D, 2-G, 3-F, 4-E, 5-H, 6-C, 7-B, 8-A**



**46. The diameter of the structure in the picture taken from a dead male is 3.1 cm. What is the name of the autosomal recessive trait that this person evidenced?**

- A. Spontaneous pneumothorax**
- B. Asbestosis**
- C. Emphysema**
- D. Mounier-Kuhn syndrome**



## 47. Match the following:

1. Rupture of the tendon superior to this structure would most likely cause an inability to extend the knee joint.
2. Fracture of this structure would most likely cause weakness in adduction of the thigh.
3. A knife penetrating through this point would most likely cause muscle ischemia in the anterior compartment of the leg.
4. Fracture of this structure would most likely cause impaired dorsiflexion of foot

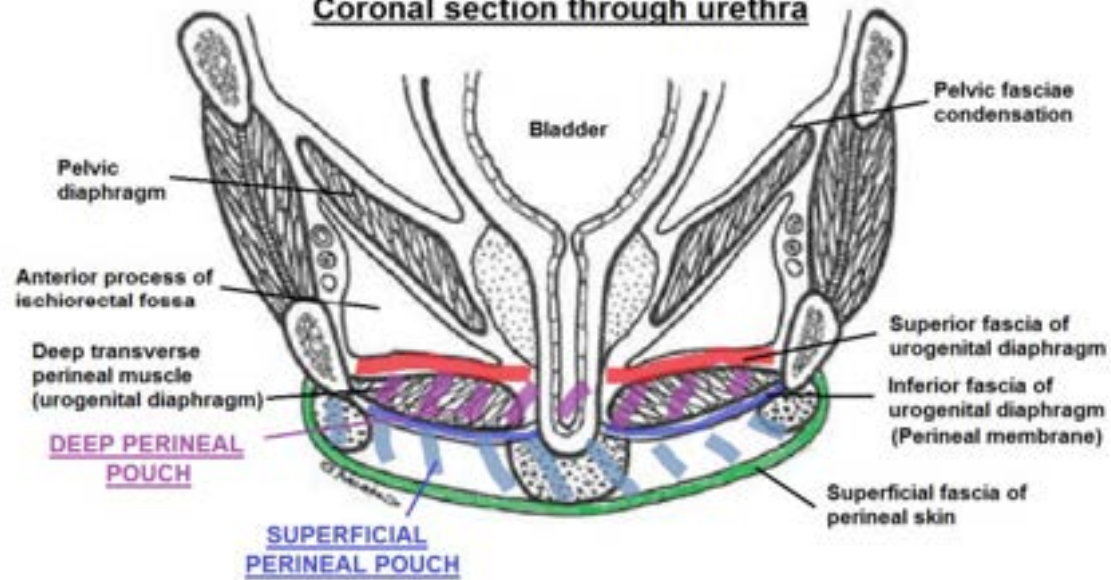
- A. 1-B, 2-A, 3-C, 4-D
- B. 1-C, 2-A, 3-B, 4-E
- C. 1-E, 2-A, 3-D, 4-C
- D. 1-B, 2-E, 3-C, 4-A



**48. A 46-year-old woman has a history of infection in her perineal region. A comprehensive examination reveals a tear of the superior boundary of the superficial perineal space. Which of the following structures would most likely be injured?**

- A. Pelvic diaphragm**
- B. Colles fascia**
- C. Deep perineal fascia**
- D. Perineal membrane**

Coronal section through urethra



**49. Match the descriptions in items 1 to 5 with the appropriate lettered lesion in the diagram of a cross-section of the spinal cord.**

**1. Ipsilateral lower limb dystaxia**

**2. Ipsilateral flaccid paralysis**

**3. Contralateral loss of pain and temperature sensation one segment below the lesion**

**4. Exaggerated muscle stretch reflexes below the lesion**

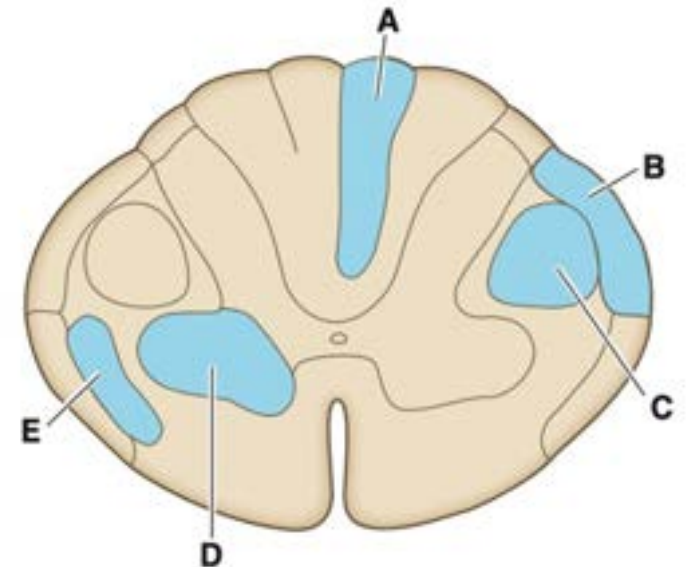
**5. Loss of two-point tactile discrimination in the ipsilateral foot**

**A. 1-B, 2-D, 3-E, 4-C, 5-A**

**B. 1-B, 2-E, 3-D, 4-C, 5-A**

**C. 1-C, 2-D, 3-E, 4-A, 5-B**

**D. 1-E, 2-B, 3-A, 4-C, 5-D**



**50. . 36-year-old woman is admitted to the hospital with severe head injuries after a car crash. During neurologic examination her uvula is found to be deviated to the right. Which nerve is most likely affected to result in this deviation?**

- A. Right vagus**
- B. Left vagus**
- C. Left glossopharyngeal**
- D. Right glossopharyngeal**

**51. A chest CT scan is performed on a 35-year-old man who presented with chronic cough and weight loss. Which of the following structures labelled below is a derivative of the common cardinal veins? (Anatomy)**

- A. A
- B. B
- C. C
- D. D



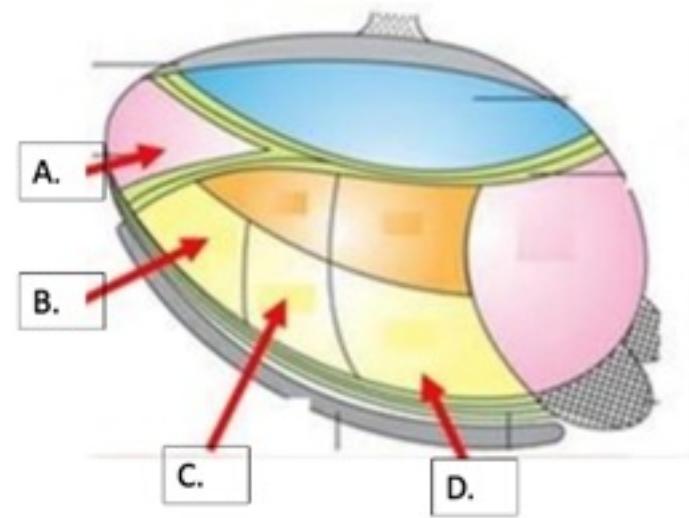
**52. The given condition is due to persistence of which of the following embryonic vessel? (Anatomy)**

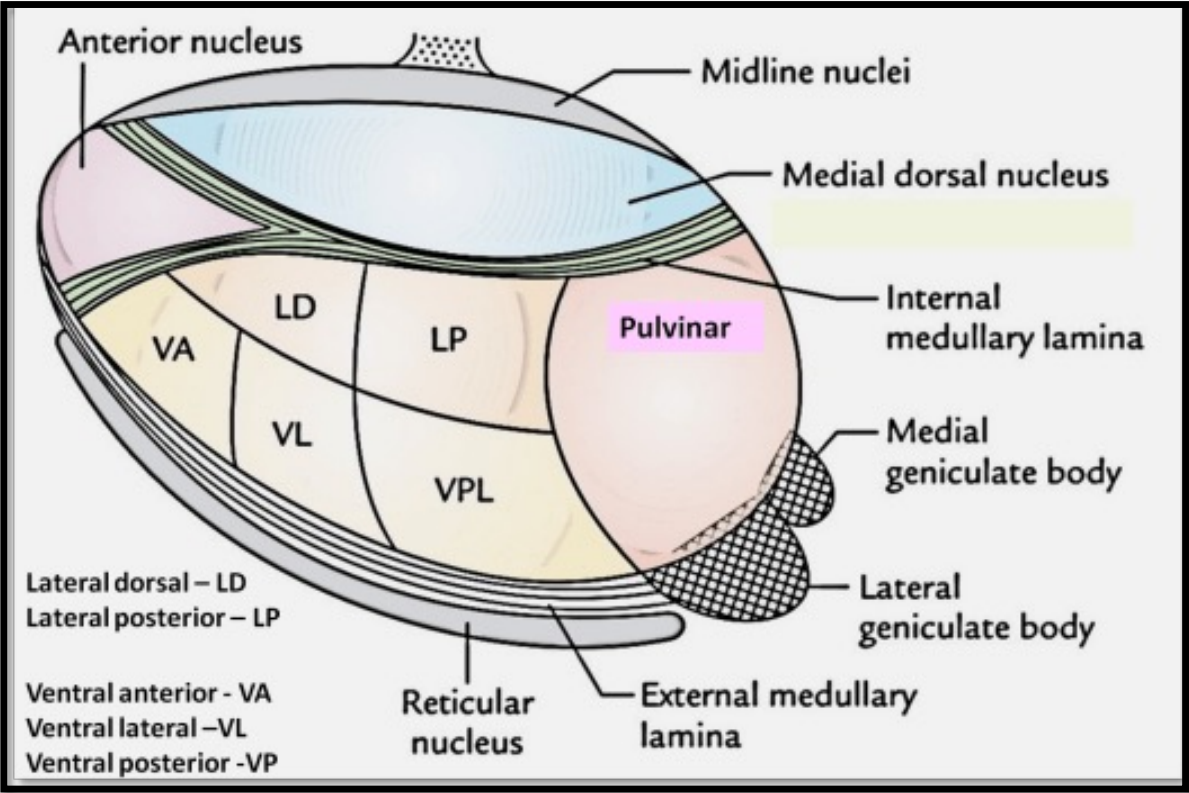
- A. Persistence of right dorsal aorta**
- B. Persistence of left 4th arch artery**
- C. Persistence of left dorsal aorta**
- D. Persistence of left 6th arch artery**



**53. Fibres from mamillary bodies terminate at which of the following points? (Anatomy)**

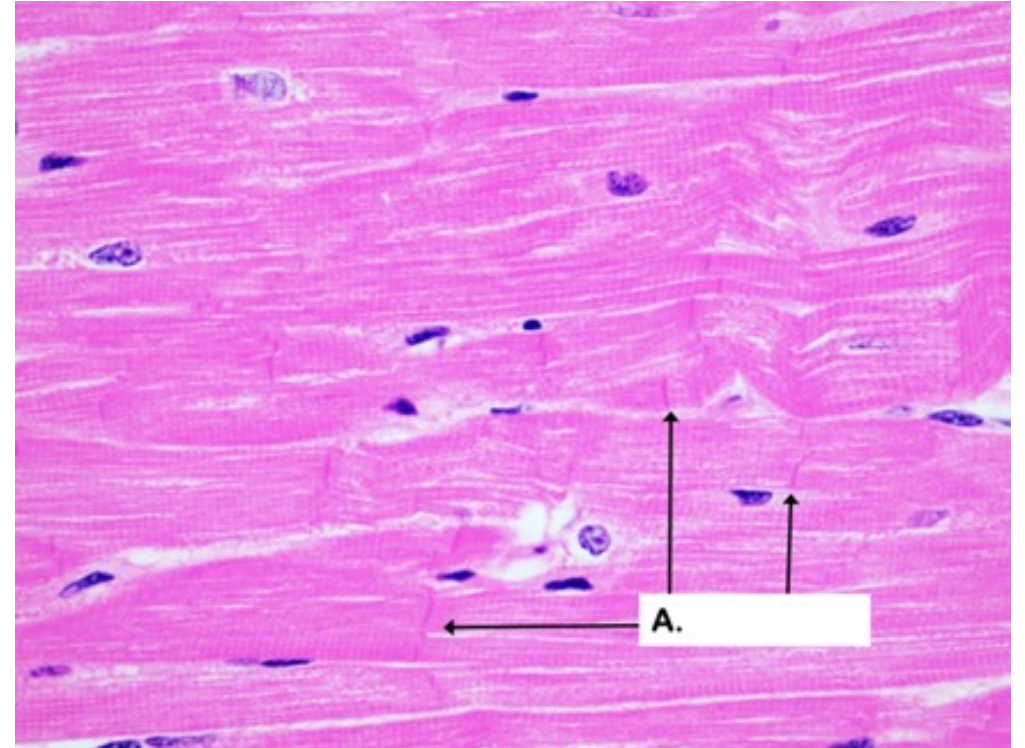
- A. A
- B. B
- C. C
- D. D





**54. Area marked A in the given figure contain all the following, except: (Anatomy)**

- A. Zonula occludens**
- B. Zonula adherens**
- C. Macula adherens**
- D. Gap junction**



**55. All of the following structures lie in the relation to the left ureter except:**

- A. Psoas major**
- B. Left testicular vessels**
- C. Quadratus lumborum**
- D. Sigmoidal veins**

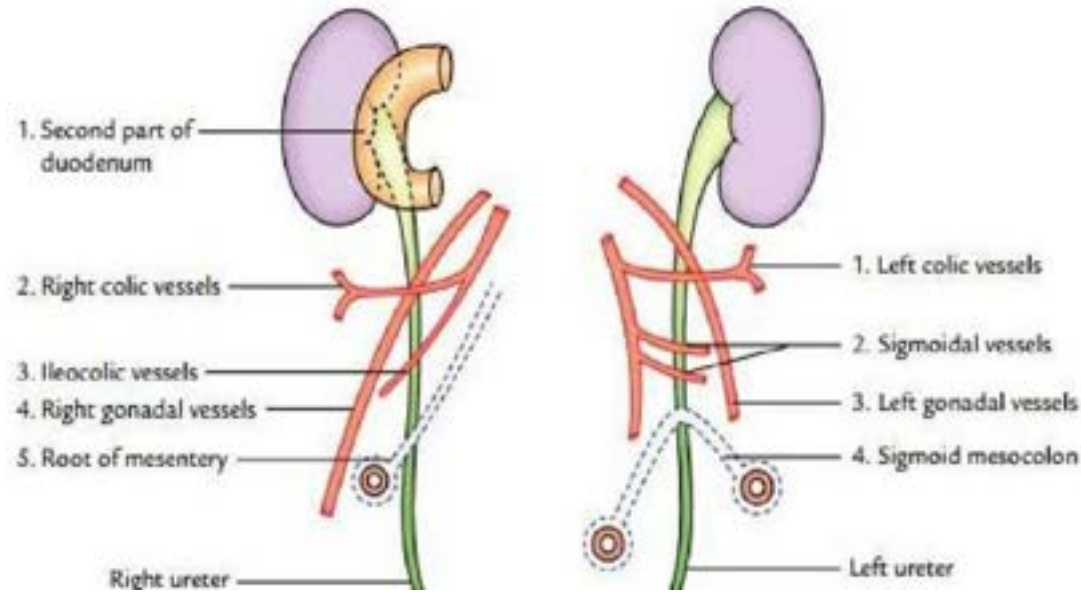
# Abdominal part - Anterior Relations

- Right side

- 2<sup>nd</sup> part of duodenum
- Right colic vessels
- Iliocolic vessels
- Right testicular / ovarian vessels
- Root of mesentery

- Left side

- Left colic vessels
- Sigmoidal vessels
- Left testicular / ovarian vessels
- Sigmoid mesocolon



- Posteriorly (lumbar part): Psoas major, bifurcation of common iliac artery.

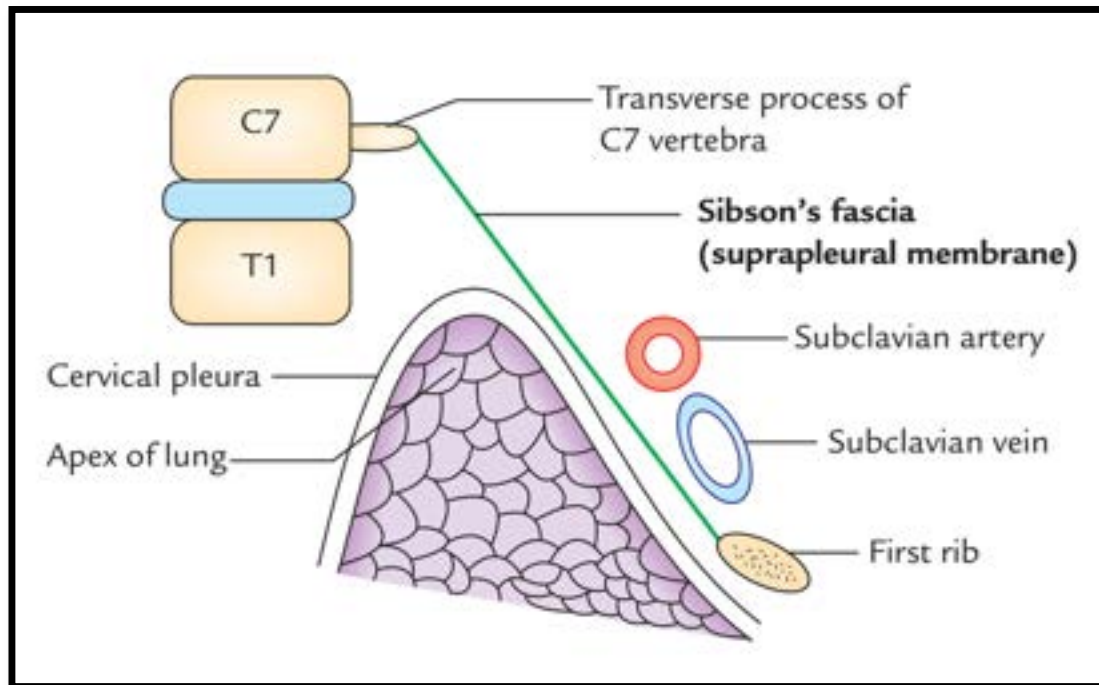
## **56. Identify the synovial joints**

- 1. Costotransverse joint**
- 2. Costovertebral joint**
- 3. Costo-chondral joints**
- 4. 2nd Sternocostal joint**
- 5. Sternoclavicular joint**

- A. 1,2,3,4,5**
- B. 4,5**
- C. 1,2,4,5**
- D. 1,2,4**

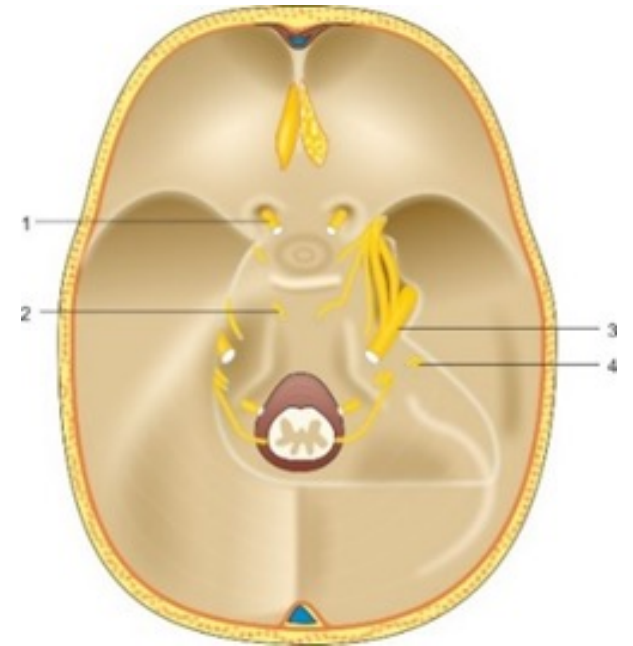
## 57. Which among the following is incorrect regarding Sibsons's fascia?

- A. Attached to the inner border of 2nd rib
- B. Covers apical part of lung
- C. Part of scalenus minimus muscle
- D. Vessels pass above the fascia



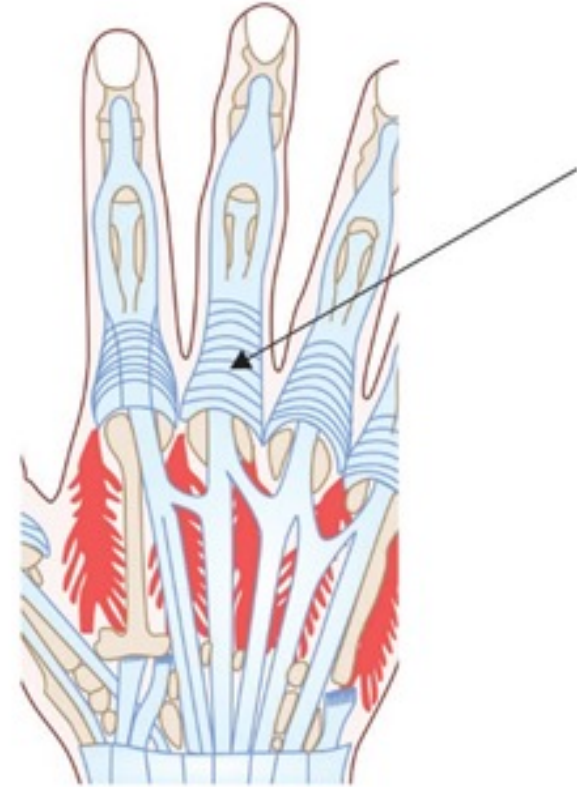
58. A patient presents with a unilateral throbbing headache, photophobia, and excessive lacrimation. He also complains of hemifacial pain on clenching of teeth. On examination, pupillary reflex, light reflex, and accommodation reflex are normal. Which of the following marked nerves is involved in the above scenario?

- A. 1
- B. 2
- C. 3
- D. 4



**59. All the following form the marked structure except?**

- A. 2nd Dorsal interossei
- B. Lumbricals
- C. Extensor digitorum
- D. 2nd Palmar interossei



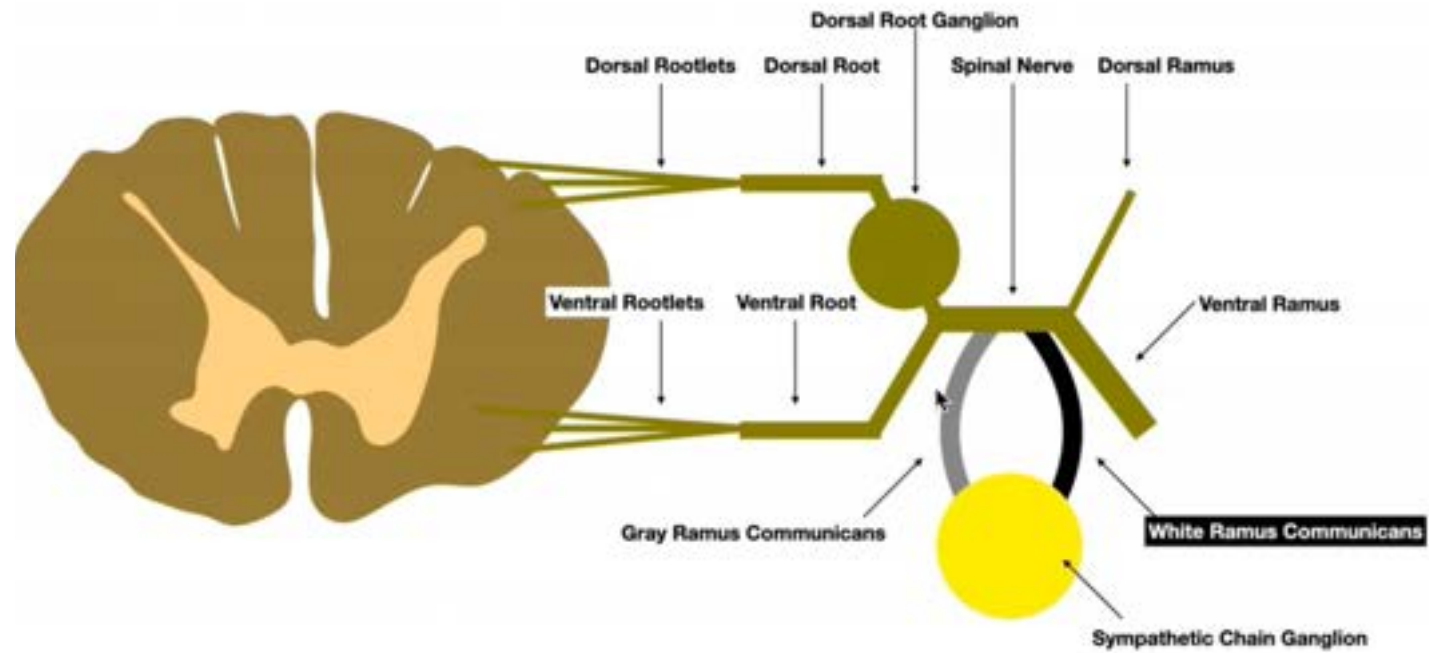
**60. Which nerve injury is most likely responsible for the observed symptoms of foot?**

- A. Common peroneal nerve**
- B. Femoral nerve**
- C. Sciatic nerve**
- D. Tibial nerve**



**61. All of the following are true about grey rami communicantes except?**

- A. Unmyelinated**
- B. Connected to spinal nerve**
- C. Preganglionic**
- D. Present medial to white rami communicantes**



**62. Which is not a branch of the vessel known as the Anesthetist's artery?**

- A. Lateral nasal**
- B. Mental**
- C. Superior labial**
- D. Inferior labial**

**63. The blood oxygen saturations measured from different fetal vessel samples are 71%, 64%, 62%, 55%, and 43%. The sample with the greatest oxygen saturation was most likely obtained from which of the following blood vessels?**

- A. Descending aorta**
- B. Ductus arteriosus**
- C. Inferior vena cava**
- D. Pulmonary trunk**

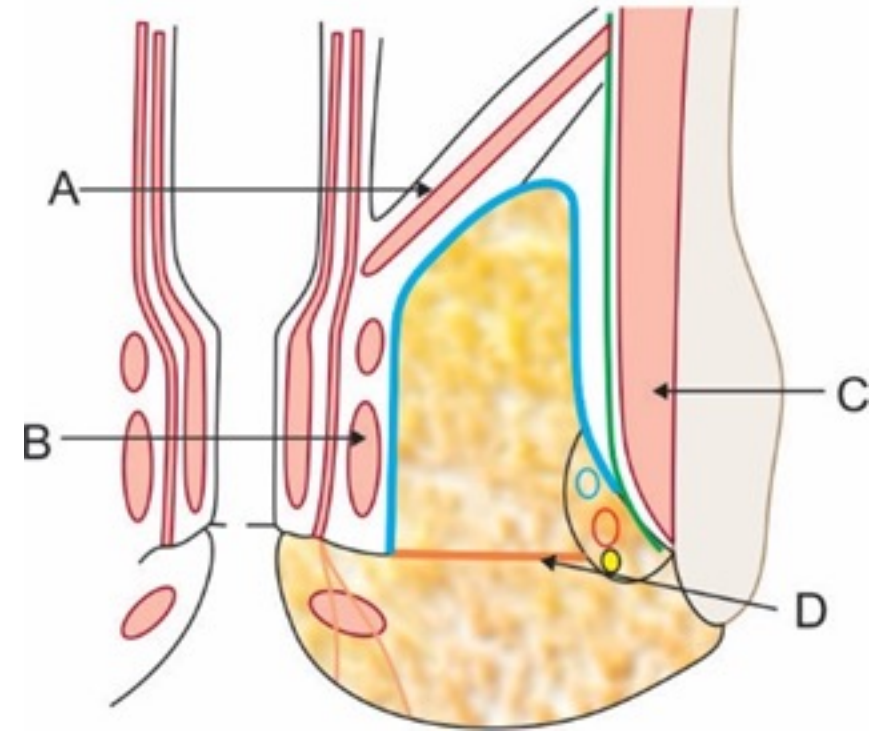
**64. The structure marked in the image is embedded in which of the following structures?**

- A. Medial head of gastrocnemius**
- B. Lateral head of gastrocnemius**
- C. Popliteal artery**
- D. Adductor longus**



**65. All of the following are true about structure marked A except**

- A. Supplied by sacral nerves S3 and S4 and pudendal nerve.**
- B. Converge downwards and medially**
- C. Consists of iliococcygeus and pubococcygeus**
- D. Attached to pelvic brim**



**66. Which of the following lobes of the lung is affected when there is aspiration in supine position?**

- A. Lingula**
- B. Superior segment of right lower lobe**
- C. Anterior segment of right upper lobe**
- D. Right middle lobe**

Right lung is a more common site for inhaled foreign bodies because right main stem bronchus is wider, more vertical, and shorter than the left. If you aspirate a peanut:

- While supine—usually enters superior segment of right lower lobe or sometimes enters posterior segment of right upper lobe.
- While lying on right side or prone—usually enters right upper lobe.
- While upright—usually enters right lower lobe.

**67. A 30-year-old female presents with chronic fatigue, weight loss, and hyperpigmentation. Her laboratory investigations are given below. Which is the source of the affected structure?**

**Na<sup>+</sup> : 118 mEq/L**

**K<sup>+</sup>: 5.5 mEq/L**

**Cortisol: low**

**Aldosterone: low**

- A. Paraxial mesoderm**
- B. Intermediate mesoderm**
- C. Lateral plate mesoderm**
- D. Neural crest cells**

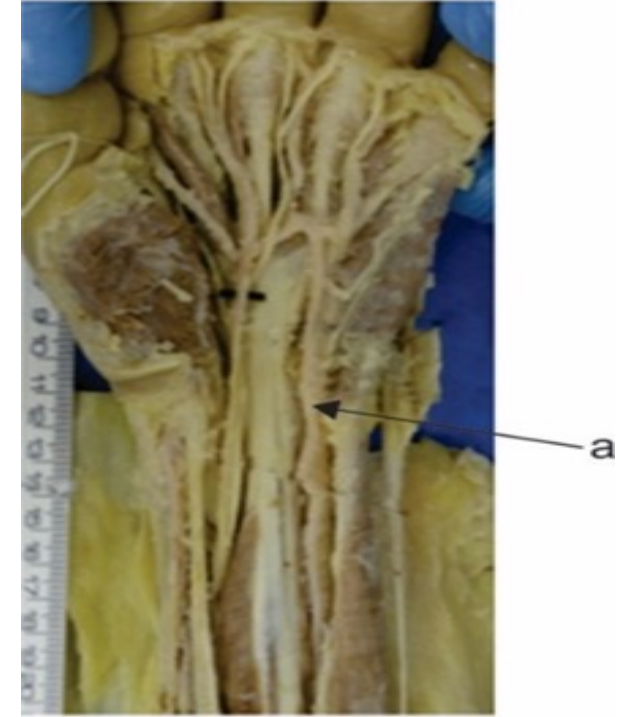
**68. Which of the following is an example of the same class of glands as shown in the image?**

- A. Mammary gland**
- B. Ceruminous gland**
- C. Sweat gland**
- D. Meibomian glands**



**69. Identify the branch of the structure marked 'a' in the image given below?**

- A. Anterior interosseous artery
- B. Anterior ulnar recurrent artery
- C. Posterior interosseous artery
- D. Radial recurrent artery



## 70. Identify the incorrect pair of function with trigeminal nucleus:

- A. Mesencephalic nucleus-Proprioception from muscles of mastication
- B. Principal sensory nucleus-Touch from face
- C. Spinal nucleus-Touch from neck
- D. Special visceral efferent-Muscles of mastication

**GSA:**

**Mesencephalic: Proprioception**

**Principal sensory: Touch, pressure**

**Spinal: Pain, temp**

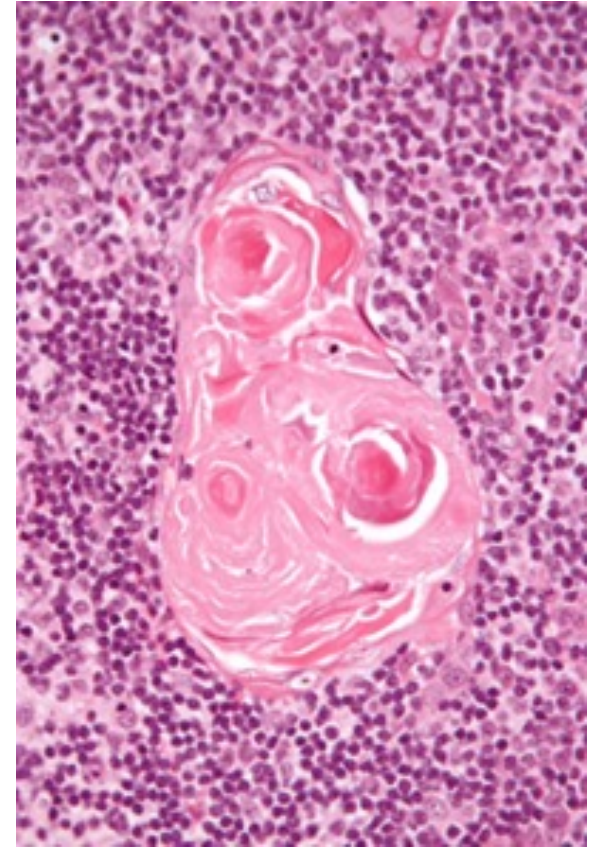
**71. A 6-year-old child falls from his bicycle and injures his hand. On X-ray, a fracture of the first metacarpal bone is noticed. Where is the epiphysis of the affected bone?**

- A. A. At the base**
- B. B. At the neck**
- C. C. At the head**
- D. D. In the shaft**

- For 2nd–5th metacarpals → the epiphysis is located at the head (distal end).
- For the 1st metacarpal (thumb) → the epiphysis is located at the base (proximal end).

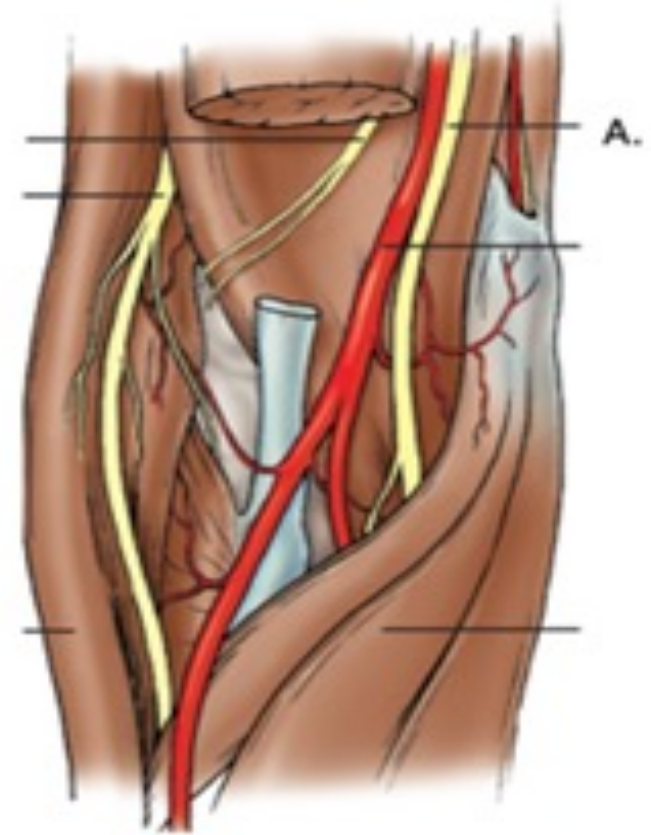
## 72. Identify the tissue from the histology appearance:

- A. Thymus
- B. Spleen
- C. Prostate
- D. Urinary bladder



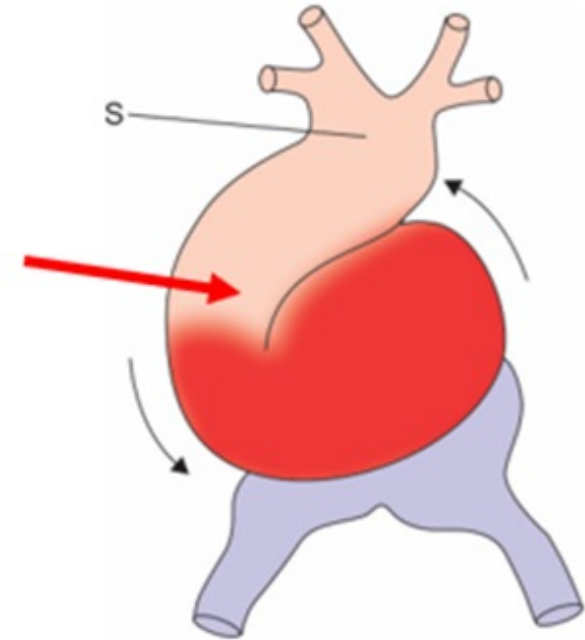
**73. A 12-year-old girl is brought to the emergency room after she sustained a supracondylar fracture of the humerus with injury to the structure marked as 'A' in the given image. Which of the following is most likely to be affected?**

- A. Adduction of thumb
- B. Abduction of thumb
- C. Flexion of little finger
- D. Abduction of little finger



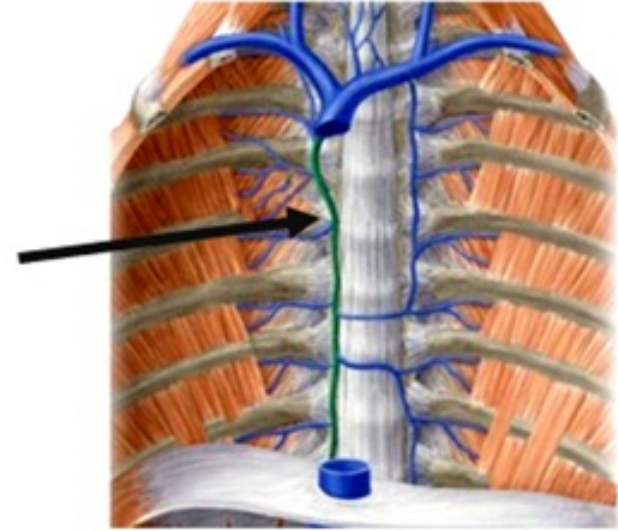
**74. Given is a model of embryological development of the heart. Which structure develops from the area marked with red arrow?**

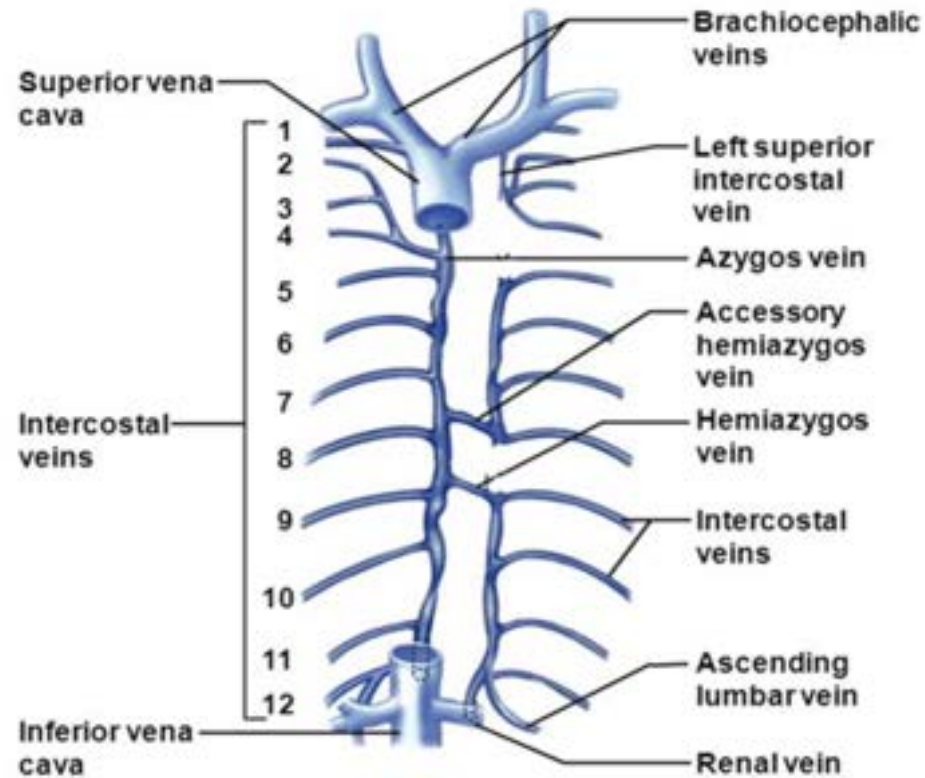
- A. Aorta
- B. Left Ventricle
- C. Right ventricle
- D. Pulmonary artery



**75. Identify the tributaries of the vessel marked in the image except?**

- A. Right ascending lumbar
- B. Right subcostal vein
- C. Right 5th posterior intercostal vein
- D. Left 5th posterior intercostal vein





Formed by: Right Lumbar azygos, right subcostal, right ascending lumbar  
 Tributaries:  
 Right superior intercostal vein: 2,3,4 PICV  
 Right 5-11<sup>th</sup> PICV  
 Hemiazygos, Accessory hemiazygos-T8  
 T4->SVC

Formed by: left Lumbar azygos, left subcostal, left ascending lumbar  
 Tributaries:  
 Left 9-11<sup>th</sup> PICV

Tributaries:  
 Left 5-8<sup>h</sup> PICV

**76. At which level does the nerve supply for the marked structure arise?**

- A. Aqueduct of Sylvius
- B. Sub thalamic nuclei
- C. Decussation of pyramidal tract
- D. Thalamus



**77. A 55-year-old man with a history of smoking and hypertension presents to the clinic with difficulty swallowing and hoarseness. On examination, he has a decreased gag reflex and asymmetry of the soft palate with uvula deviating to the left upon phonation. These findings suggest a lesion in which of the following structures?**

- A. Hypoglossal Nucleus**
- B. Nucleus Solitarius**
- C. Nucleus Ambiguus**
- D. Dorsal Motor Nucleus of Vagus**

**78. In which of the following chambers can one palpate a muscular ridge, which is the site of origin of pectinate muscles?**

- A. Right atrium**
- B. Left atrium**
- C. Right ventricle**
- D. Left ventricle**

**79. All of the following are correct except**

- A. The primitive streak develops from epiblast**
- B. Levator veli palatini arises from 1st pharyngeal arch.**
- C. Fabella develops in the lateral head of gastrocnemius**
- D. Celiac plexus is located Anterolateral to aorta**

**80. Which among the following statements is true regarding the course of the mandibular nerve?**

**1. Auriculotemporal nerve is a branch from the anterior division of the mandibular nerve, and it emerges from behind the temporomandibular joint.**

**2. Buccal branch is a branch from the anterior division of the mandibular nerve, and it emerges from behind the mandibular ramus.**

**3. Lingual nerve is a branch from the posterior division of the mandibular nerve, and it arcs around the submandibular duct.**

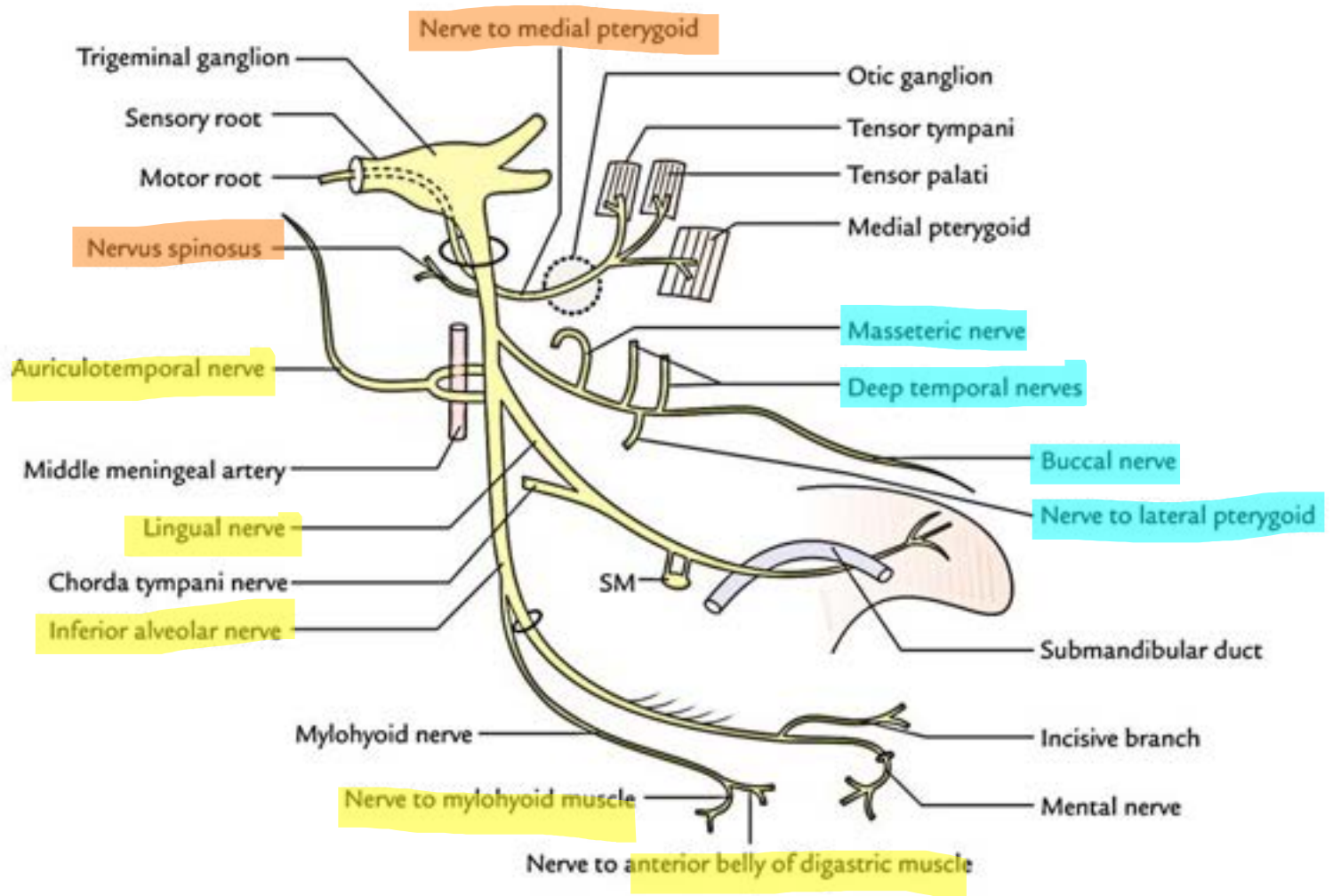
**4. Ophthalmic nerve is a branch from the anterior division of the mandibular nerve, and it arises in the middle cranial fossa.**

**A. 2, 3**

**B. 1, 3**

**C. 3, 4**

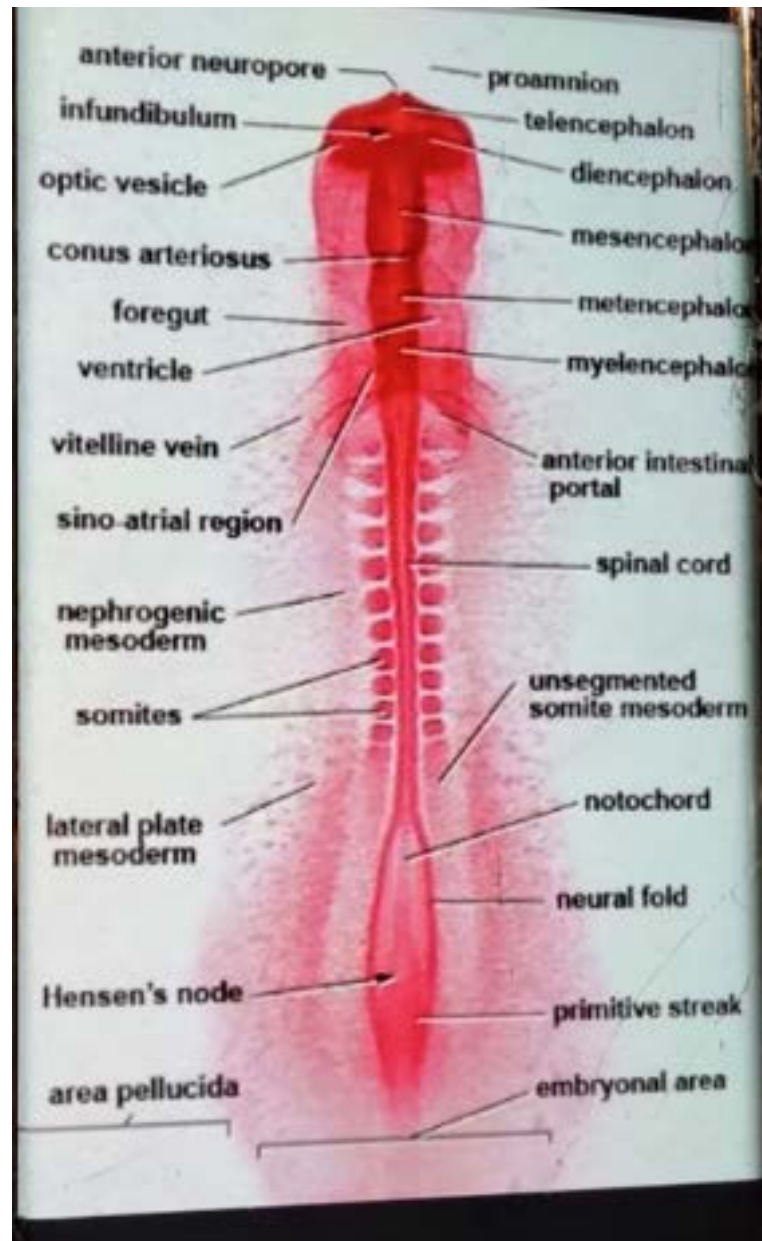
**D. 1, 4**



## 81. Identify the marked structure:

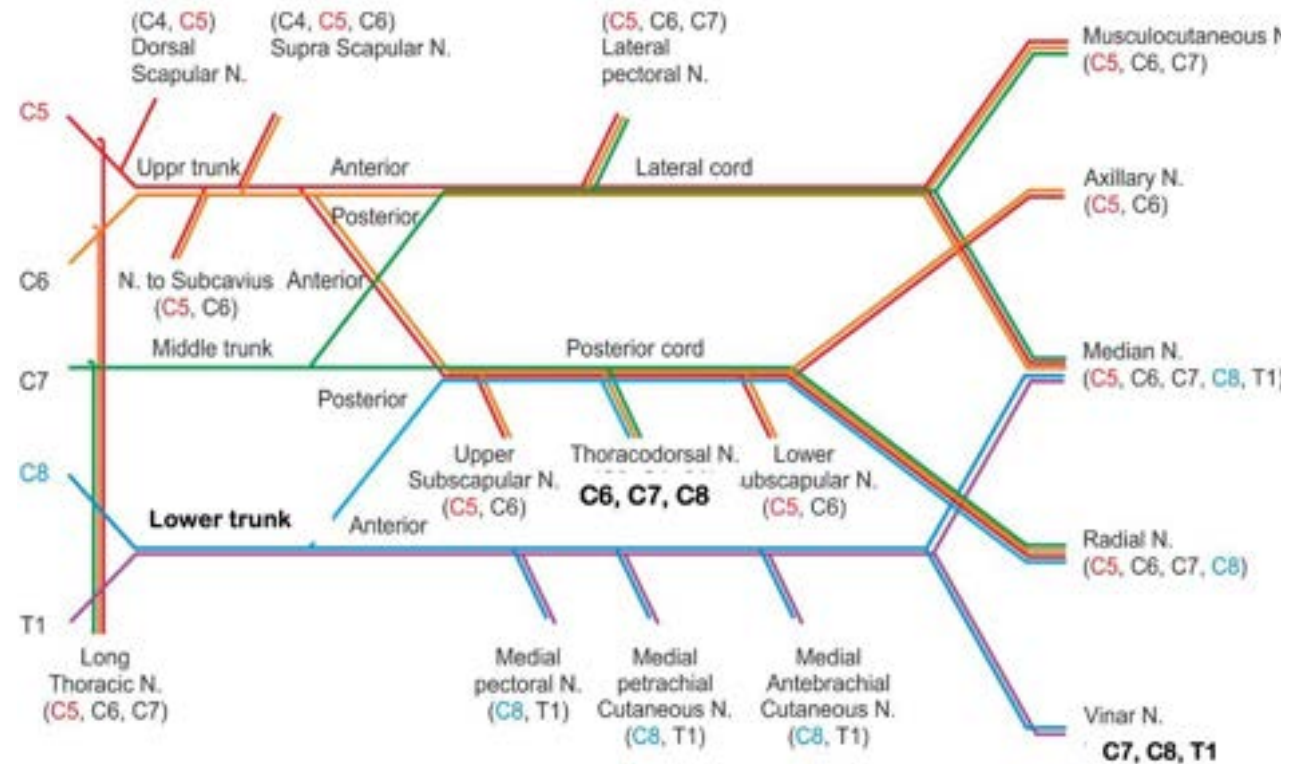
- A. Primitive streak
- B. Notochord
- C. Neural groove
- D. Secondary neural plate





**82. A surgeon inadvertently injured the middle trunk of the brachial plexus while removing a Pancoast tumor. Which of the following nerve functions can be impaired?**

- A. Medial pectoral nerve**
- B. Nerve to subclavius**
- C. Suprascapular nerve**
- D. Thoracodorsal nerve**



**83. A 16-year-old boy was diagnosed with urethral stricture. He underwent visual internal urethrotomy in the lithotomy position with stirrups supporting both popliteal fossa and proximal parts of tibia. No ankle support was used. On the first postoperative day, the patient complained of decreased sensation on the lateral aspect of right leg, the lateral border of his right foot and difficulty in dorsiflexion of the right foot due to compression of a particular nerve of the lower limb. Which of the following muscles is supplied by the nerve involved in this scenario?**

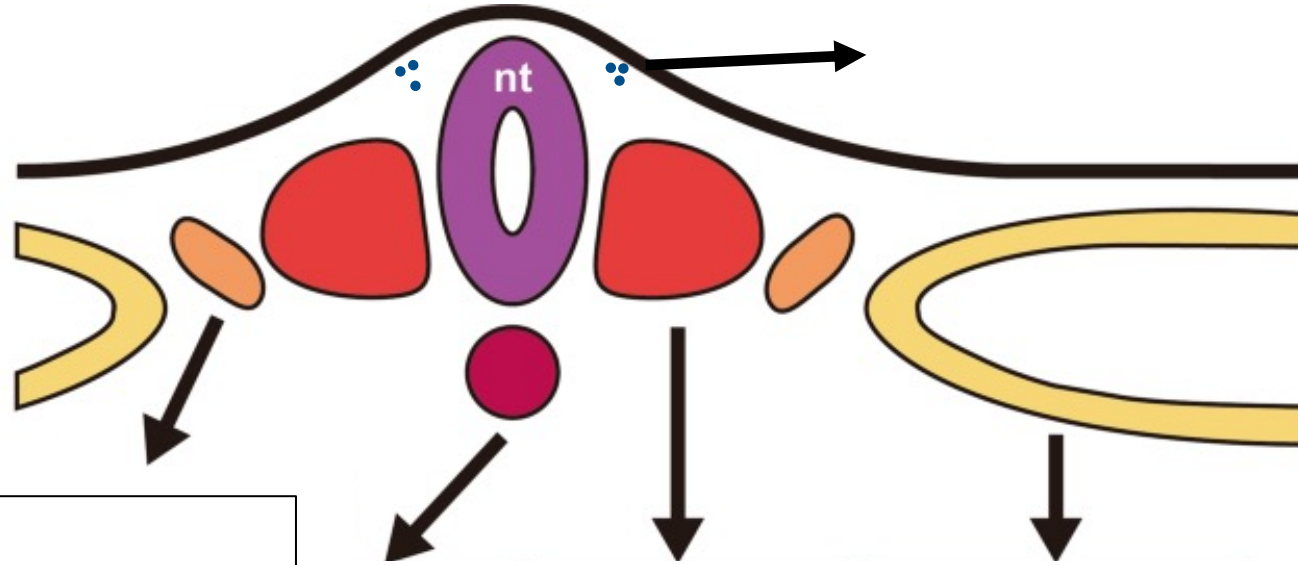
- A. Flexor Hallucis Longus**
- B. Abductor Hallucis**
- C. Extensor Digitorum Longus**
- D. Semi-Membranosus**

**84. A 50-year-old woman presents to the clinic with symptoms of urinary incontinence. She reports a sensation of urgency followed by involuntary loss of urine. Her medical history is significant for type 2 diabetes mellitus and hypertension. Upon further evaluation, you consider the role of the detrusor muscle in her condition. In understanding the embryological origins of muscles, which of the following muscles is not derived from the paraxial mesoderm?**

- A. Genioglossus**
- B. Superior oblique**
- C. Biceps**
- D. Detrusor**

# EMBRYOLOGY

## NEURAL CREST MOTEL PASSES



GU system  
Adrenal cortex  
Gonads

Nucleus pulposus  
Tectorial membrane

Dura  
SOMITES:  
Axial skeleton  
Dermis of back  
Skeletal muscles  
Tongue / EOM

SOMATOPLEURIC:  
Dermis of anterior torso, limbs  
Appendicular skeleton

SPLANCHNOPLEURIC:  
Cardiac muscles  
Smooth Muscles  
RES-Spleen, Microglia  
Serosa, endothelium

Adrenal cortex-  
Adrenal medulla-

Dura-  
Leptomeninges-

**85. Fourth-year medical students are recruited for a research study assessing their ability to interpret biopsy samples obtained during routine clinical practice. As part of the study, they are given samples of normal respiratory mucosa and asked to identify the cell types present after staining with hematoxylin and eosin. The students observe that the respiratory epithelium changes in composition as the airways continue distally from the trachea to the alveolar ducts. Which of the following features is last to disappear?**

- A. Cartilage**
- B. Cilia**
- C. Goblet cells**
- D. Mucous glands**

**86. Which of the following is true regarding the anatomy of the breast?**

- A. Tail of spence extends across anterior axillary fold.**
- B. Inner quadrants of breast contain the most breast tissue**
- C. The suspensory ligaments of cooper's ligaments are found in the lower part of breast.**
- D. Breast is made up of 10 lobes**

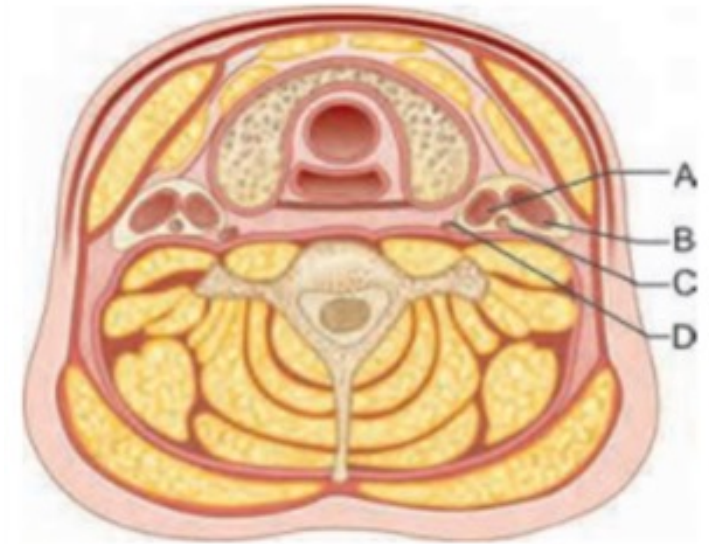
**87. What is the outer covering of the condition shown in the image?**

- A. Endoderm**
- B. Ectoderm**
- C. Chorion**
- D. Amnion**



**88. . In the cross section given below, locate the vagus nerve:**

- A. A**
- B. C**
- C. D**
- D. B**

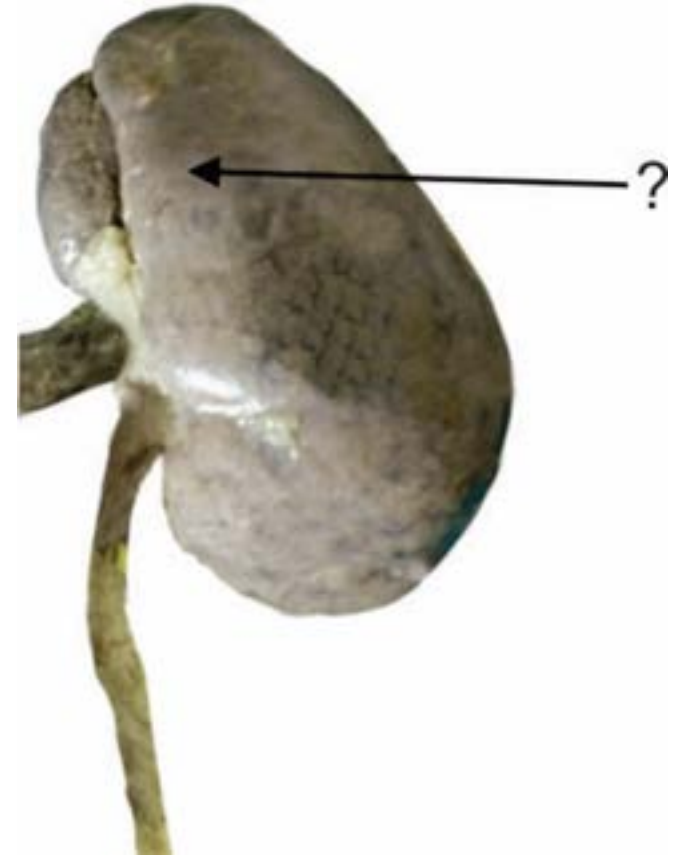


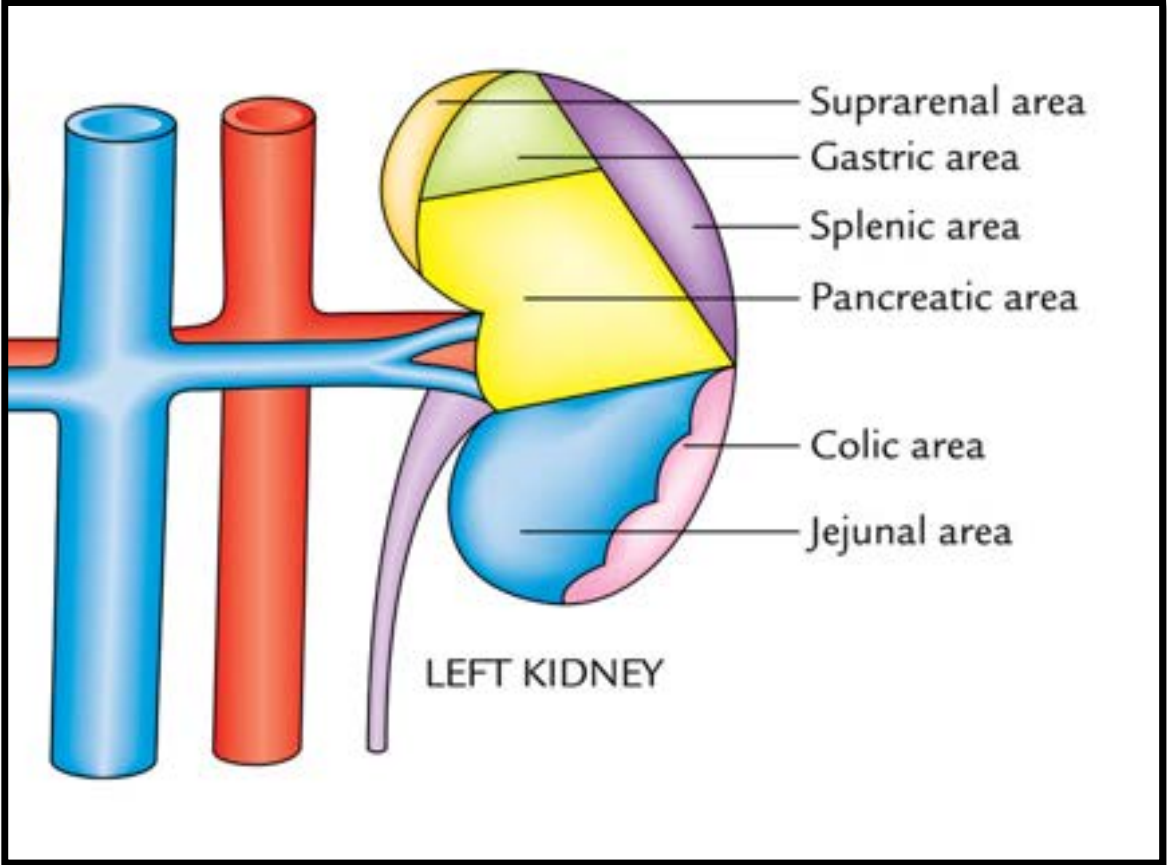
**89. A 38-year-old patient presents with sudden-onset facial weakness and drooping on one side of the face. The patient also complains of drooling while eating, likely due to weakness in a muscle. Which of the following structures does not pierce the involved muscle?**

- A. Buccal branch of facial nerve**
- B. Buccal branch of mandibular nerve**
- C. Parotid duct**
- D. Molar mucous glands**

**90. Which of the following is related to the marked area in the image?**

- A. Stomach**
- B. Spleen**
- C. 2nd part of duodenum**
- D. Pancreas**





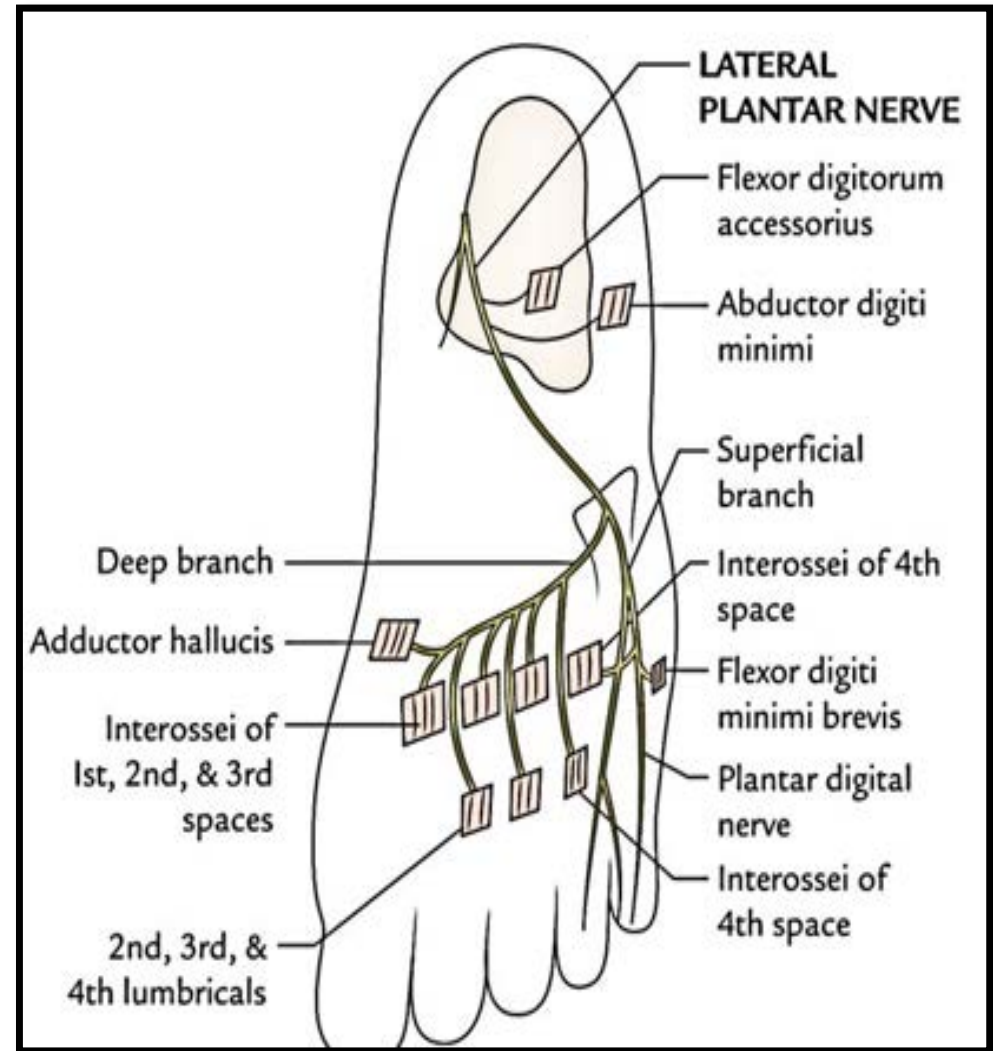
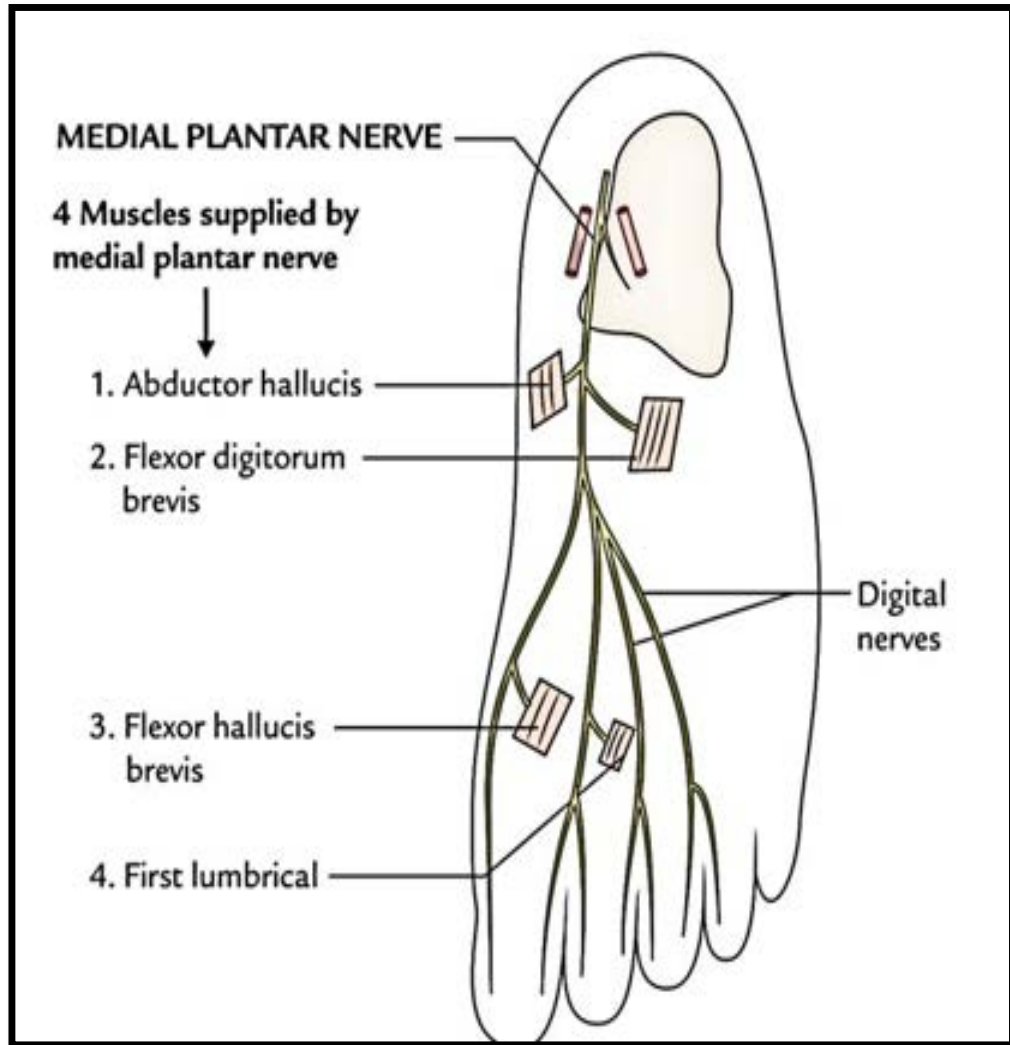
**91. . A 44 yr old female presents to the OPD with high grade fever, pain that is constant, throbbing, and worse when sitting down with history of constipation in the past. Fluctuation is noted near the anal region. The Resident decides to drain the ischioanal abscess. Which of the following structures can be injured while draining the ischioanal abscess?**

- A. Inferior rectal nerve**
- B. Pudendal nerve**
- C. Internal pudendal artery**
- D. Posterior labial nerve**

**92. Which of the following muscles are supplied by the lateral plantar nerve?**

- 1. Abductor hallucis**
- 2. Flexor digitorum accessorius**
- 3. Flexor hallucis brevis**
- 4. First lumbrical**
- 5. First interossei**

- A. 2 and 5**
- B. 3 and 4**
- C. 1 and 3**
- D. 2 and 4**



**93. Which of the following is not a derivative of neural crest cells?**

- A. Ciliary muscles**
- B. Retinal pigment epithelium**
- C. Ciliary ganglion**
- D. Ganglion cell layer**

**94. Which of the following is associated with condition shown below:**

- A. Adenocarcinoma bladder**
- B. Omphalocele**
- C. Persistent vitellointestinal duct**
- D. Hypospadias**



**95. Which of the following bones violates 'The secondary ossification center that appears first, fuses last' law?**

- A. Radius**
- B. Fibula**
- C. Ulna**
- D. Sternum**

**Primary ossification centres appear before birth and are single**

**96. Arrange the following events of pre-embryonic development in order, from the earlier stage to the later stage:**

- 1. Cavitation**
- 2. Compaction**
- 3. Implantation**
- 4. Cleavage**

- A. 2 - 4 - 1 - 3**
- B. 3 - 1 - 2 - 4**
- C. 4 - 2 - 3 - 1**
- D. 4 - 2 - 1 - 3**

**97. Which of the following descending tracts in the spinal cord remains uncrossed?**

- A. Tectospinal tract**
- B. Rubrospinal tract**
- C. Vestibulospinal tract**
- D. Pyramidal tract**

**98. A 40-year-old man with a history of tobacco chewing presented with a non-healing ulcer over the tip of the tongue. Biopsy revealed squamous cell carcinoma. Which of the following would be the sentinel lymph nodes?**

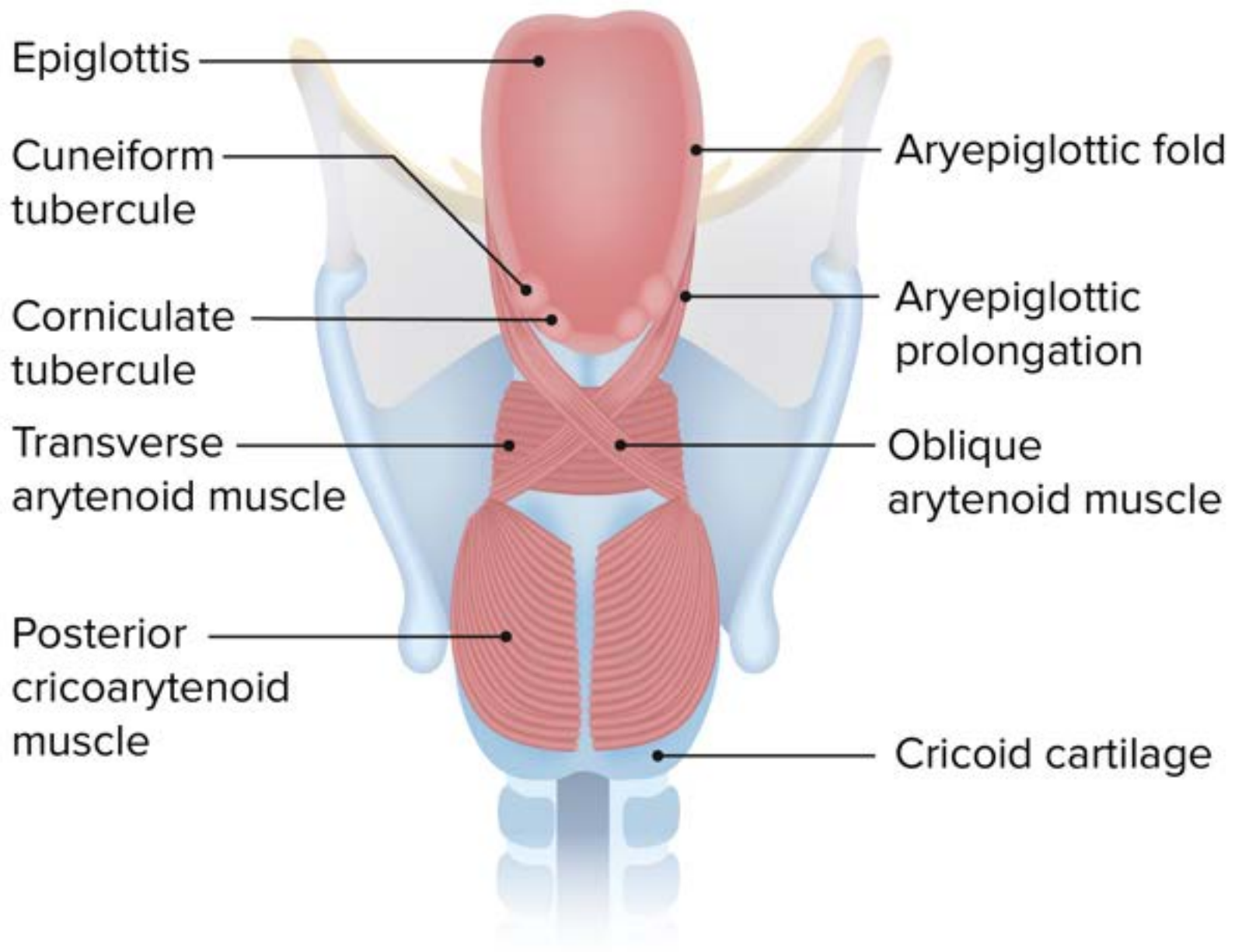
- A. Submandibular lymph nodes**
- B. Submental lymph nodes**
- C. Deep cervical lymph nodes**
- D. Jugulo-omohyoid lymph nodes**

**99. Which of the following muscle causes opening of laryngeal inlet?**

- A. Vocalis**
- B. Thyroepiglotticus**
- C. Cricoarytenoid**
- D. Thyroarytenoid**

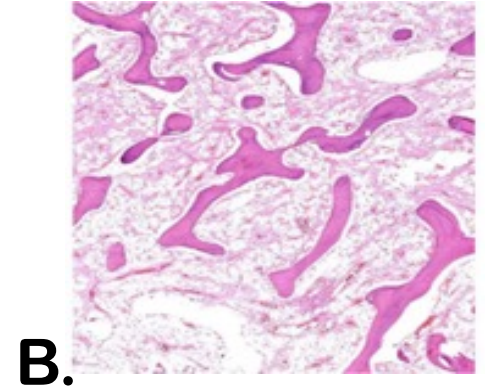
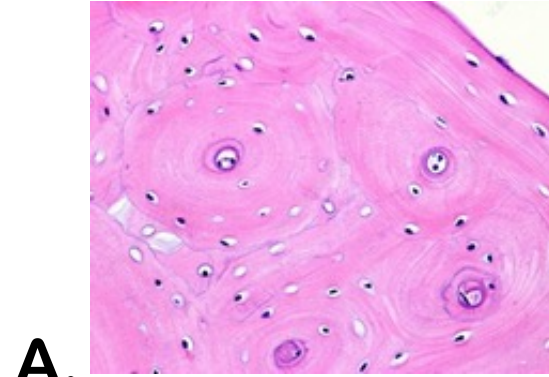
## Muscles acting on the larynx

Movement	Muscle
Elevation of larynx	Thyrohyoid, mylohyoid
Depression of larynx	Sternohyoid, sternothyroid
Opening inlet of larynx	Thyroepiglottic
Closing inlet of larynx	Aryepiglottic
Abductor of vocal cords	Posterior cricoarytenoid only
Adductor of vocal cords	Lateral cricoarytenoid (whisper), transverse and oblique arytenoids
Tensor of vocal cords	Cricothyroid
Relaxor of vocal cords	Thyroarytenoid and vocalis (modulator)



**100. Following are 2 histology slides of types of bone. Which of the following statements are correct?**

- A. A-Cortical bone, B-Cancellous bone**
- B. A-Cancellous bone, B-Cortical bone**
- C. A-Trabecular bone, B-Cancellous bone**
- D. A- Trabecular bone, B-Spongy bone**



**Thank You**

---



**Cerebellum**

Get the balance right

# **BTR Anatomy - 28-09-2025**

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**Dr. Zainab Vora**

1. A 27-year-old man comes to the physician because of a 1-day history of right-sided facial weakness and sound intolerance. Three days ago, he hit the right side of his head in a motor vehicle collision. He neither lost consciousness nor sought medical attention. Sensation over the face is not impaired. Impedance audiometry shows an absence of the acoustic reflex in the right ear. Which of the following muscles is most likely paralyzed in this patient?

7/8

- A. Tensor tympani → V3
- B. Posterior cricoarytenoid ALN (X)
- C. Stylopharyngeus → IX
- D.  Stylohyoid

# Pharyngeal arch derivatives

Pharyngeal arch	Bones	Muscles	Nerve	Artery
1 <sup>st</sup>	Meckel's cartilage, Maxilla, Mandible, Malleus and incus, zygomatic bone, sphenomandibular ligament	Muscles of mastication, Mylohyoid, Anterior belly of digastric, Tensor veli palatini,	V3	Maxillary artery
2 <sup>nd</sup>	Reichert's cartilage Stapes, Styloid process, Lesser horn of hyoid bone, Stylohyoid ligament	Muscles of facial expression, Stylohyoid, Stapedius, Buccinator, Platysma, Posterior belly of digastric	VII	Stapedial artery
3 <sup>rd</sup>	Hyoid bone (Body and greater horn)	Stylopharyngeus	IX	Common carotid and internal carotid
4 <sup>th</sup>	Laryngeal cartilages	Cricothyroid, Levator palatini, Pharyngeal constrictors	Vagus nerve (X) Superior Laryngeal nerve	Left: Aortic arch Right: Proximal right subclavian artery (+ 7 <sup>th</sup> intersegmental artery + Dorsal Aorta)
6 <sup>th</sup>		All intrinsic muscles of larynx (except cricothyroid) Cricopharyngeus	Vagus nerve (X) Recurrent laryngeal nerve	PA DA

2. A 30-year-old woman comes to the emergency department after a seizure. The patient reports pain on the left side of her face and is unable to fully open or close her mouth. She is drooling. On examination, the jaw deviates to the right and the left mandibular condyle is very prominent with a palpable depression posterior to it. The patient is diagnosed with an anterior dislocation of the left temporomandibular joint. The jaw is most likely maintained in a dislocated position due to continued spasm of which of the following muscles?

A. Buccinator

B. Genioglossus

C. Lateral pterygoid

D. Sternocleidomastoid

temporalis retracts

lowers

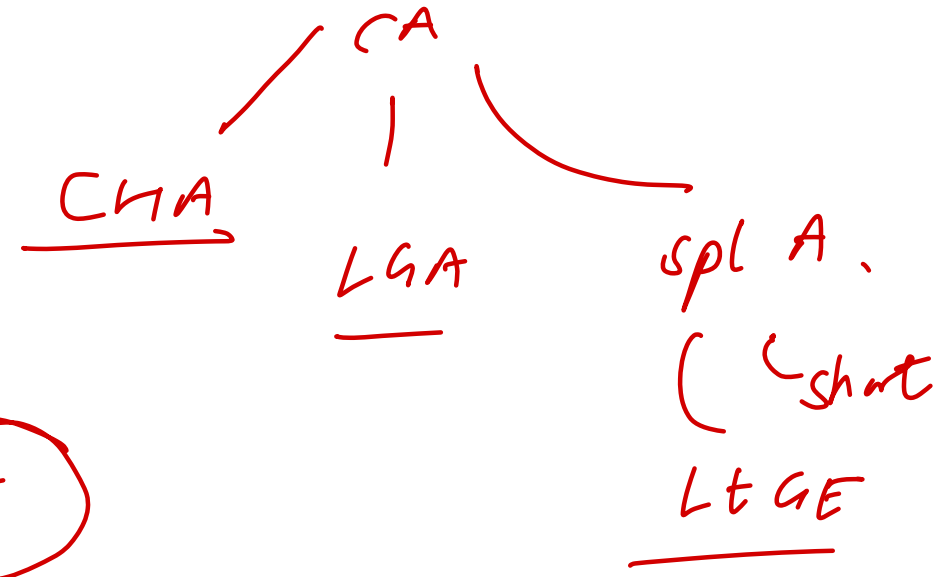
3. In which of the following vessels will the blood flow get affected if one puts a temporary clamp near the origin of the common hepatic artery?

1. Right gastric ✓
2. Right gastroepiploic ✓
3. Replaced left hepatic → LGA
4. Left gastroepiploic ✗✗
5. Left hepatic ✓
6. Superior pancreaticoduodenal ✓

- A. 2, 3, 4, 5
- B. 1, 2, 5, 6
- C. 1, 2, 4, 5
- D. 4, 5, 6

LDA

Replaced Rt hep → SMA



**4. All of the following structures are approximately 25 cm in length except:**

A. Ureter

B. Duodenum

C. Esophagus

D. Transverse colon

**Length**

**25 cm**

**45 cm**

**Structures**

- Esophagus - Duodenum - Ureter - Descending colon

- Spinal cord - Thoracic duct - Vas deferens - Sartorius - Femur - Transverse colon

5. Which of the following structure is affected in pancreas of a patient with Cystic Fibrosis? (INICET MAY 2021)

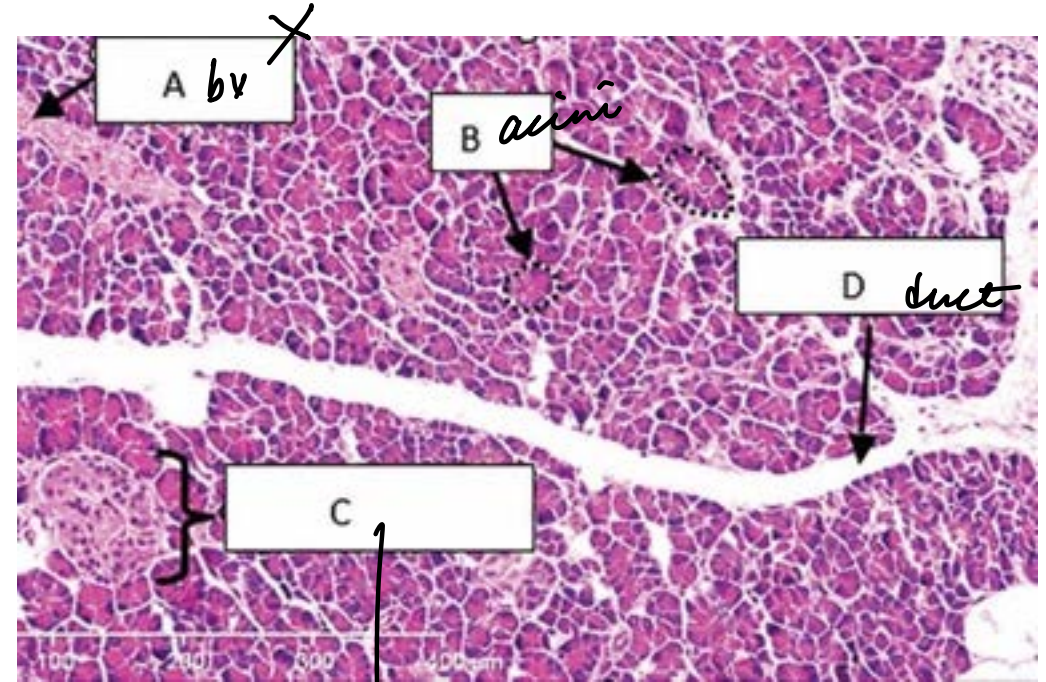
A. A

**B. B**

C. C

D. D

(FTR)  
acini



Islet L X

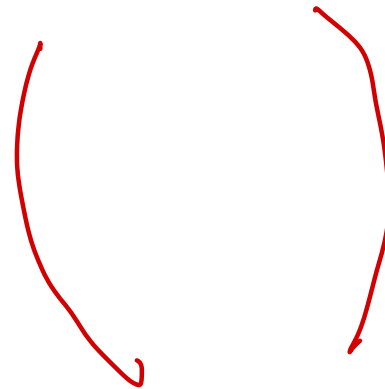
## 6. Which among the following is wrong about the venous drainage of the heart?

A. Coronary sinus is guarded by the thebesian valve ✓

~~B. Middle cardiac vein lies in the posterior atrioventricular groove~~ ✓ *post iv PDA*

C. Great cardiac vein accompanies left anterior descending artery

D. Anterior cardiac vein opens into RA directly ✓ *ant iv*



7. A 66-year-old man hospitalized 3 days ago for left lower lobe pneumonia is evaluated for persistent fever. He has been receiving the appropriate intravenous antibiotics as determined by antibiotic susceptibility testing of his sputum cultures. The patient has a history of diabetes mellitus and hypertension. His temperature is 38° C (100.4° F) and pulse is 87/min. Examination shows dullness to percussion and decreased breath sounds over the left lower lung. Imaging studies reveal a loculated, left-sided pleural effusion. A tube is placed to drain the fluid via an incision at the 5th intercostal space in the midaxillary line. Which of the following muscles is most likely to be dissected during the procedure? (Anatomy)

- A. External oblique
- B. Latissimus dorsi
- C. Pectoralis major
- D. Serratus anterior



8. Which of the following types of joints is incorrectly matched?

A. Acromioclavicular joint – Plane synovial joint ✓



B. Wrist joint – Condyloid joint ✓

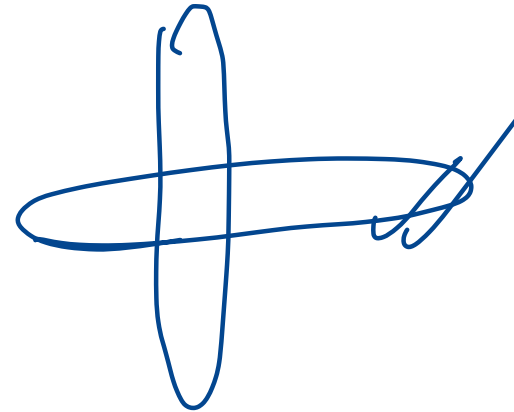
~~C. Sternoclavicular joint – Plane joint~~

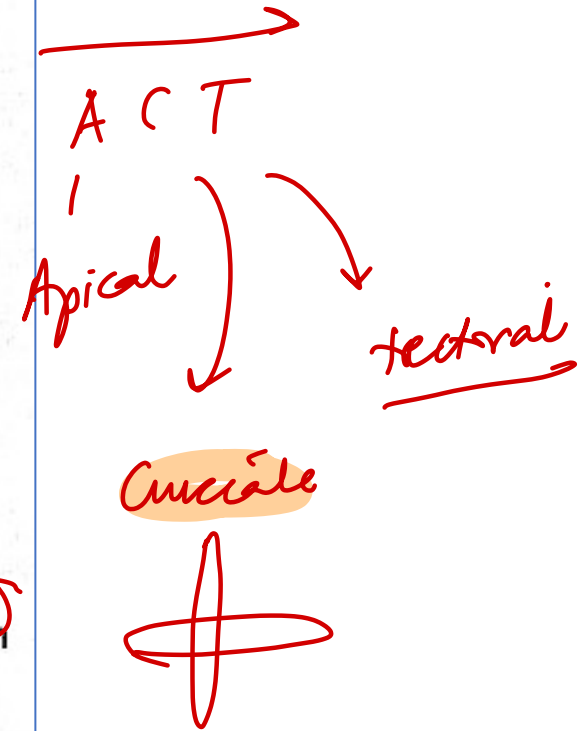
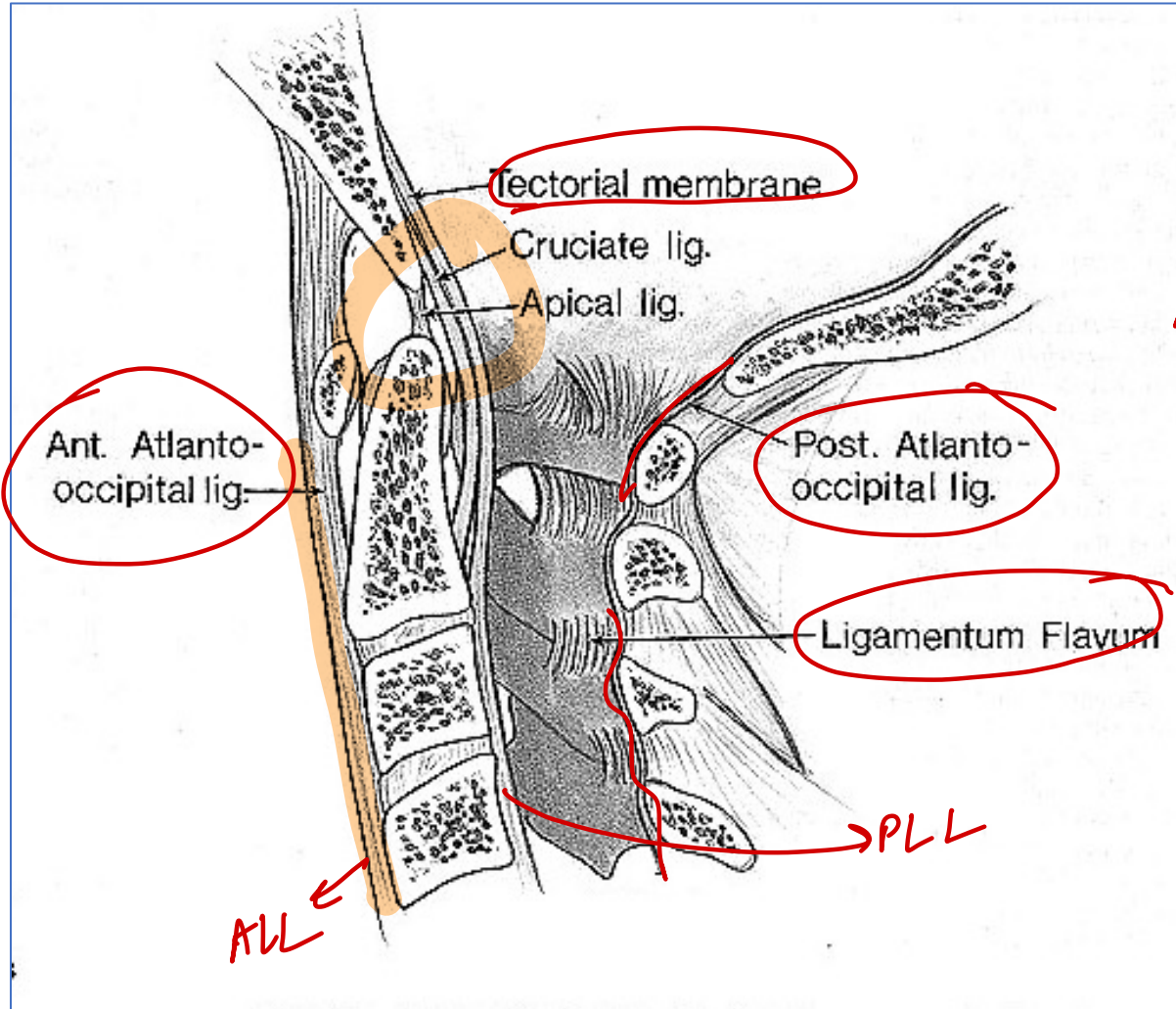
D. Intercarpal – Plane synovial joint

→ Saddle  
1st CMC  
M-I

9. During a Forensic Medicine Conference, a detailed discussion is held on the mechanisms of death in cases of judicial hanging. One of the topics focuses on the anatomical structures involved in the upper cervical spine and their role in the cause of death when subjected to the forces involved in hanging. A case is presented where an individual subjected to judicial hanging was found to have significant cervical spine injuries during the autopsy. Based on the anatomical and forensic analysis, which of the following structures is most likely to be involved in causing death due to rupture in cases of judicial hanging?

- A. Upper Band of Cruciate Ligament
- B. Apical Ligament of Dens 
- C. Transverse Ligament of Dens
- D. Membranatectoria 

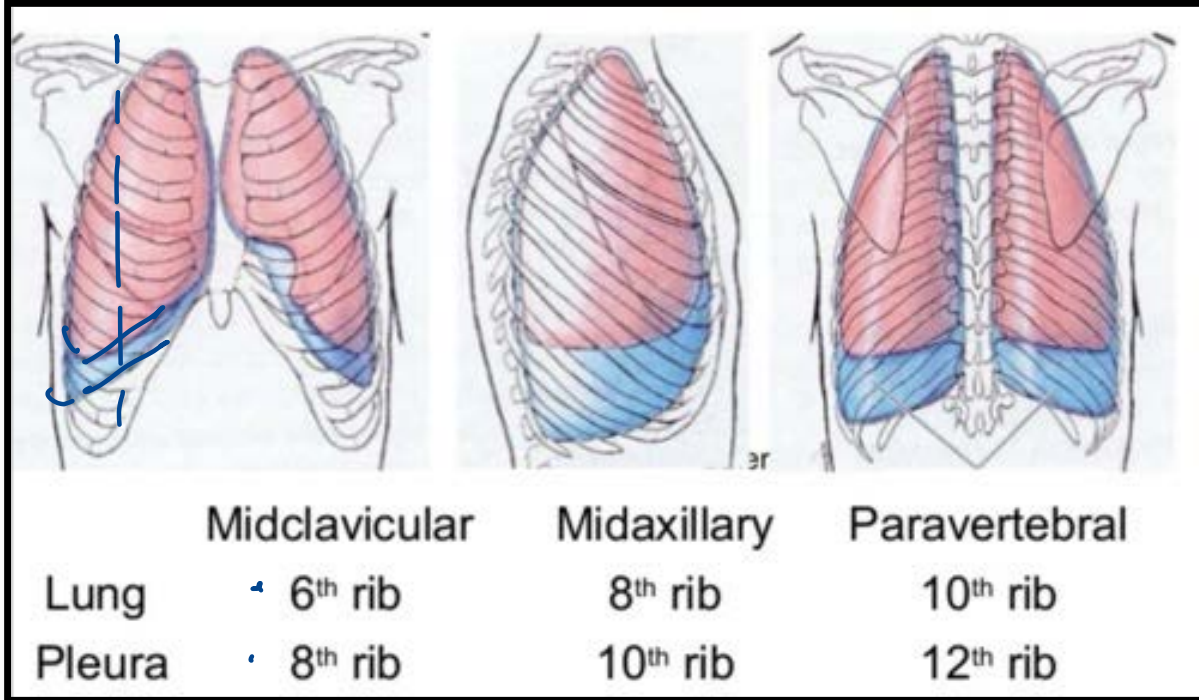




10. You should not insert the needle below which level in midaxillary line so as not to damage the liver?

- A. 6th rib
- B. 10th rib
- C. 8th rib
- D. 12th rib

8-10









**11. In which layer of the cerebral cortex is the outer band of Baillarger seen?**

A. External pyramidal layer

B. Internal granular layer

C. Internal pyramidal layer

D. External granular layer

Plexiform or molecular		Transverse fibres and some scattered neurons
External granular		Mainly stellate neurons
Pyramidal		Mainly pyramidal neurons  Some stellate cells and basket cells
Internal granular		Stellate neurons Outer band of Baillarger
Ganglionic		Giant pyramidal cells Inner band of Baillarger
Multiform or polymorphous		Neurons of various sizes and shapes  Merges with white matter

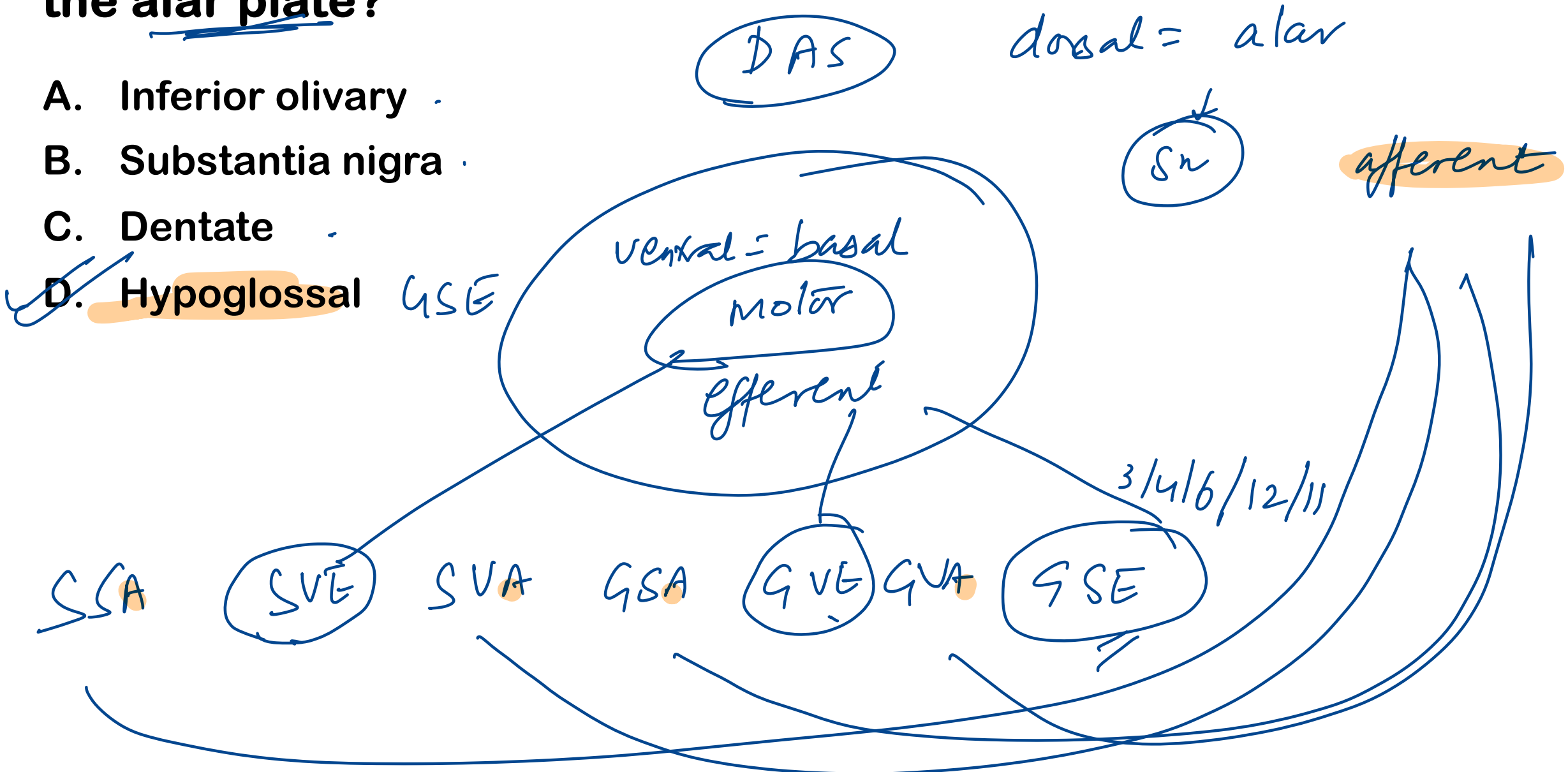
Malpighi vertical ← VPL / UPM  
LGB

→ C/S, C/B tract

Fig. 15.2. Laminae of cerebral cortex.

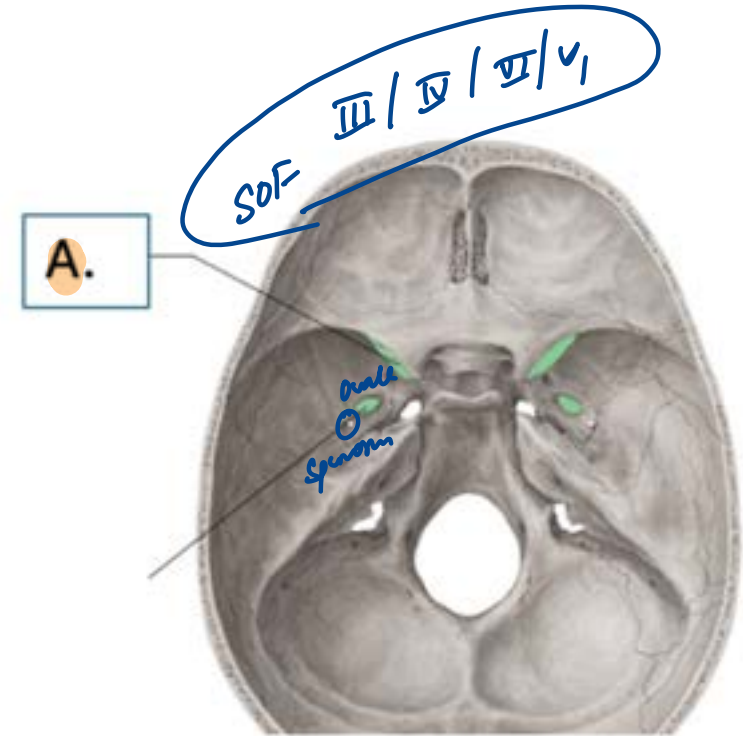
# 12. Which of the following brainstem nuclei is not derived from the alar plate?

- A. Inferior olivary
- B. Substantia nigra
- C. Dentate
- D. Hypoglossal



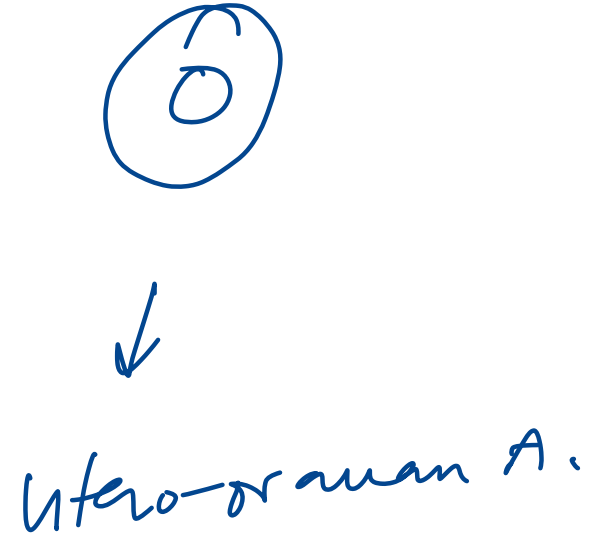
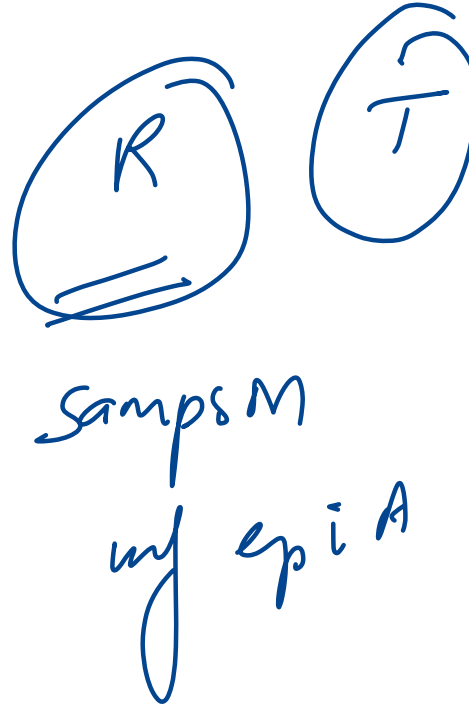
13. Sensation of which of the following structures are affected if a tumor or lesion compresses the structures passing through this opening of the skull marked A?

- A. Sensation of nasopharynx  $\ll \underline{\text{IX}}$
- B. Mucosa of nasal cavity  $v_2$
- ~~C. Sensation in anterior scalp and dorsum of nose~~  $\underline{V_1}$
- D. Sensation of chin  $v_3$



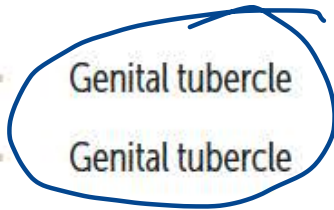
14. Which of the following structures in women is homologous to gubernaculum testis in men?

- A. Round ligament
- B. Broad ligament
- C. Uterosacral ligament
- D. Cardinal ligament



**Dihydrotestosterone**

- ← Glans penis
- ← Corpus cavernosum and spongiosum
- ← Bulbourethral glands (of Cowper)
- ← Prostate gland
- ← Ventral shaft of penis (penile urethra)
- ← Scrotum



- Genital tubercle
- Genital tubercle
- Urogenital sinus
- Urogenital sinus
- Urogenital folds
- Labioscrotal swelling

**Estrogen**

- Glans clitoris
- Vestibular bulbs
- Greater vestibular glands (of Bartholin)
- Urethral and paraurethral glands (of Skene)
- Labia minora
- Labia majora

15. . Superior gluteal nerve supplies all except?

Pyriformis

- A. Gluteus medius ✓
- B. Gluteus minimus ✓
- C. Tensor fascia lata ✓
- D. ~~Piriformis~~

16. During the clinical examination of the nervous system, which of the following nerves can be tested by touching the highlighted structure? (Anatomy)

PYQ

A. IX

B. X - denervation of uvula

C. XI

D. XII



Uvula

# 17. Match the following Subarachnoid Cisterns with their respective Vascular contents:

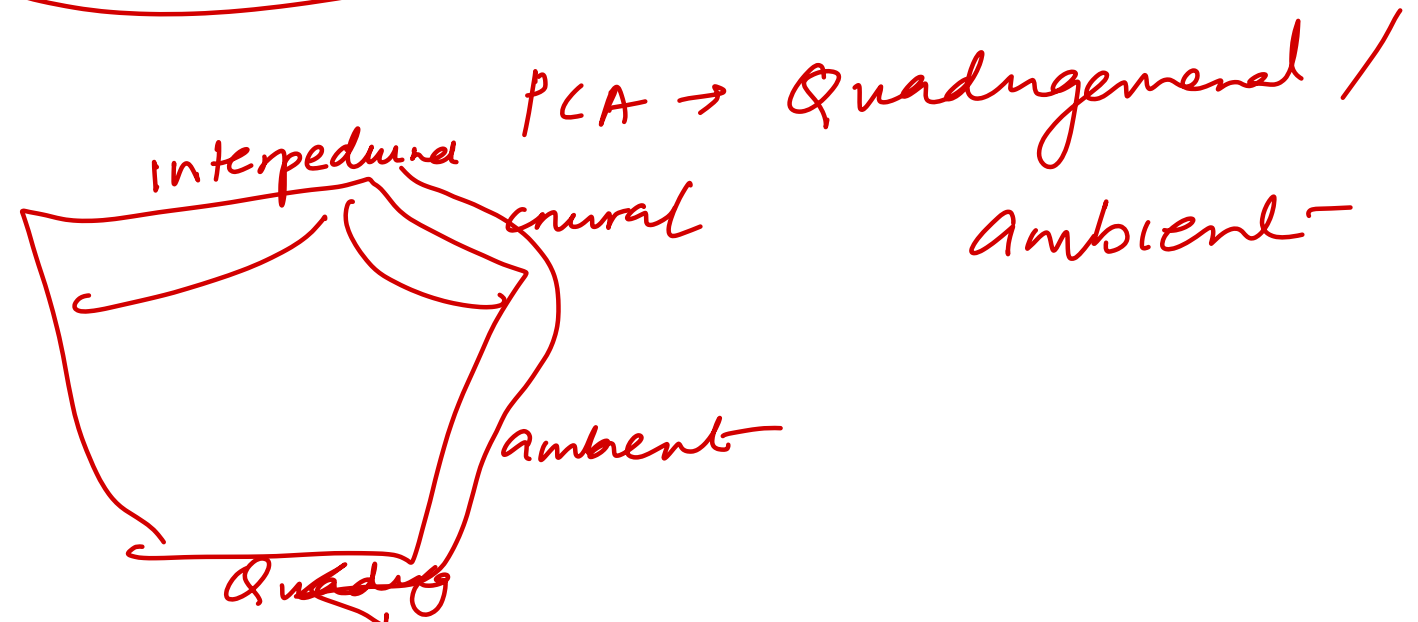
Subarachnoid cistern	Vascular content
A. Cisterna Magna	1. Basilar artery
B. Quadrigeminal cistern	1. Vertebral artery
C. Sylvian cistern	1. Vein of Galen / ICV
D. Pontine cistern	4. MCA

A. A-1, B-2, C-3, D-4

**B. A-2, B-3, C-4, D-1**

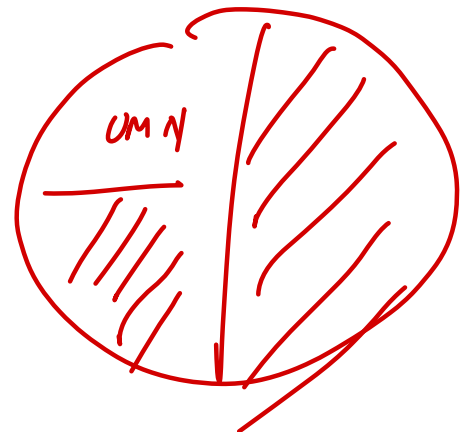
C. A-1, B-3, C-4, D-2

D. A-2, B-4, C-1, D-3



18. A 58-year-old man comes to the physician for evaluation of increasing swelling in his left cheek and recurrent oral ulcers for 1 year. He has smoked a pack of cigarettes daily for 25 years. Examination shows firm, nontender swelling above the angle of jaw. USG guided biopsy shows adenoid cystic carcinoma. A left sided total parotidectomy is performed. This patient is at greatest risk for which of the following complications?

- A. Hyperesthesia of the left ear lobe GAN
- B. Impaired taste of the posterior 1/3 of the tongue IX
- C. Flushing of the right cheek while eating Frey - Auriculotemporal N
- D. Inability to wrinkle the left side of the forehead LMN



**19. Which of the following branches of internal Carotid artery are given off in the cervical region?**

---

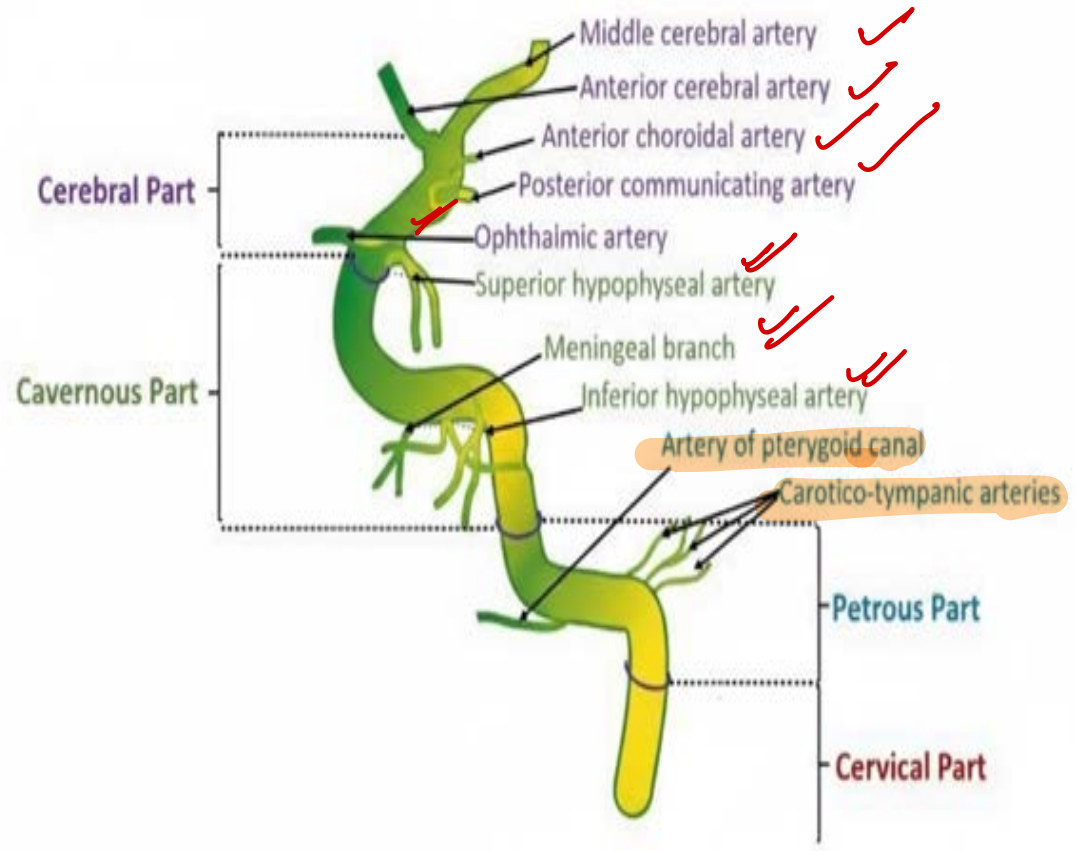
A. Pharyngeal branches

B. Pterygoid branch ✗

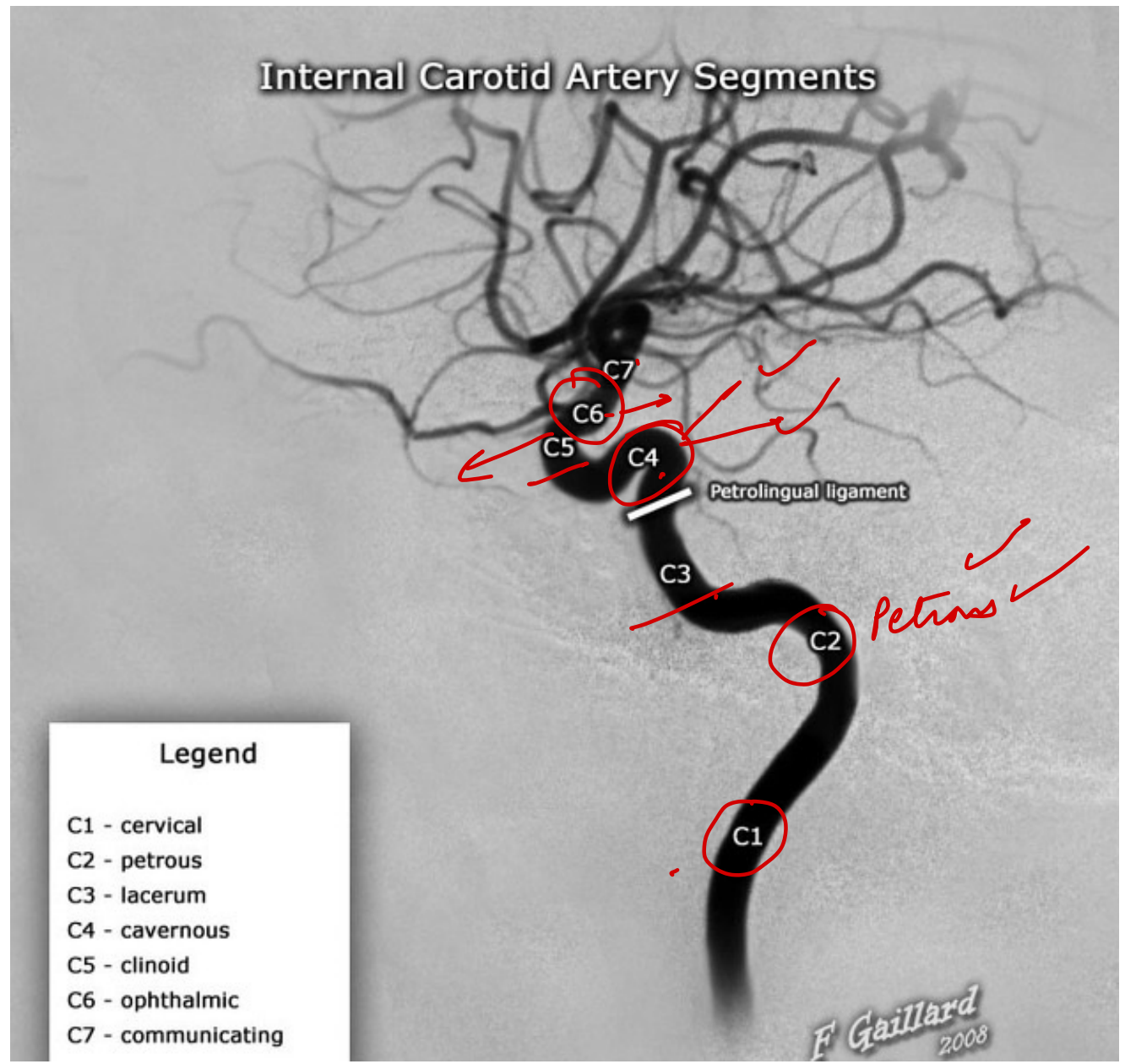
C. Caroticotympanic branch ✗

D. None of the above

### Internal Carotid Artery and its Branches



### Internal Carotid Artery Segments



#### Legend

- C1 - cervical
- C2 - petrous
- C3 - lacerum
- C4 - cavernous
- C5 - clinoid
- C6 - ophthalmic
- C7 - communicating

F. Gaillard 2008

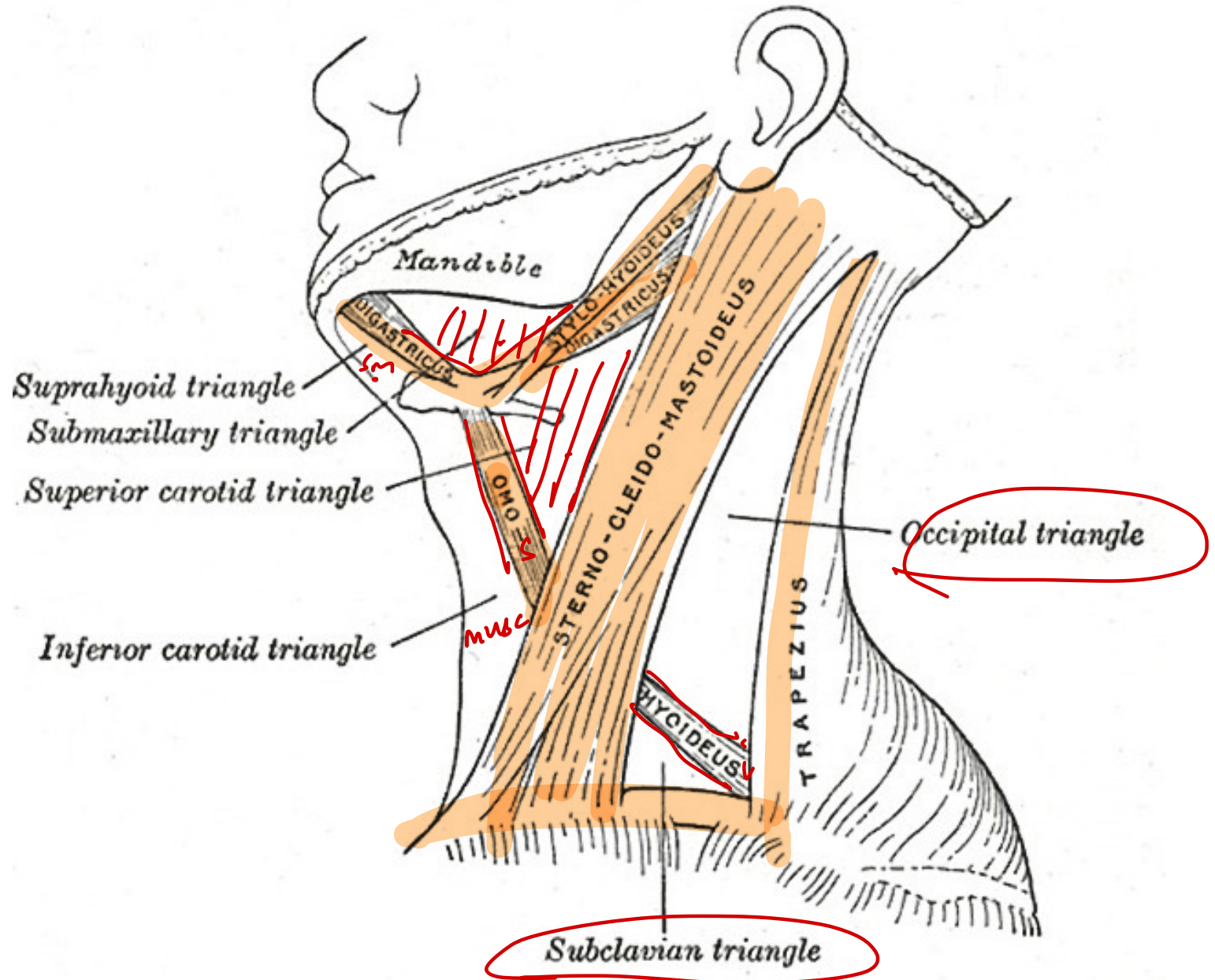
**20. Which of the following areas is not a part of anterior neck?**

**A. Subclavian triangle**

**B. Submental triangle**

**C. Digastric triangle**

**D. Carotid triangle**



21. Which of the following statements is true about the iliopubic tract? (Anatomy)

A. It is a thickening of the lumbar ~~fascia~~

B. It lies anterior ~~to~~ the Poupart's ligament

C. It inserts into the pubic tubercle (in front of ~~the~~ conjoint tendon)

D. Its fibers fan out with fascia illaca laterally

*pya*  
*FT*  
*ing lig. post*  
*post*

**22. What level of the vertebral column does the given cross-sectional image correspond to:**

A. T12

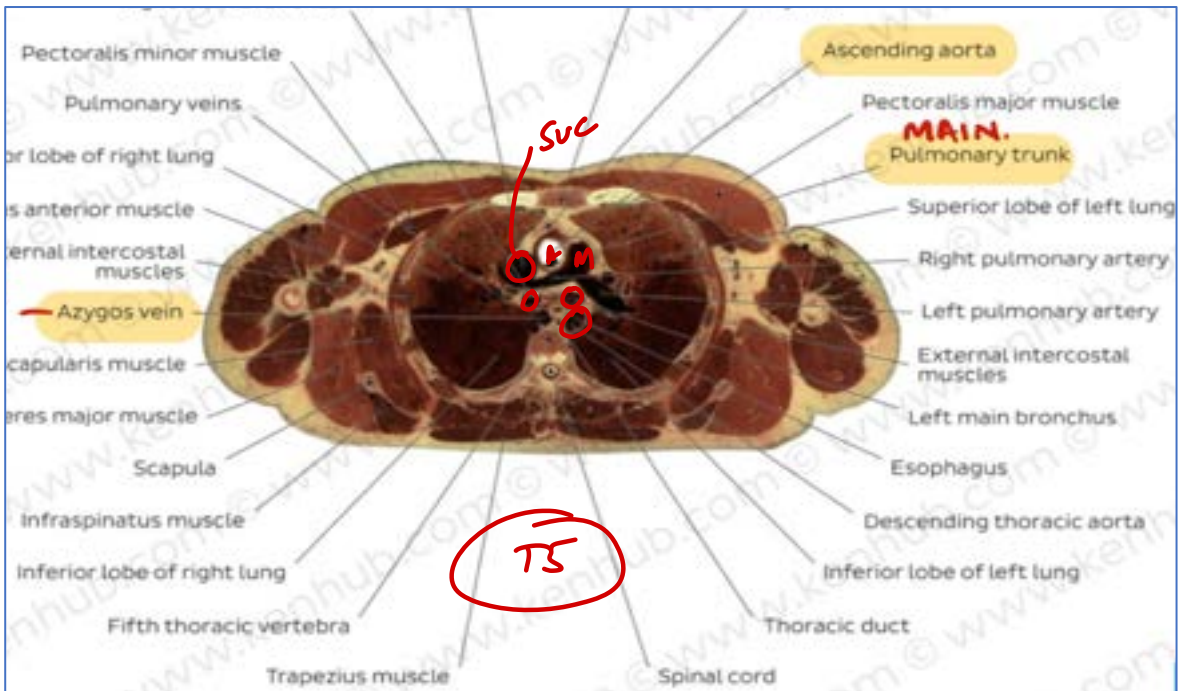
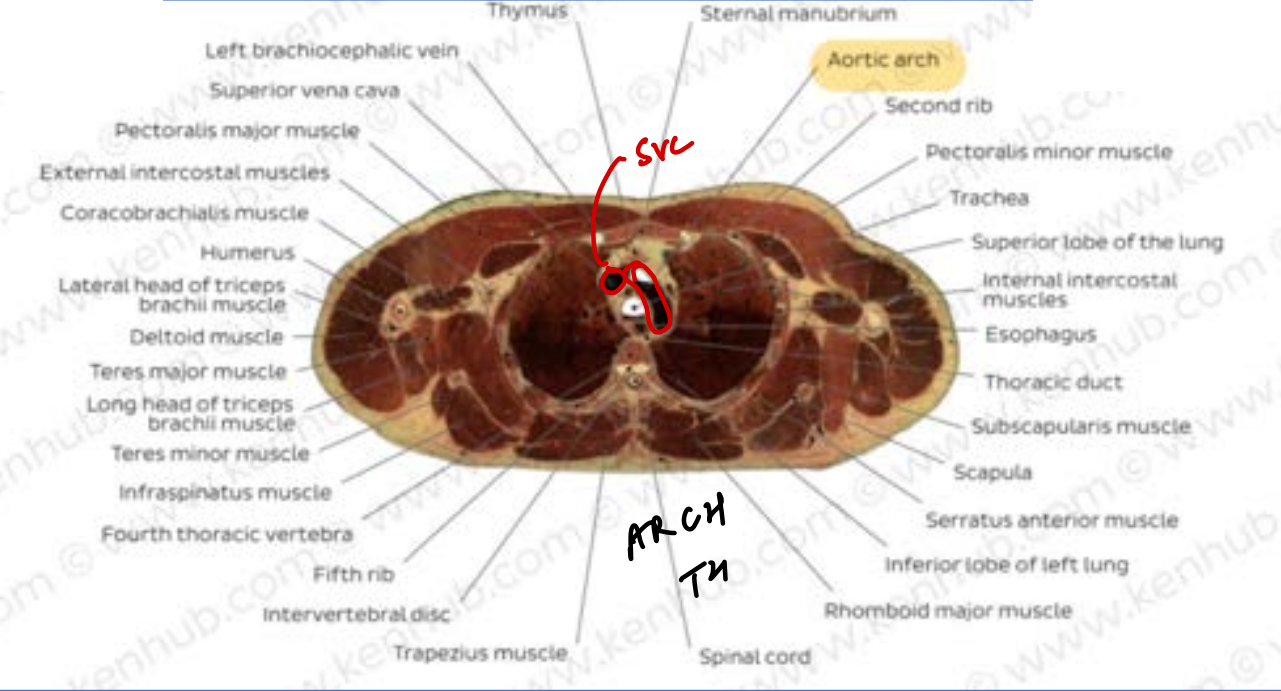
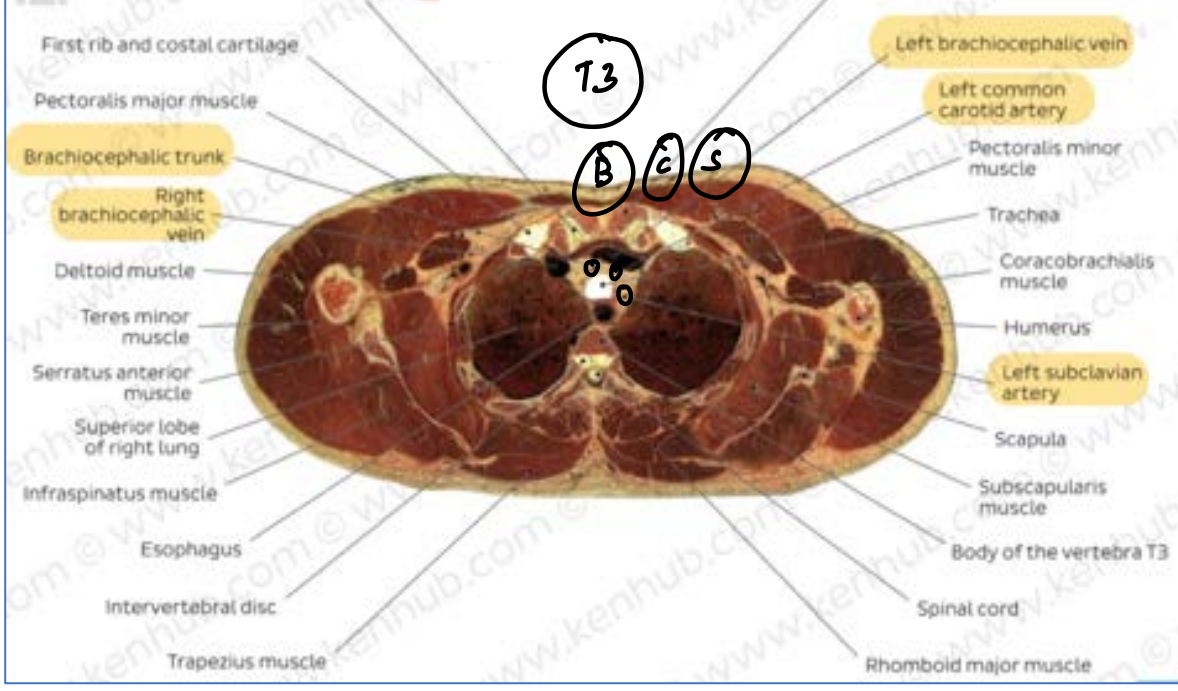
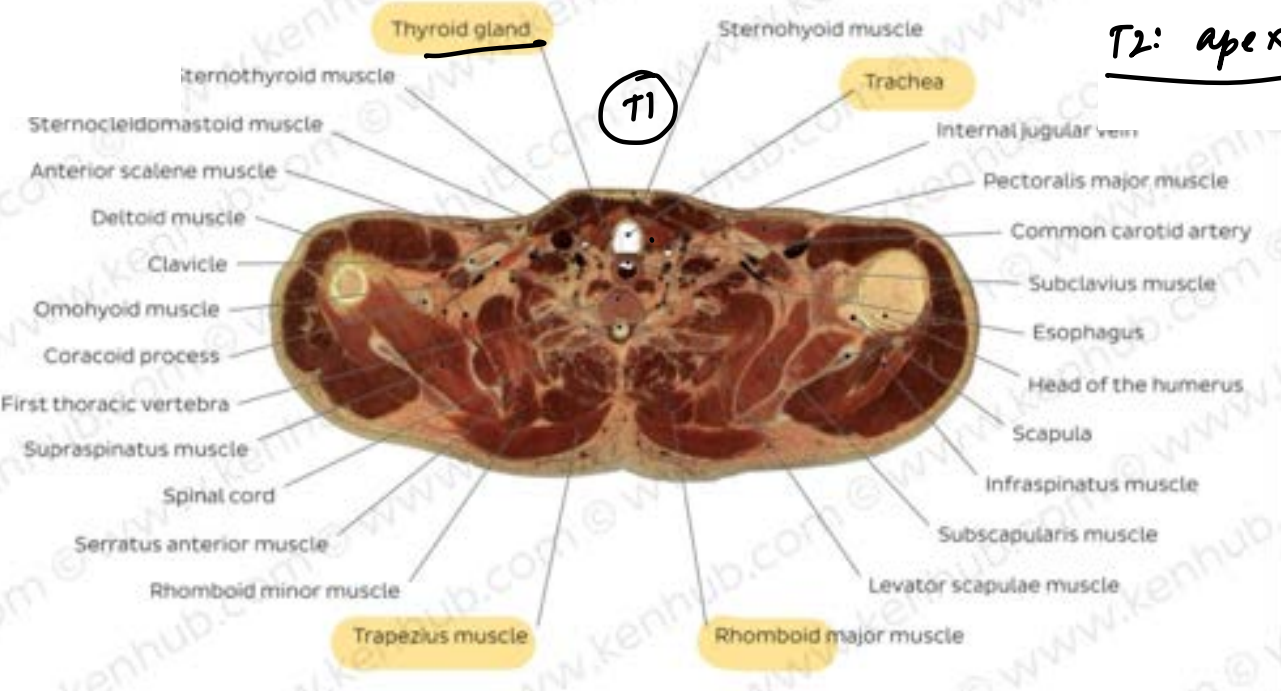
B. T10

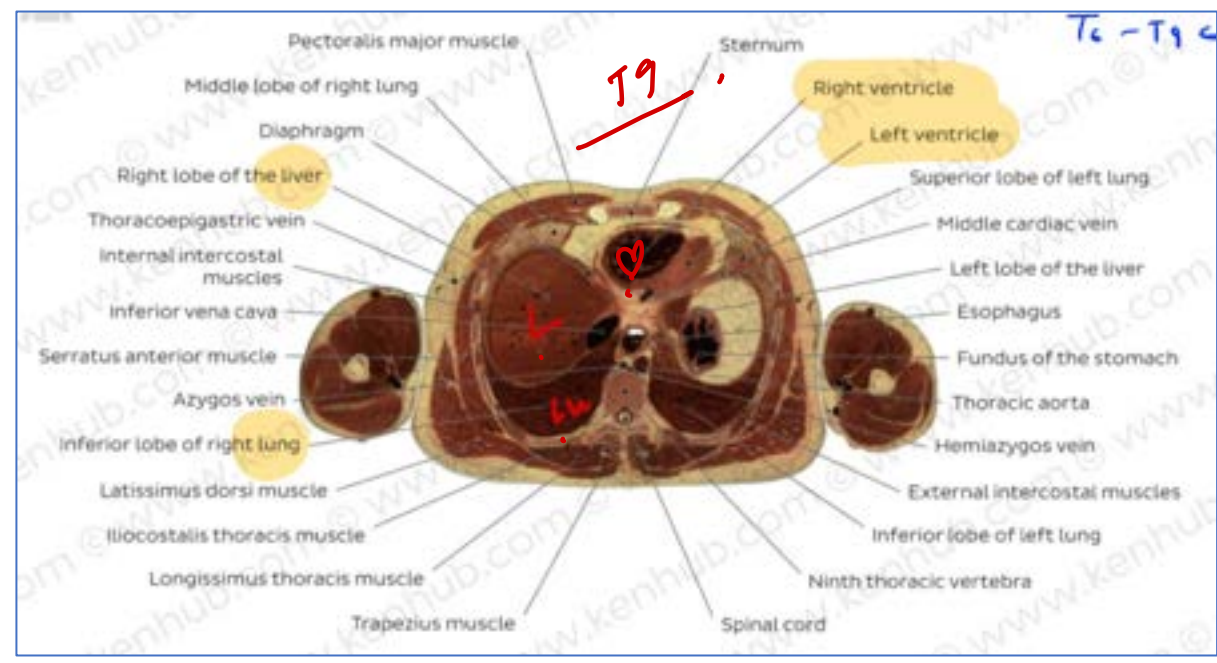
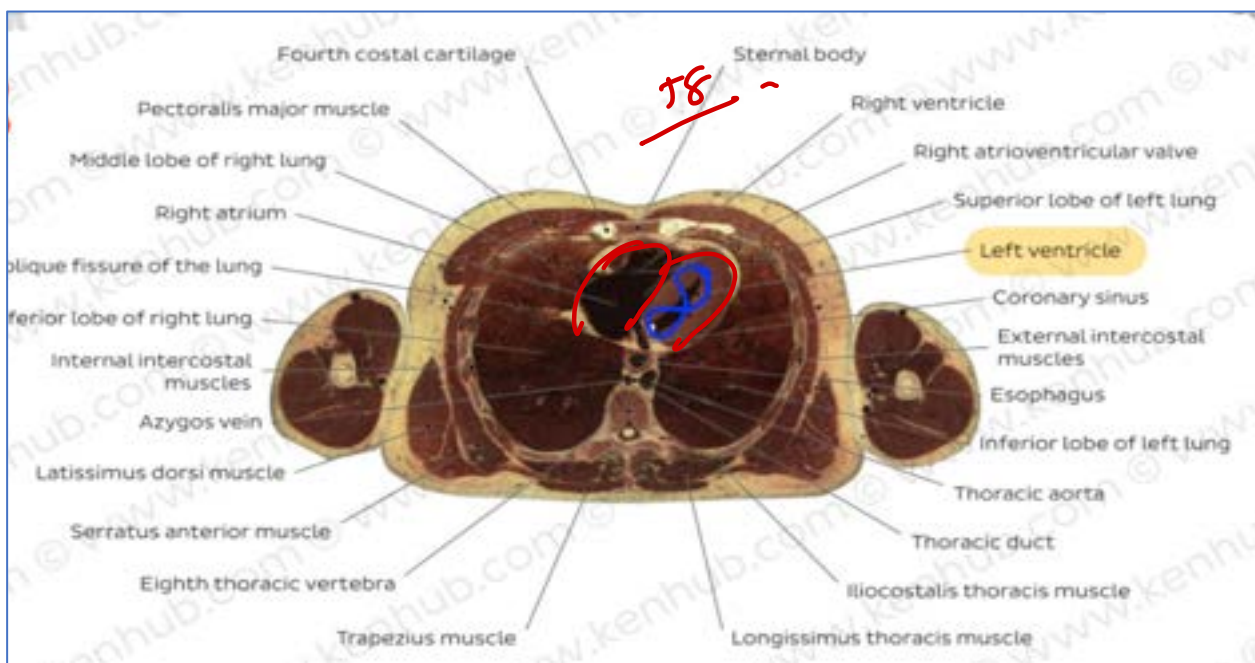
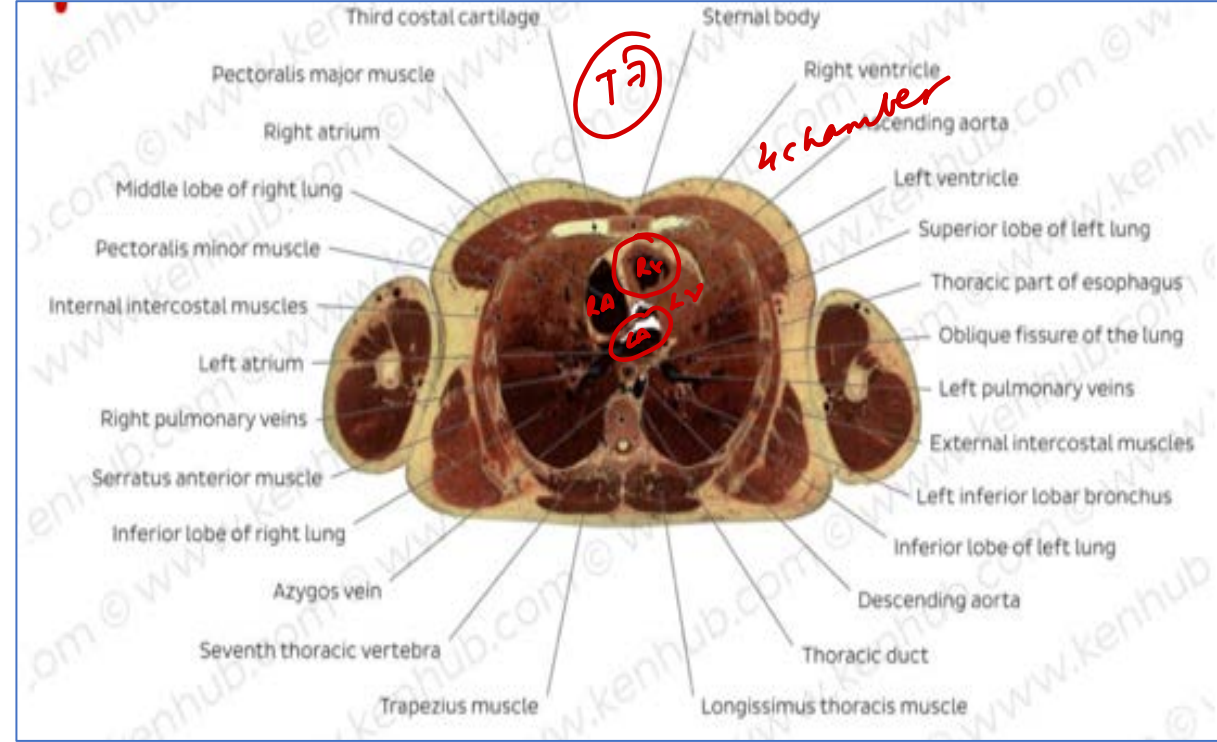
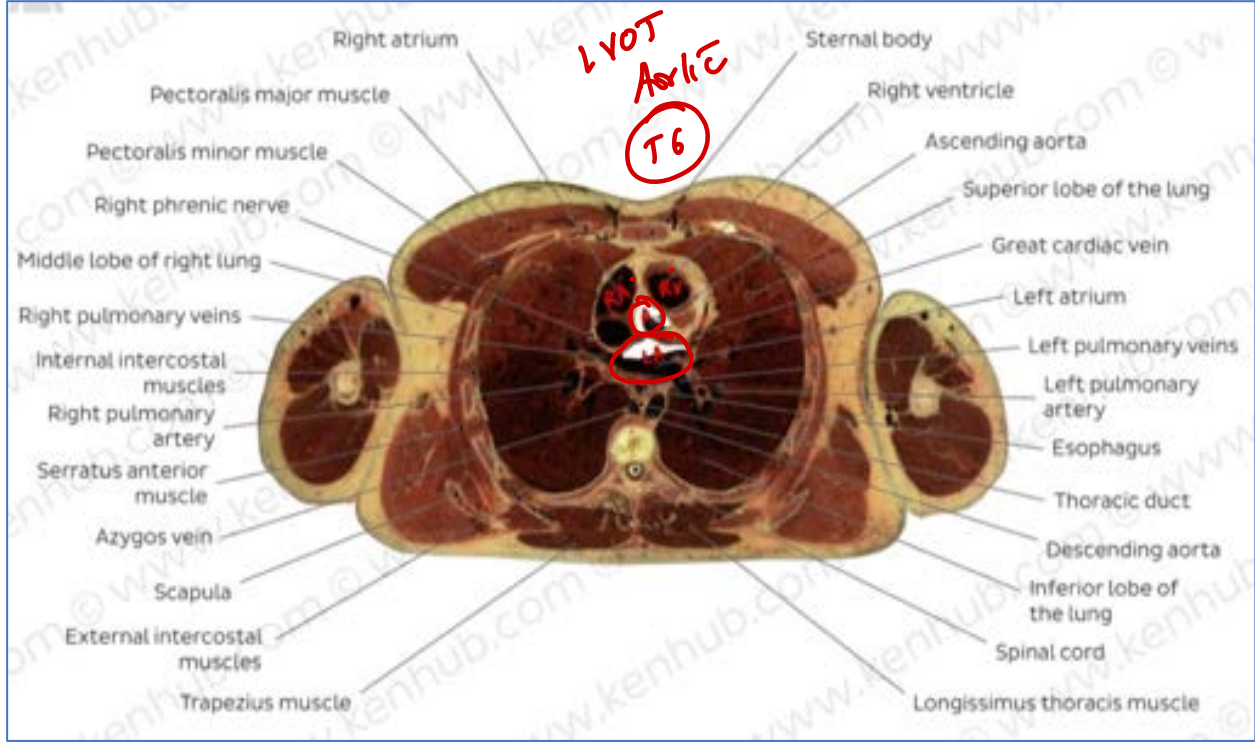
C. T9

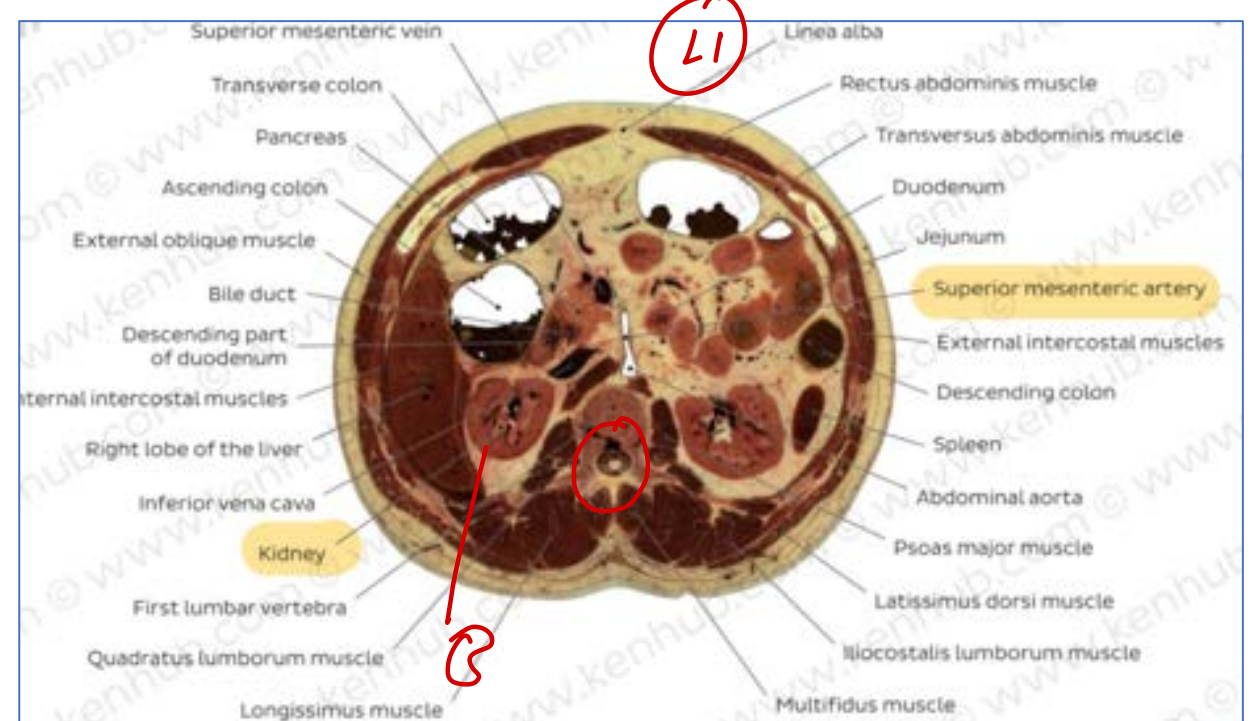
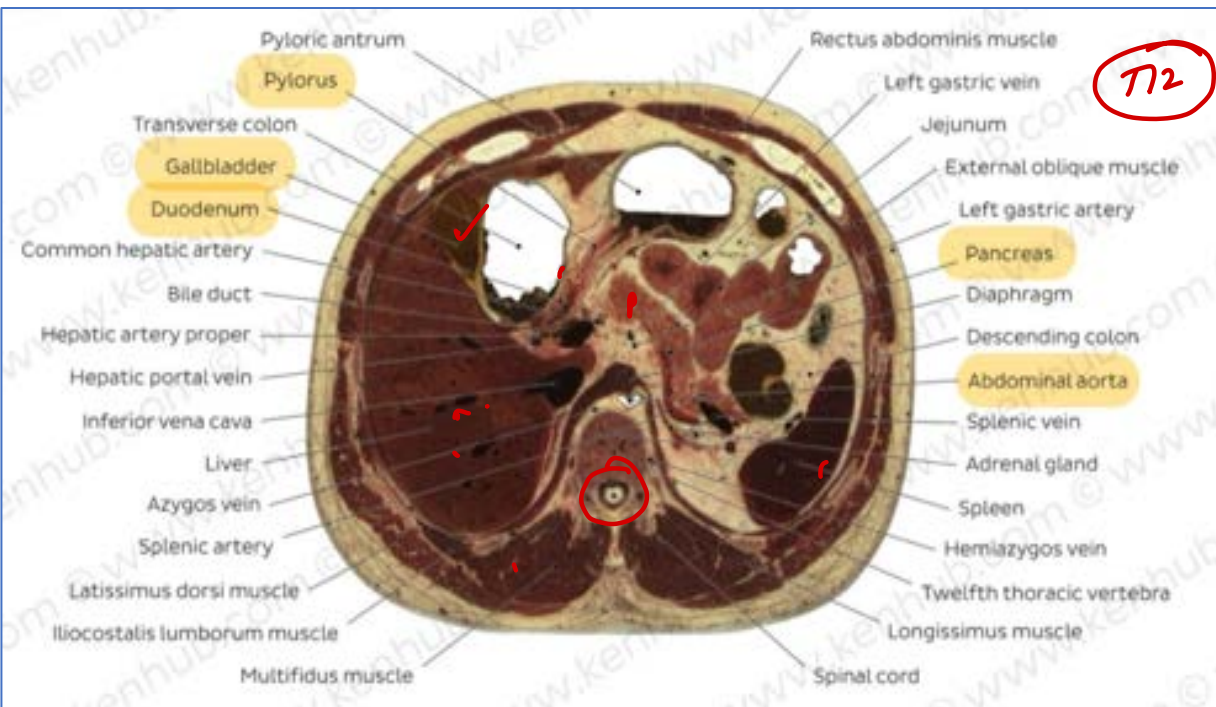
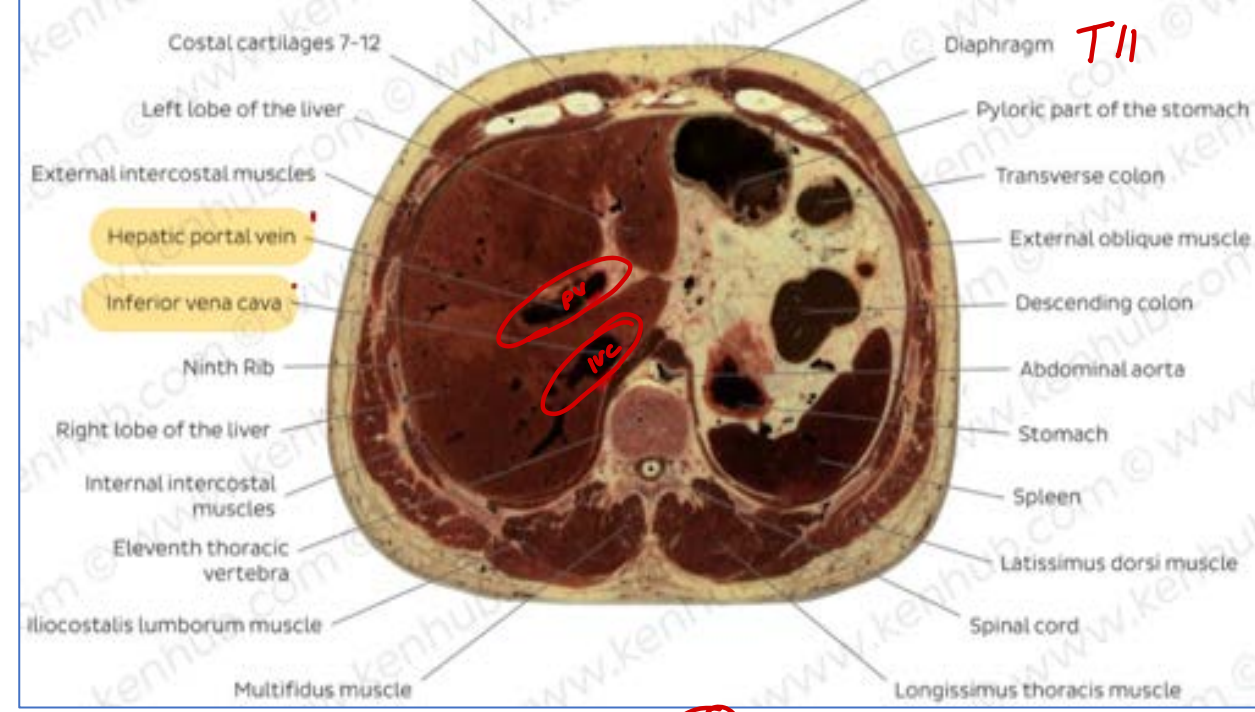
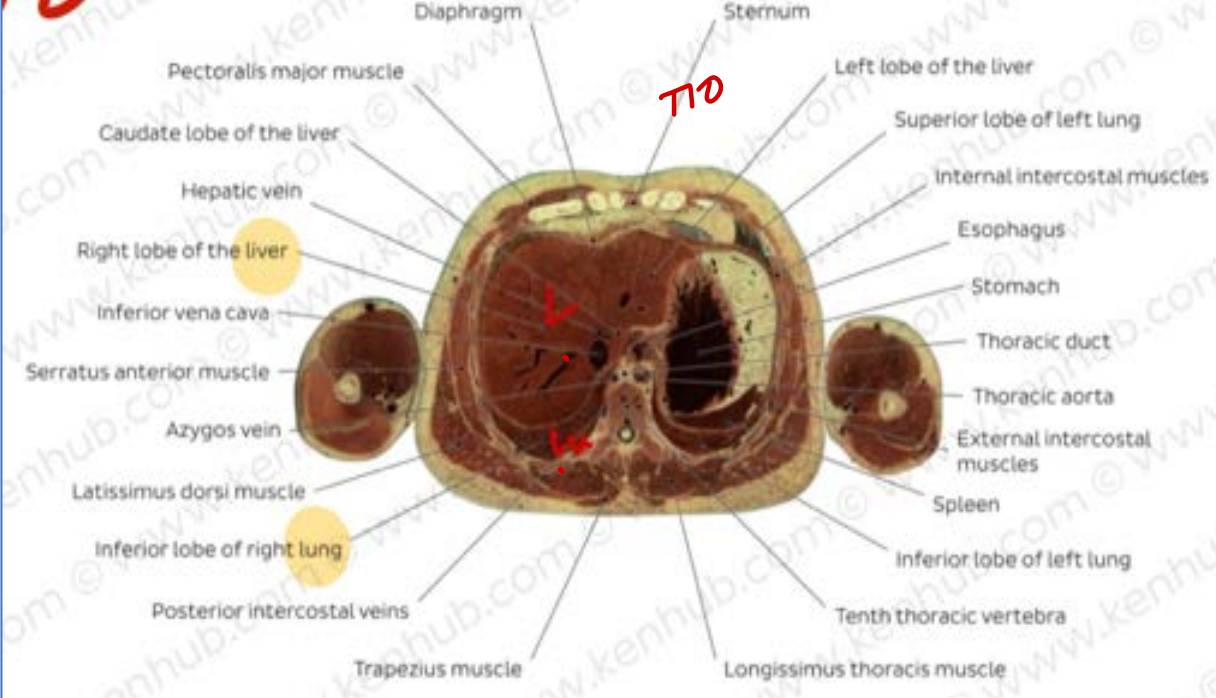
D. T11

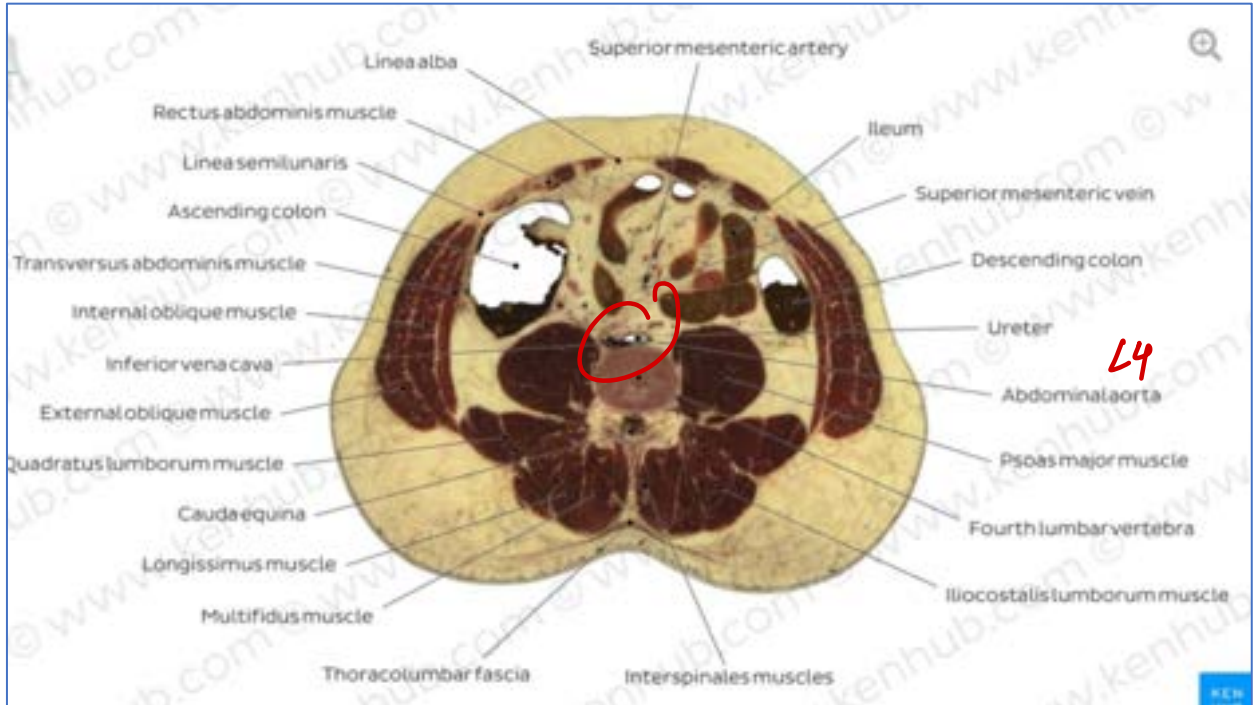
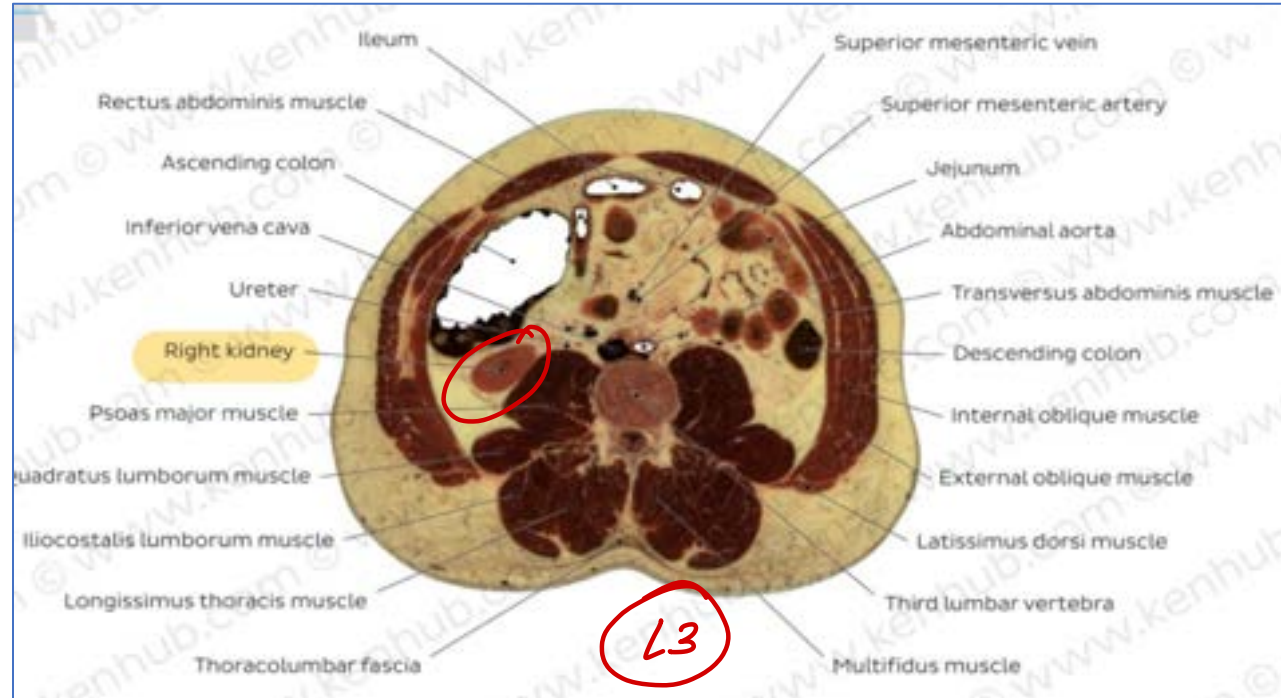
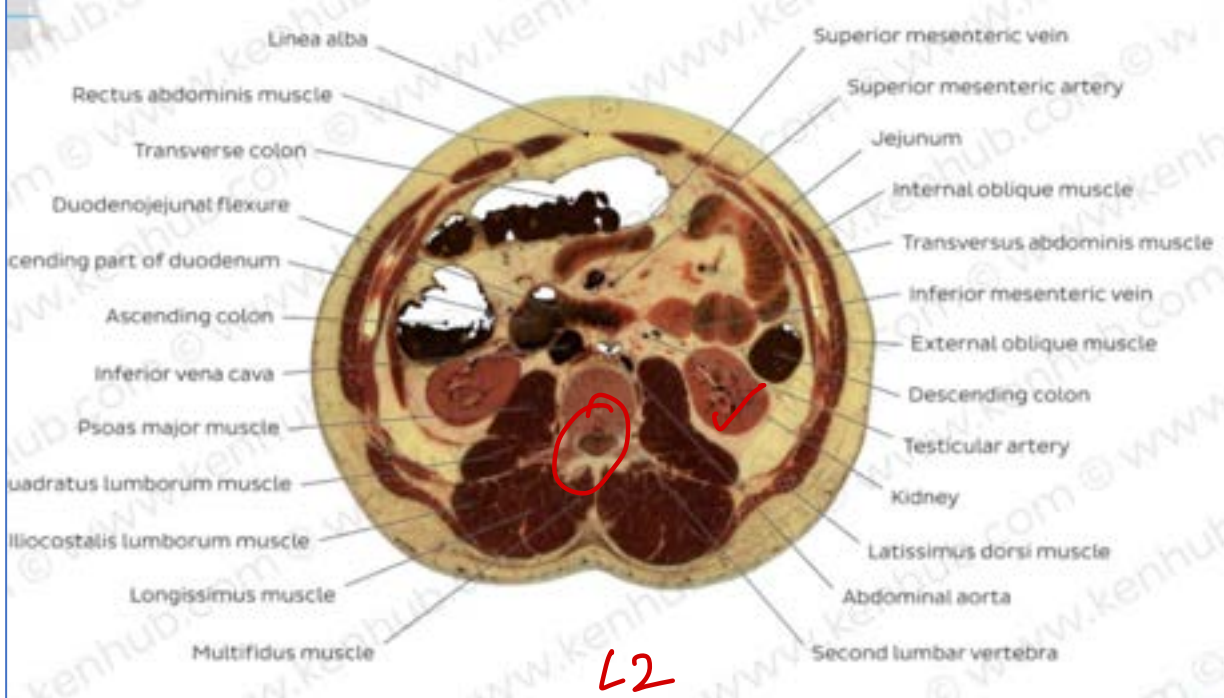


T2: apex





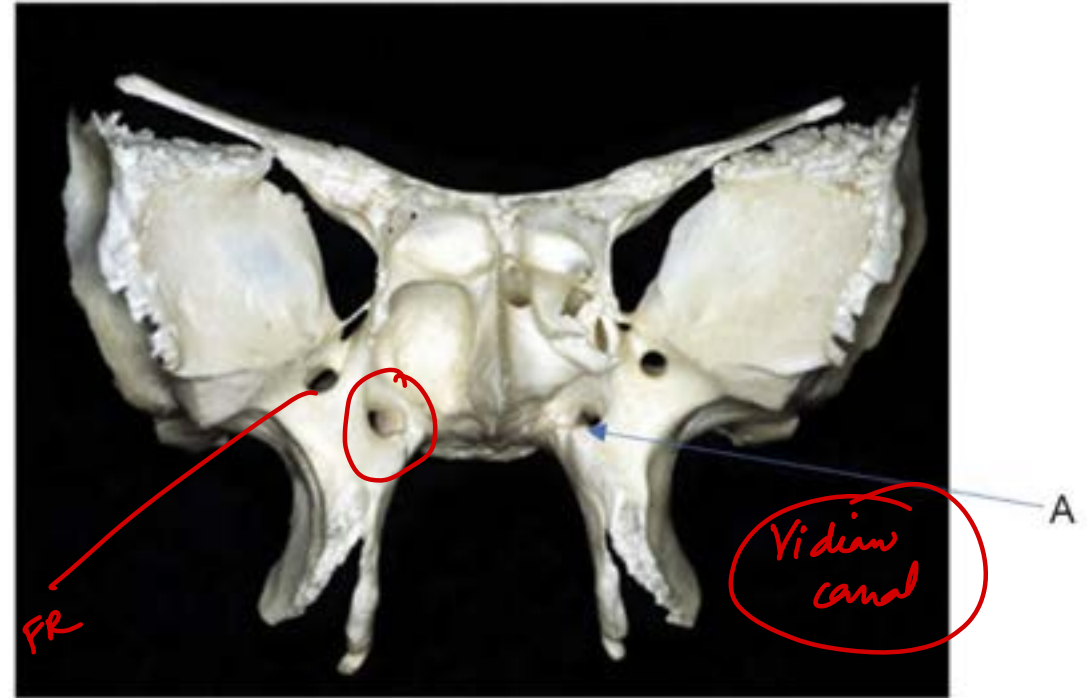


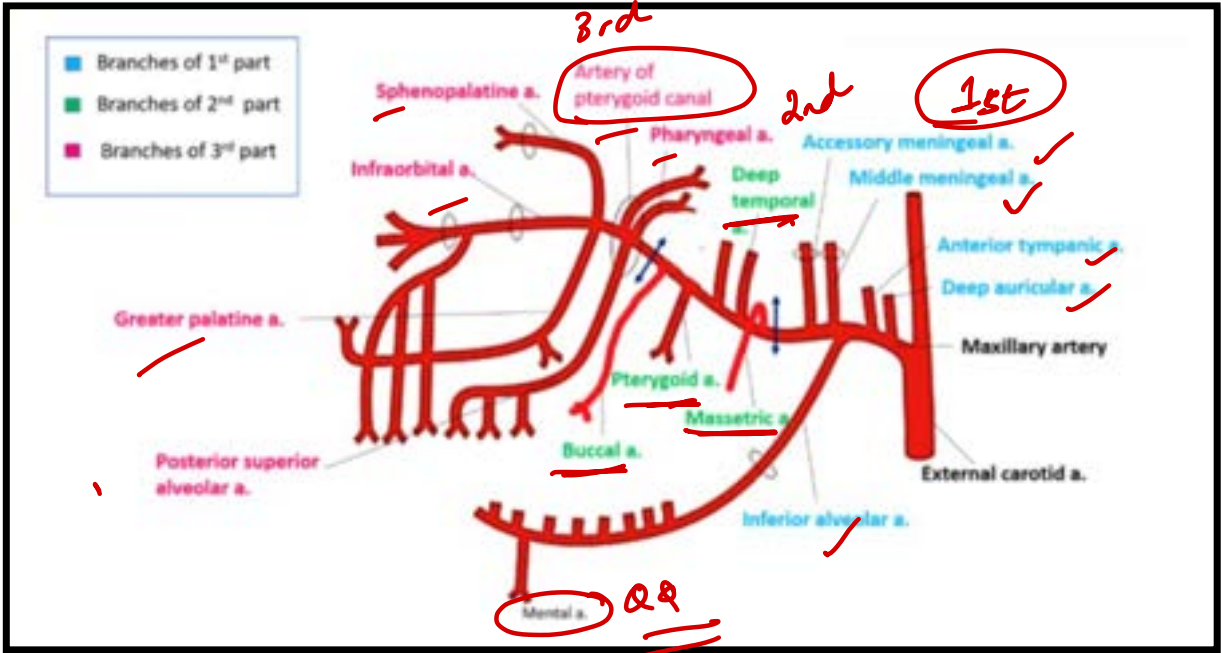


T1	T2	T3	T4	T5
		000	Arch	SAM
T6	T7	T8	T9	T10
LVOT	4cham	8	///	///
T11	T12	L1	L2	
///	sc ✓	sc ✓	sc x	
	Q x	Q ✓	Q ✓	
		L3	L4	

23. The artery passing through the structure marked A is a branch of which part of the maxillary artery?

- A. First part
- B. Second part
- C. Third part**
- D. Fourth part





24. A 40-year-old male patient presents with hemiplegia on right side of body. On examination he was having loss of proprioception, fine touch and vibration sensations on right side. He was also unable to recognize the objects with closed eyes from right hand. On examination left side of the tongue was atrophied and deviation on left side during protrusion was found. What is the likely diagnosis?

- A. Perinaud's syndrome
- B. Raymond syndrome
- C. Dejerine's syndrome
- D. Wallenberg's syndrome

6

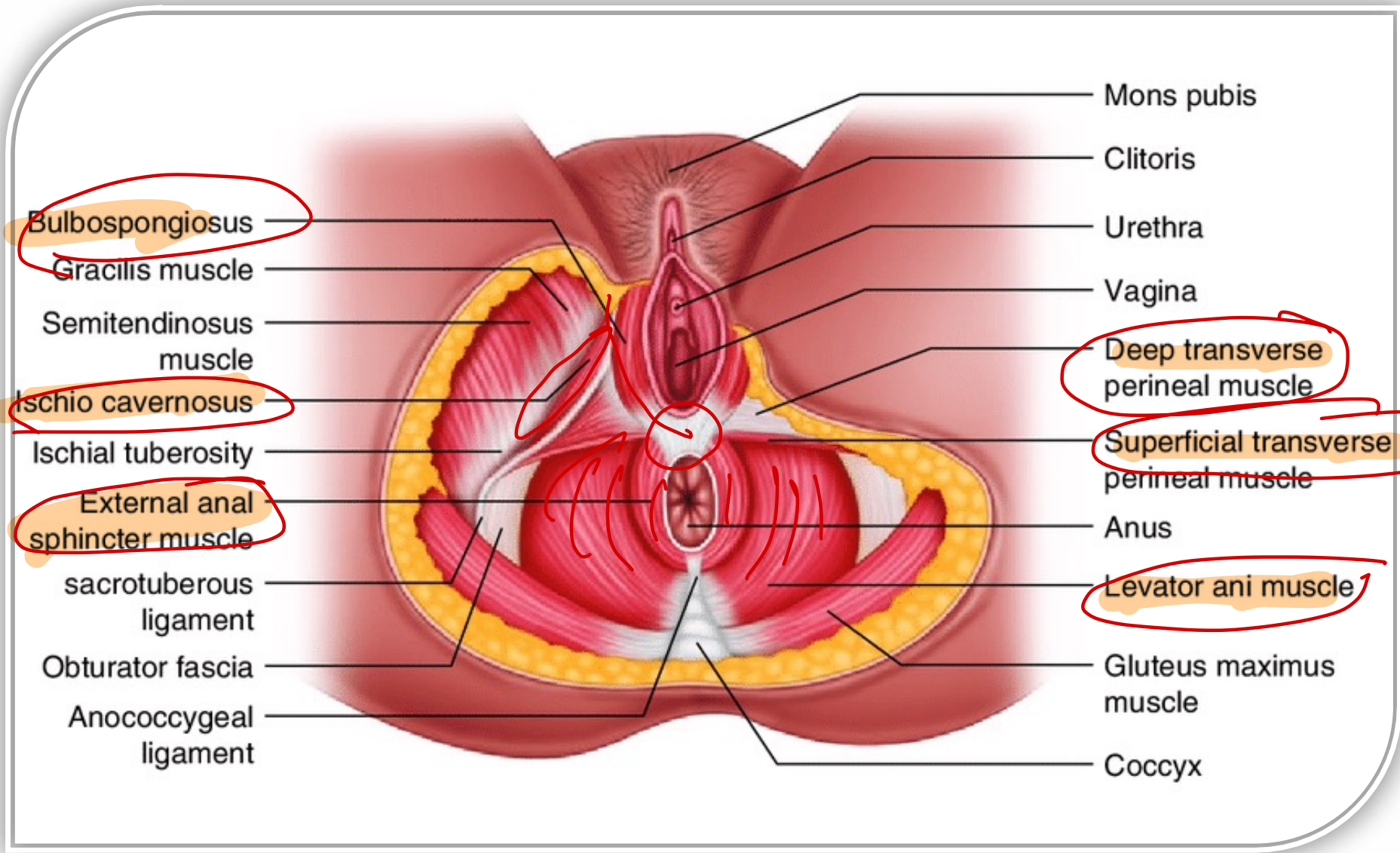
Lat medulla

Molitor

medial medulla

**25. Which of the following muscles is not involved in the formation of the perineal body?**

- A. Bulbospongiosus muscle
- B. Superficial transverse perineal muscles
- C. Deep transverse perineal muscles
- ~~D. Internal anal sphincter muscle~~



Bulbospongiosus  
Gracilis muscle  
Semitendinosus muscle  
Ischio cavernosus  
Ischial tuberosity  
External anal sphincter muscle  
sacrotuberous ligament  
Obturator fascia  
Anococcygeal ligament

Mons pubis  
Clitoris  
Urethra  
Vagina  
Deep transverse perineal muscle  
Superficial transverse perineal muscle  
Anus  
Levator ani muscle  
Gluteus maximus muscle  
Coccyx

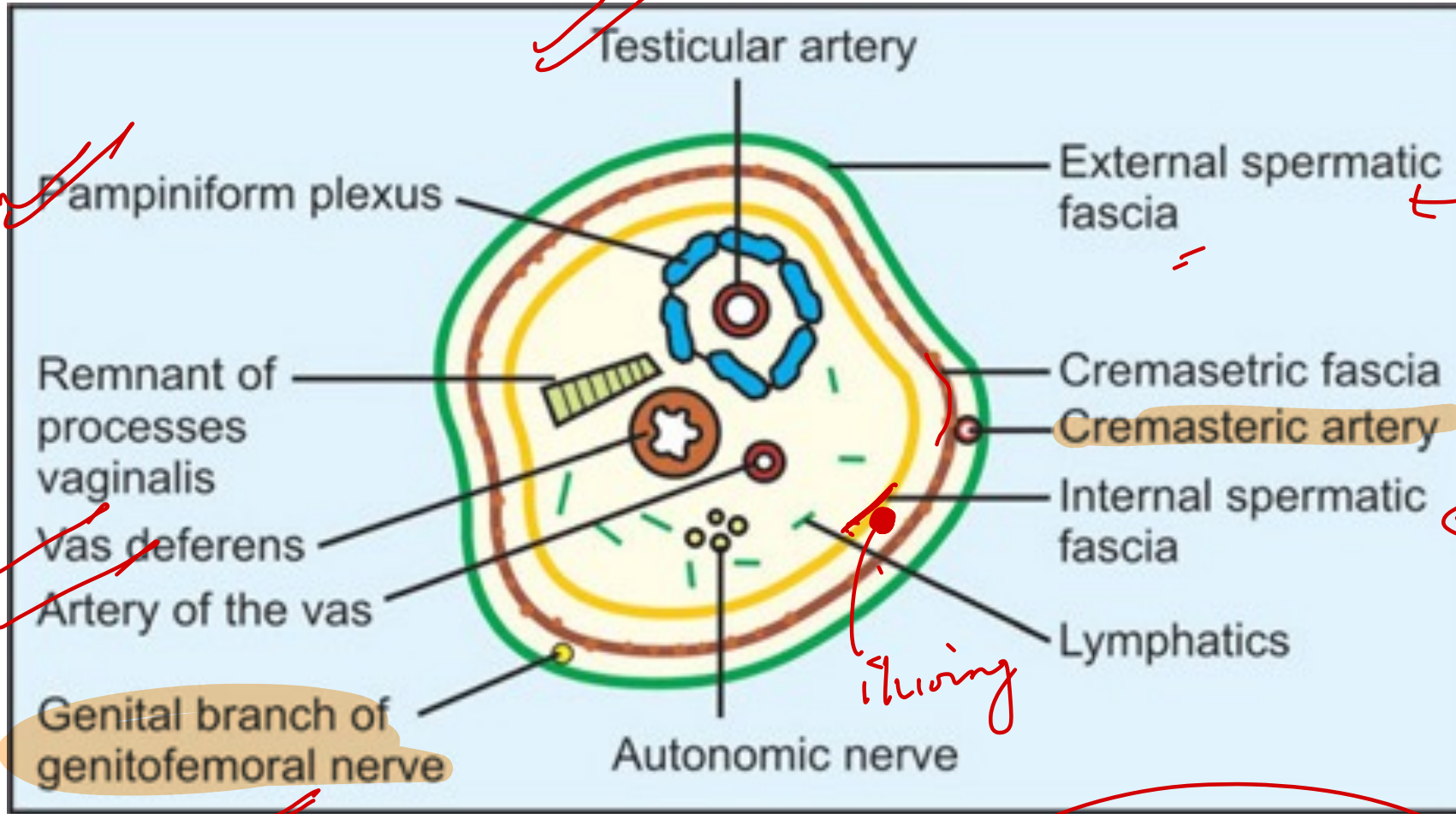
**26. Which of the following structures of the inguinal canal lies outside the internal spermatic fascia?**

A. Pampiniform plexus of veins

B. Testicular artery

C. Testicular nerve plexus

D. Ilioinguinal nerve



✓✓✓  
 ✓✓✓  
 ✓✓✓  
 ✓✓✓  
 ✓✓✓

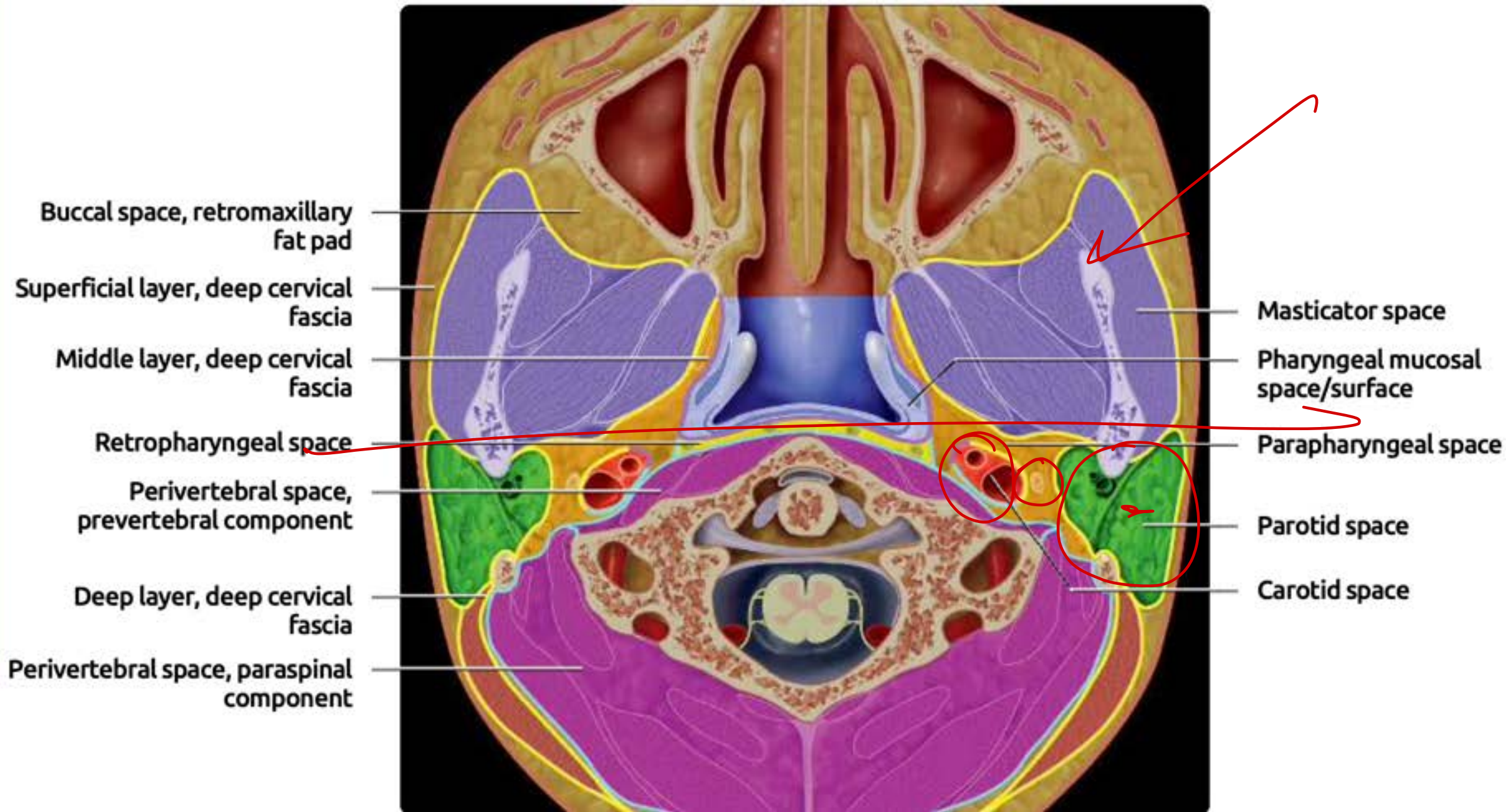
Ext oblique  
 Int oblique  
 FT  
 ilioing

ilioing N ✓ ing canal x spermatic cord

27. Which of the following is **not** a feature of post-styloid parapharyngeal space infection?

PYQ

- A. Horner's syndrome
- B. Vocal cord palsy
- C. Trismus
- D. Parotid swelling

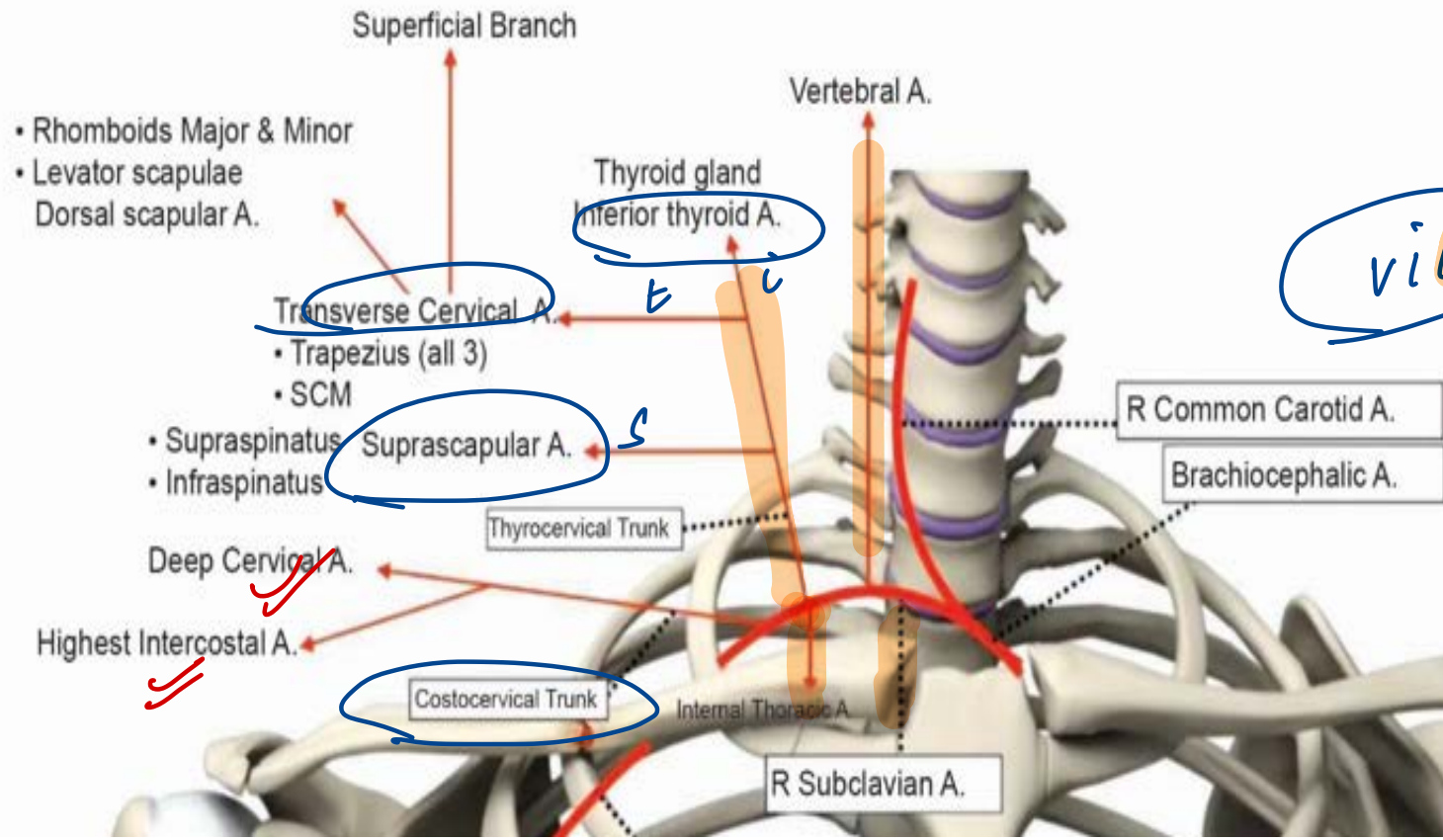


**28. All of the following peritoneal folds are correctly matched with their contents, except:**

- A. Gastrocolic ligament – ~~Right gastric artery~~ *Gastroepiploic (Rt)/L2*
- B. Splenorenal ligament – Splenic vessels and pancreatic tail
- C. Transverse mesocolon – middle colic vessels
- D. Gastrosplenic ligament – Short gastric vessels

**29. During surgery on a 56-year-old man for a squamous cell carcinoma of the neck, the surgeon notices profuse bleeding from the deep cervical artery. Which of the following arteries must be ligated immediately to stop bleeding?**

- A. Inferior thyroid artery
- B. Transverse cervical artery
- C. Thyrocervical trunk
- D. Costocervical trunk**



st<sup>i</sup>

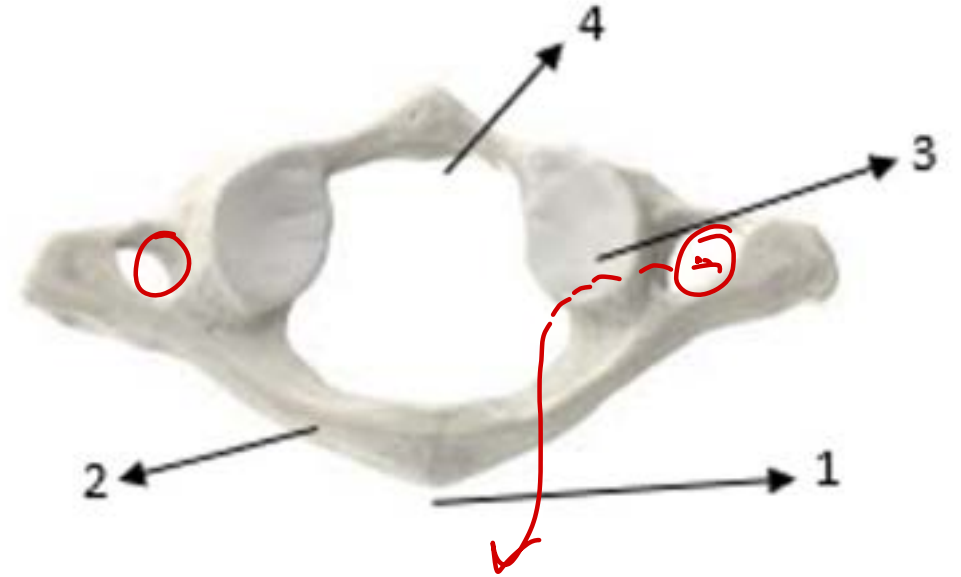
vit

C<sup>D</sup>

30. Third part of vertebral artery is related to which of the following?

PyQ

- A. 4
- B. 3
- ~~C. 2~~
- D. 1

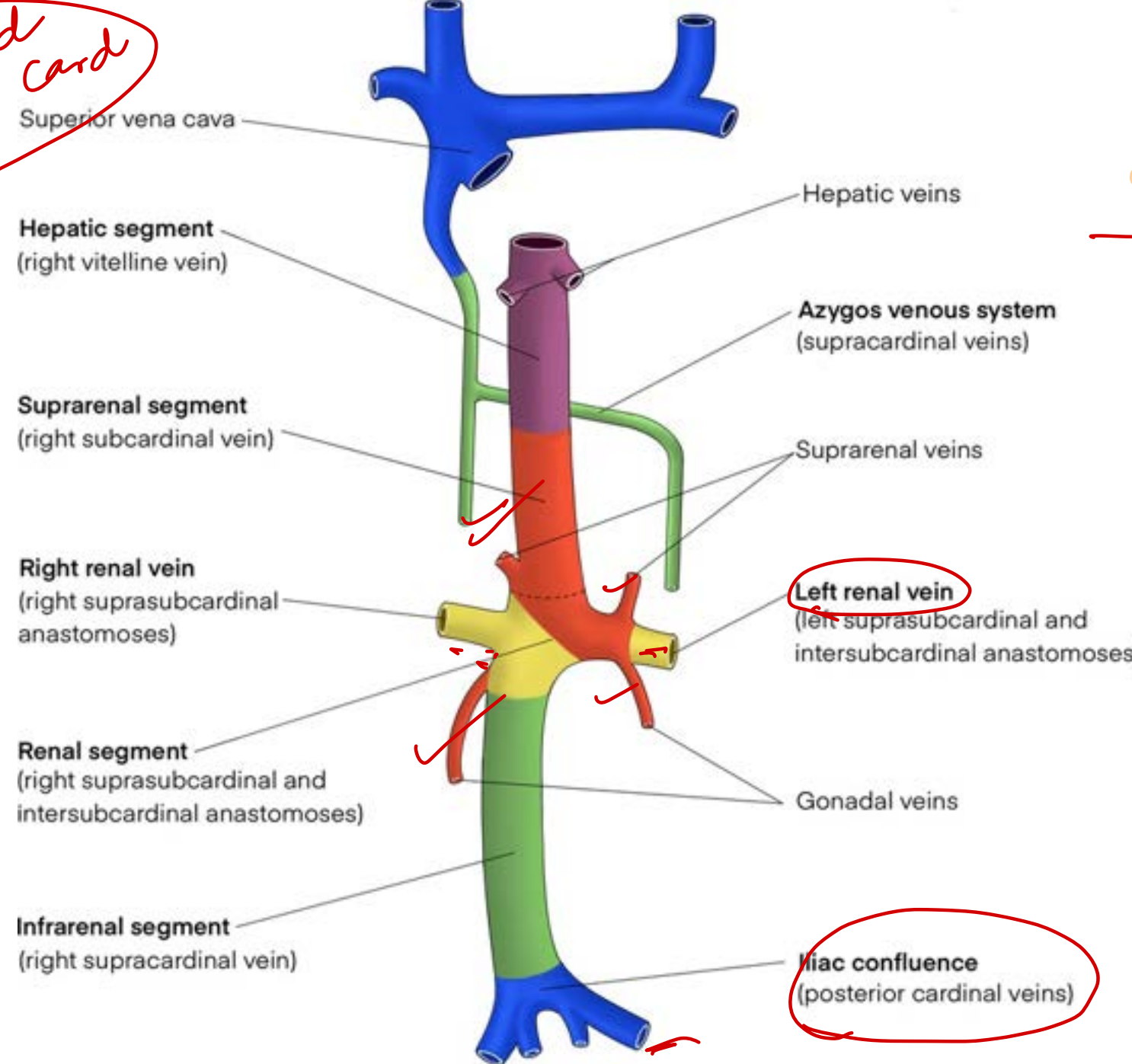


**31. The hepatic sinusoids that can be observed histologically in an adult liver are derived from the?**

- A. Supracardinal veins
- B. Anterior cardinal veins
- C. Vitelline veins**
- D. Subcardinal veins

RT Ant Card  
Common Card

↓  
SVC



Supracard  
↓  
Infrarenal  
IVC  
azygos / hemic

Sub Card  
↓  
Suprarenal  
• IVC  
• gonadal v  
• Lt R / Lt Supra

**32. Which of the following structures do not pass through both greater and lesser sciatic foramina?**

- A. Pudendal nerve
- B. Tendon of obturator internus**
- C. Nerve to obturator internus
- D. Internal pudendal vessels

# STRUCTURES PASSING THROUGH THE GREATER & LESSER SCIATIC FORAMINA

## VIA GREATER SCIATIC FORAMEN

- Superior gluteal vessels
- Superior gluteal nerve

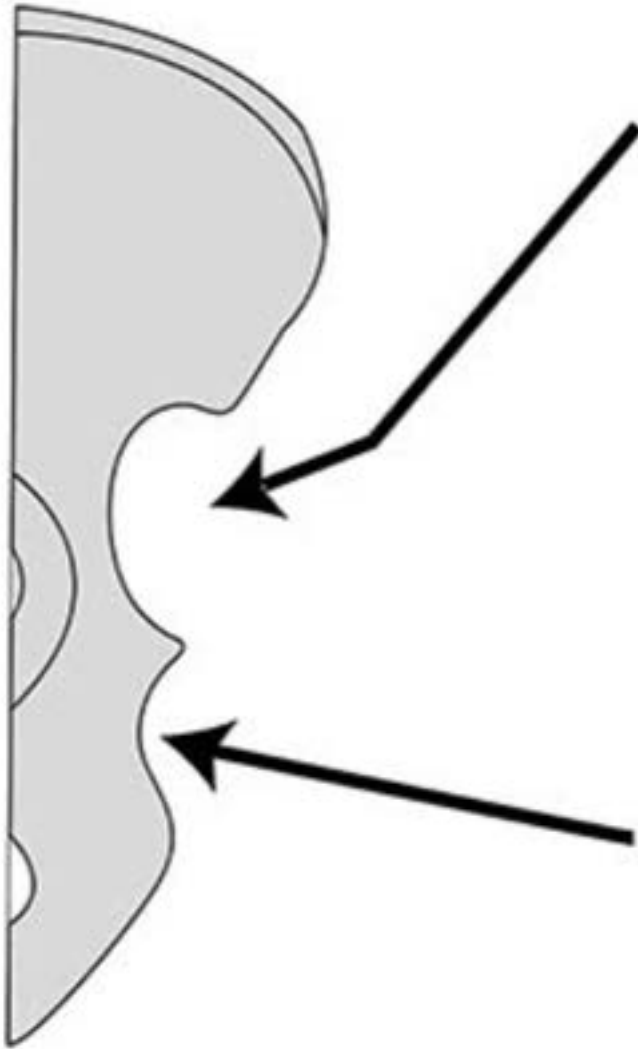
## PIRIFORMIS

- Inferior gluteal vessels
- Inferior gluteal nerve
- Sciatic nerve ✓
- Perforating cutaneous nerve ✓
- Posterior femoral cutaneous nerve
- Nerve to quadratus femoris ✓
- Nerve to obturator internus ✓
- Pudendal nerve
- Internal pudendal vessels

## VIA LESSER SCIATIC FORAMEN

- Tendon of obturator internus ✓
- Nerve to obturator internus
- Internal pudendal vessels
- Pudendal nerve

PIN



**33. A 22-year-old man comes to the OPD due to occasional dull headaches that awaken him from sleep. The patient has no associated neurologic deficits. On physical examination, there are several 3- to 5-cm flat, pigmented spots on his trunk. There are also multiple, subcentimeter, soft, fleshy, cutaneous tumors located on his trunk and neck. The predominant cells forming these tumors most likely originated from which of the following structures?**

- A. Endoderm
- B. Mesoderm
- C. Neural crest**
- D. Neural tube



NF

34. A 1-week-old boy is brought to the emergency department with poor feeding, lethargy, and unusual "muscle movements" involving the left thumb and hand over the last 2 days. The infant's vital signs are normal, but unusual flexion of the left wrist and thumb and extension of the fingers are observed with cuff blood pressure measurement. Physical examination reveals hypoplastic mandible, low-set ears, bifid uvula, and cleft palate. A chest x-ray is shown below. These findings most likely suggest impaired development of which of the following embryonic structures?

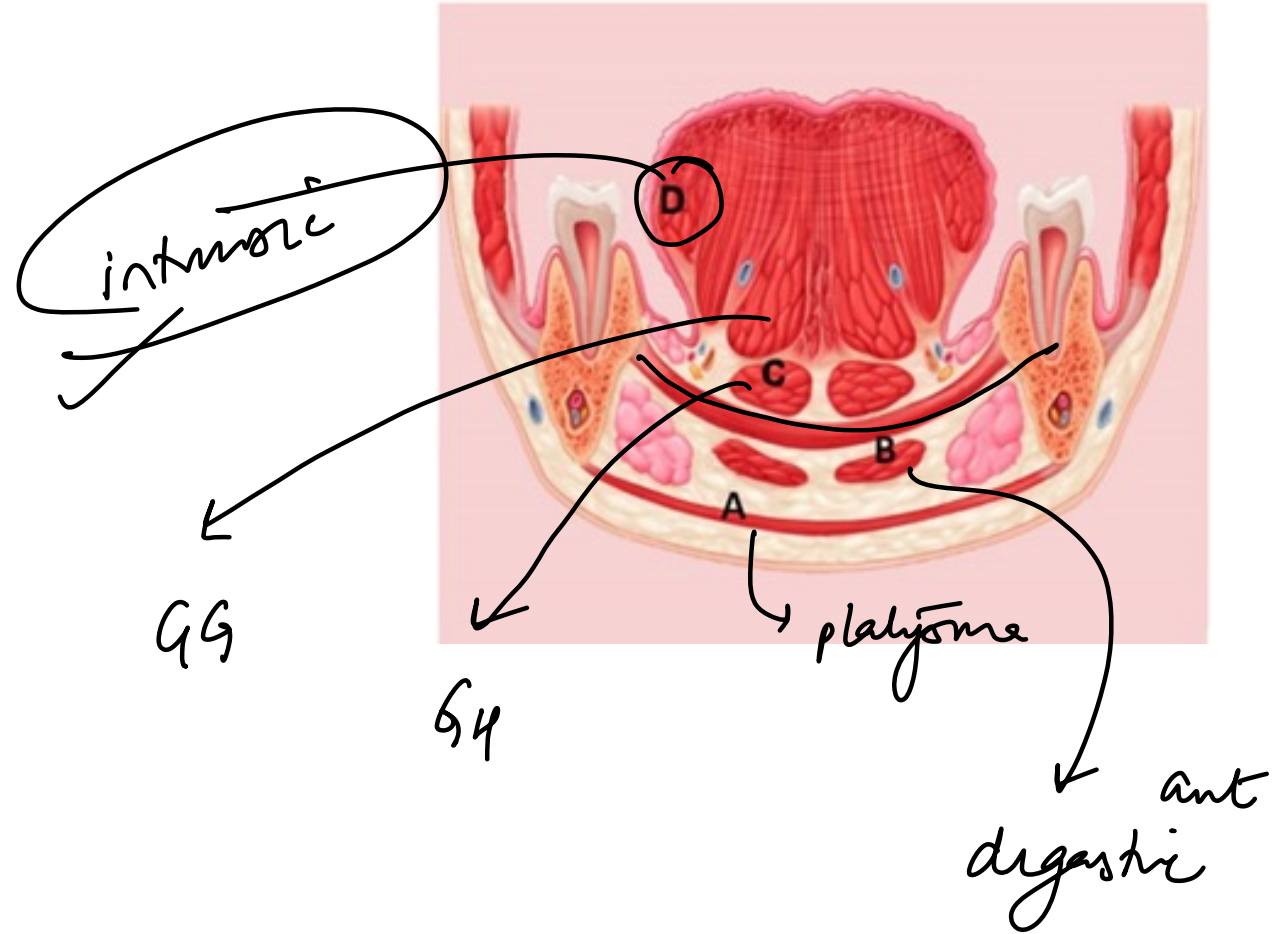
- A. Third pharyngeal pouch
- B. Foramen cecum
- C. Rathke pouch
- D. Second pharyngeal cleft

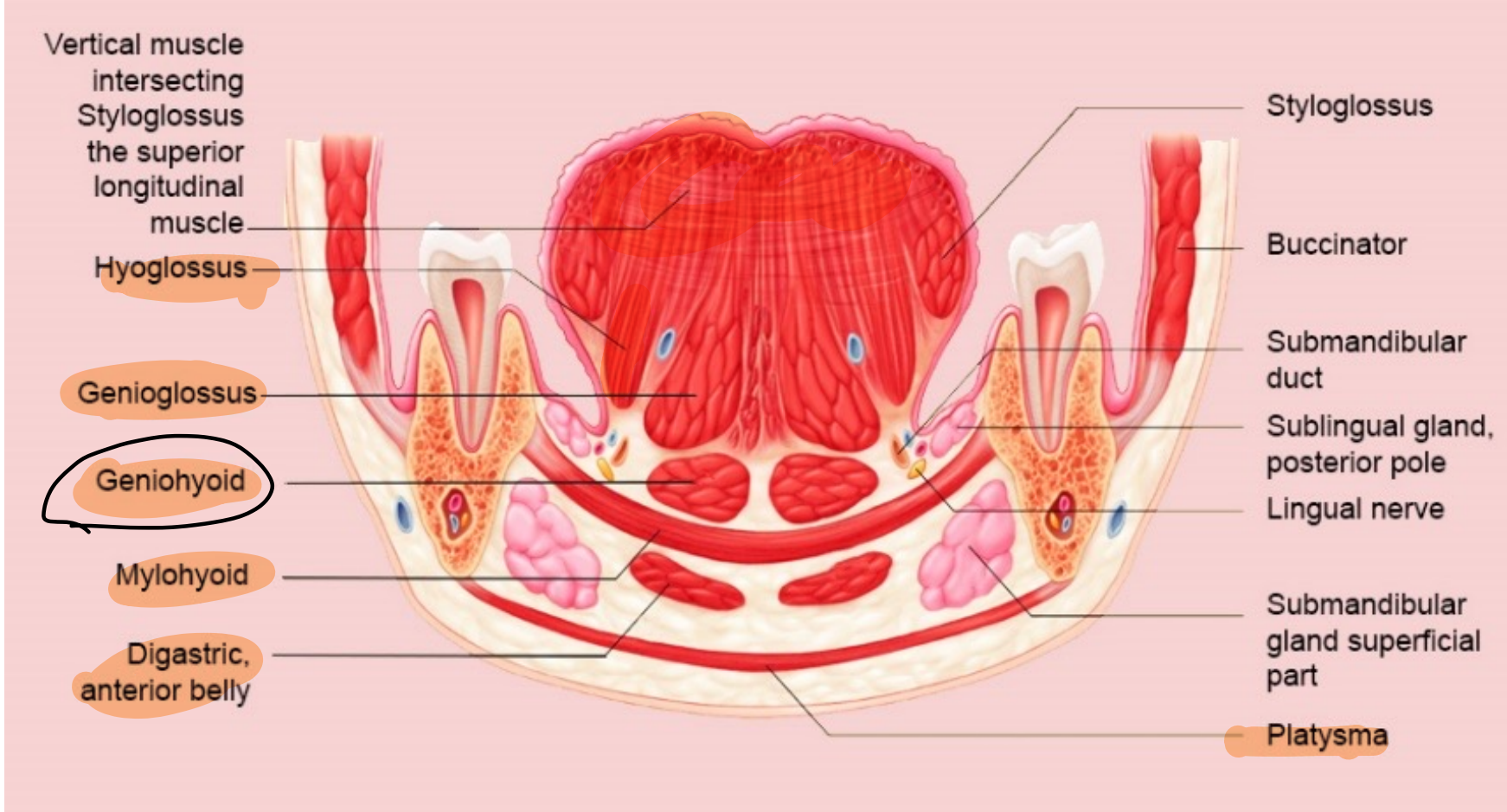
THIRD



35. Identify the incorrectly matched pair with respect to its nerve supply of the marked structures in the given image.

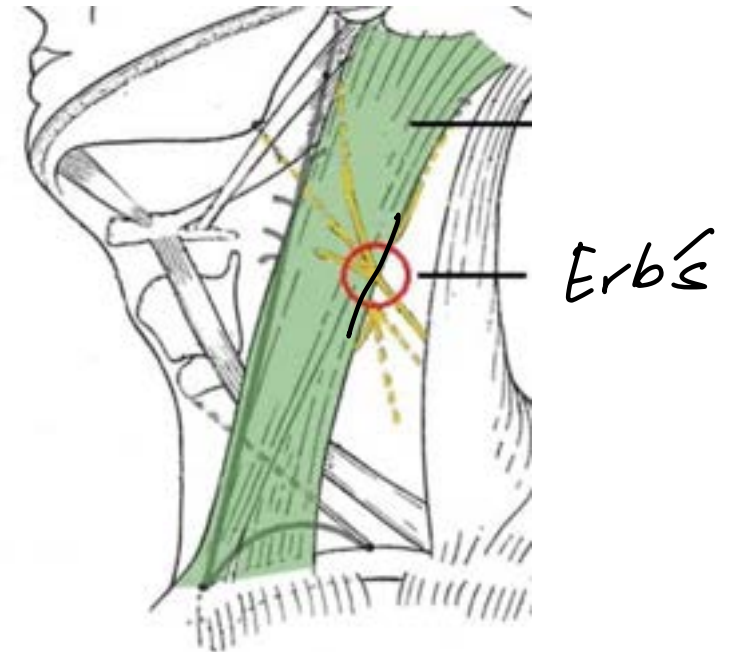
- A. Facial nerve ✓✓
- B. Trigeminal nerve ✓✓
- ~~C. Glossopharyngeal nerve~~
- D. Hypoglossal nerve





### 36. All of the following are true about the marked point except:

- A. Lies in front of the transverse process of the sixth cervical vertebra
- ~~B.~~ Blocking this point leads to weakness of sternocleidomastoid XI
- C. Landmark in the neck where the spinal accessory nerve emerges into the posterior triangle
- D. Formed by the C5 and C6 nerve roots, and the cutaneous branches of the cervical plexus



- Erb's point is formed by the convergence of C5 and C6 nerve roots and cutaneous branches of the cervical plexus (lesser occipital, great auricular, transverse cervical, and supraclavicular nerves).

**37. Which of the following is accurate regarding pericardial sinuses?**

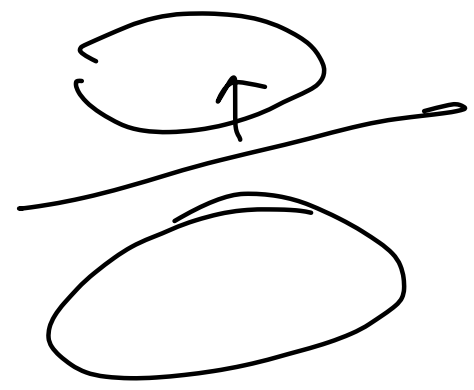
A. Transverse sinus is between arterial and venous pericardial reflection.

B. Oblique sinus lies behind left atrium *distensio*

C. Transverse sinus lies behind ascending aorta

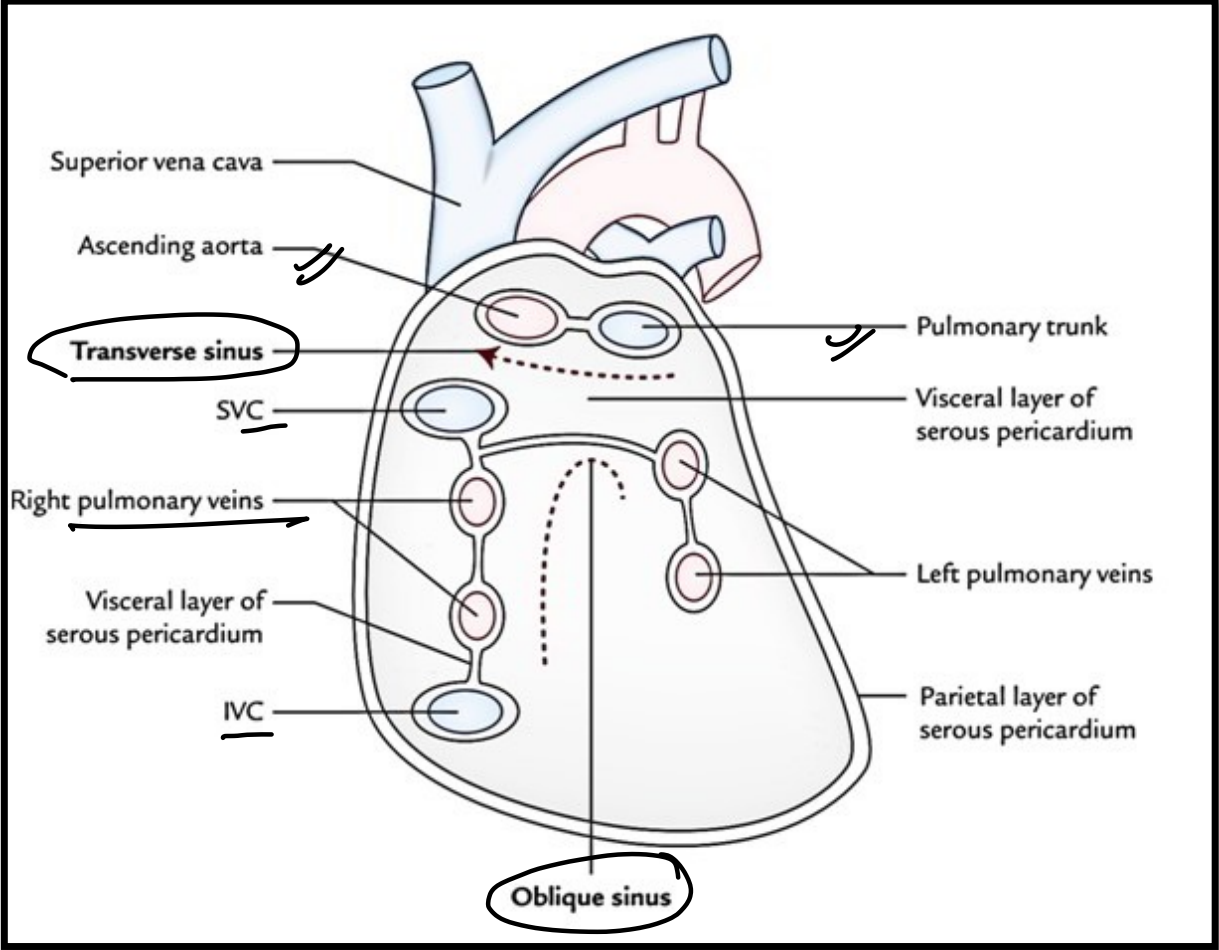
~~D. Oblique sinus allows a surgeon to ligate the pulmonary vessels~~

TS



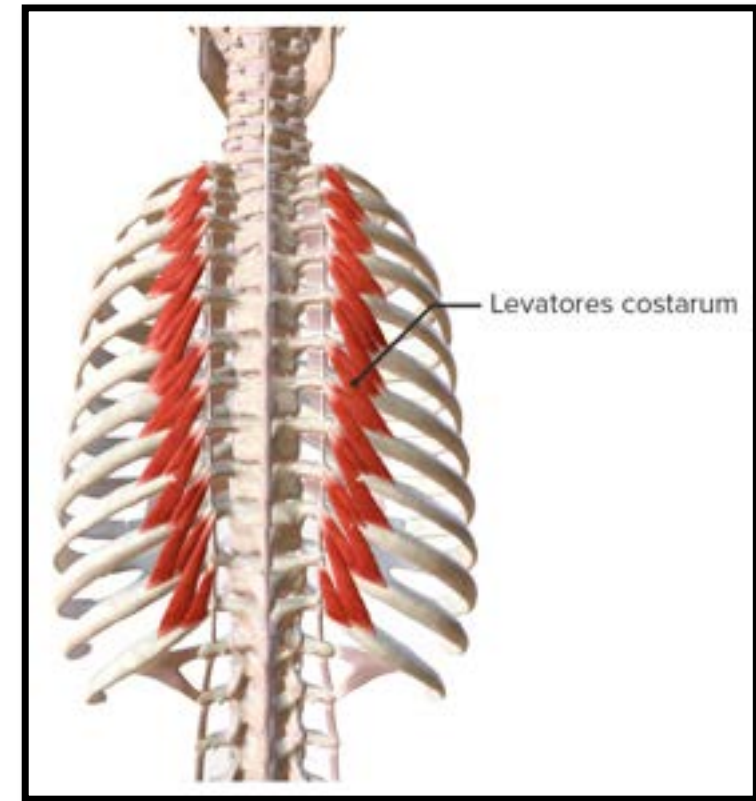
⌈  
T

⌈  
T



38. Which muscle is physically in the back but functionally in the thorax?

- A. Rhomboid
- B. Latissimus dorsi
- C. Trapezius
- D. Levator costae



**39. At which of the following levels does an inverted Supinator jerk indicate a lesion?**

*= stroke*

**A. C5, C6**

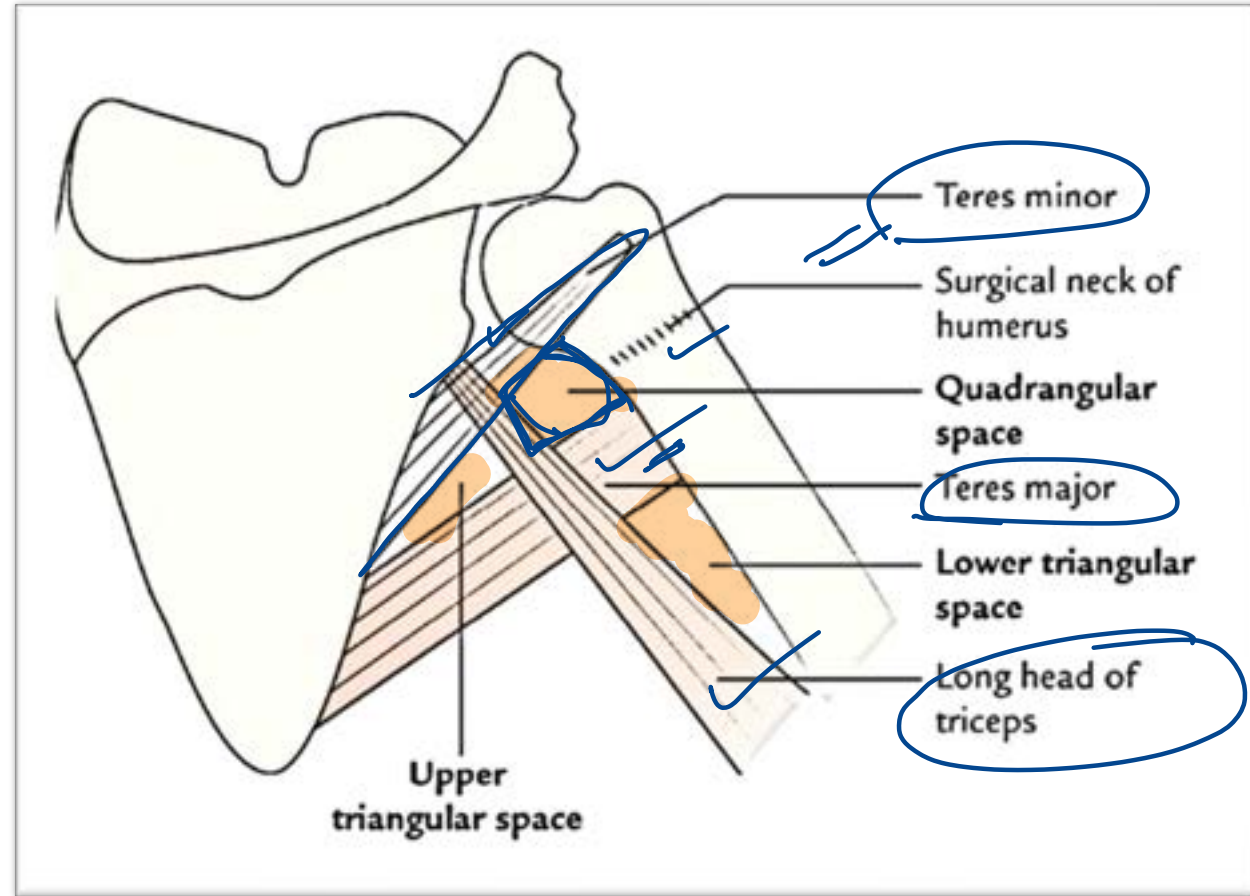
**B. C6, C7**

**C. L5, S1**

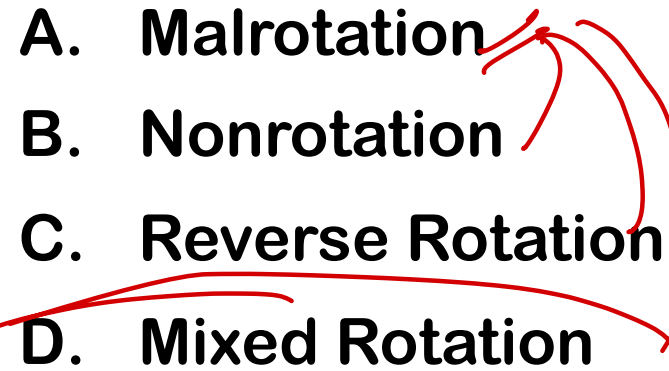
**D. L4, S1**

40. All of the following form boundaries of quadrangular space except?

- A. Supraspinatus ~~XX~~
- B. Teres major
- C. Teres minor
- D. Long head of triceps



**41. The caecum is found to be placed below the stomach and is midline. Which of the following abnormalities must have taken place while rotation of the gut?**

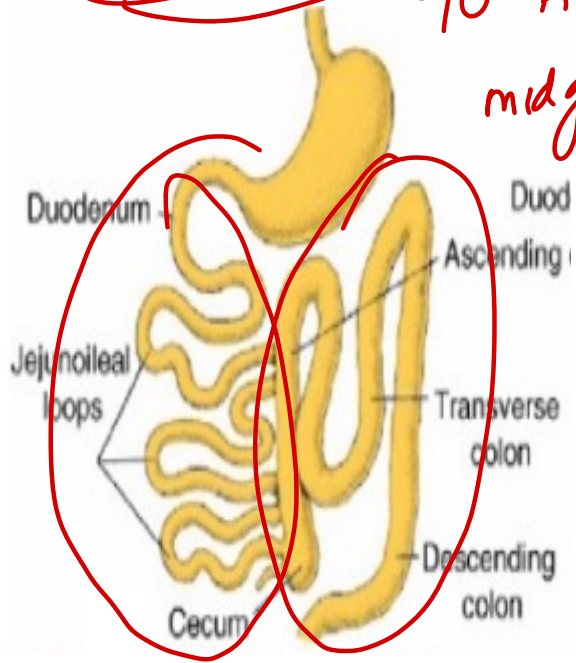
- A. Malrotation
  - B. Nonrotation
  - C. Reverse Rotation
  - D. Mixed Rotation
- 

# ROTATION ABNORMALITIES

Non rotn

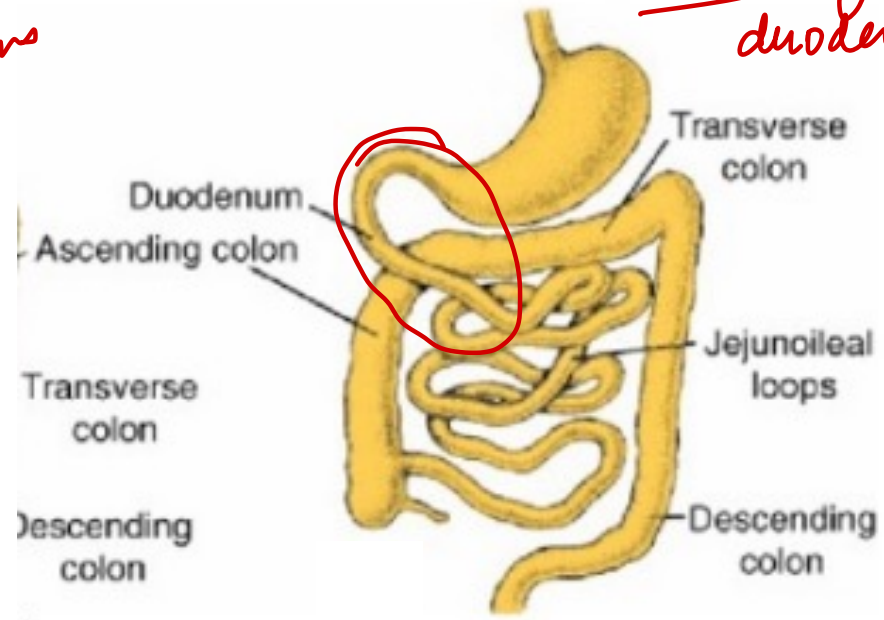
90° AC

midgut volvulus

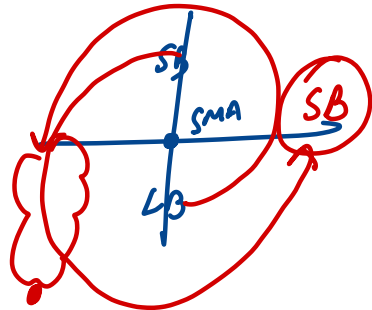
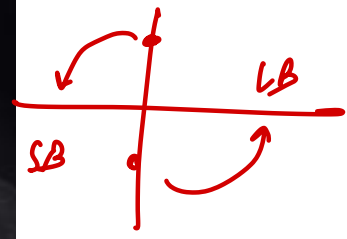
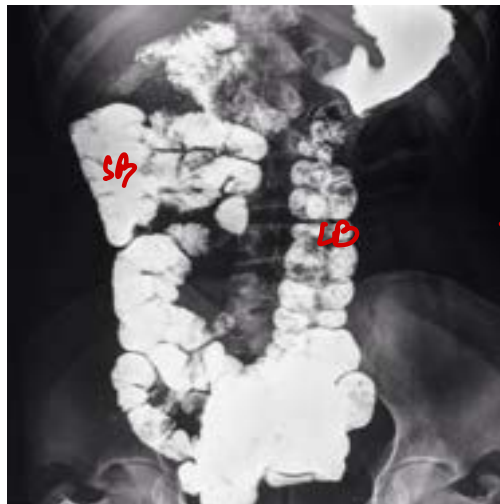
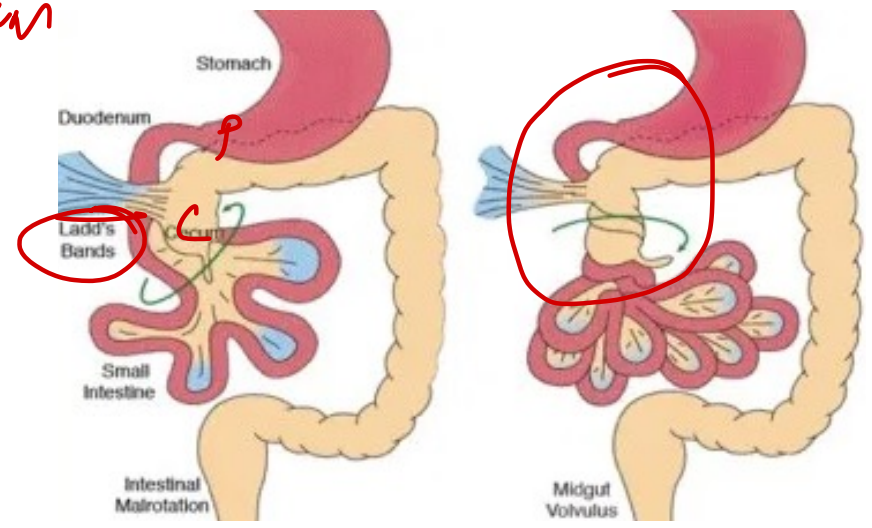


Reverse rotn

LBO by duodenum



Mixed rotn

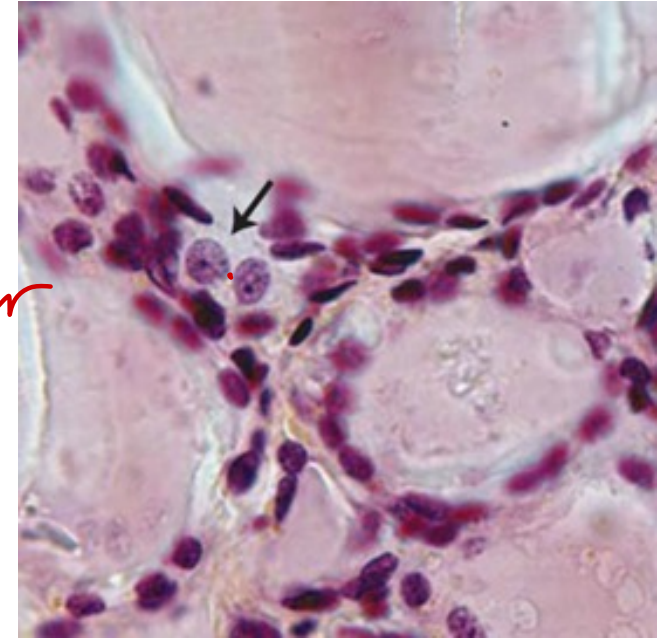


270° Anticlockwise  
9-14 wks

SB obstruction

42. The hormone produced and released by the cell at the tip of the arrow binds to receptors on the surface of which of the following cells?

- A. Osteoblasts
- B. Chondrocytes
- C. Osteocytes
- D. Osteoclast



Parafollicular  
C-cells

↓  
Calcitonin

↓  $Ca^{2+}$  ↑  $PO_4$

43. Which is the last fontanelle to close?

A. Anterior 18-24mm

B. Posterior 2-3mm

C. Occipital 6-18mm

D. Mastoid

44. A woman receives an injection of a radio-isotope to determine regional blood flow in the brain. She has a positron emission tomography scan to visualize variations in cortical blood flow. The examiner asks her to think about flexing her index finger without actually doing it. In which of the following cortical areas would you expect to see increased blood flow?

A. Angular gyrus ~~XX~~

B. Motor strip ~~XF~~

C. S-I somatosensory cortex ~~XX~~

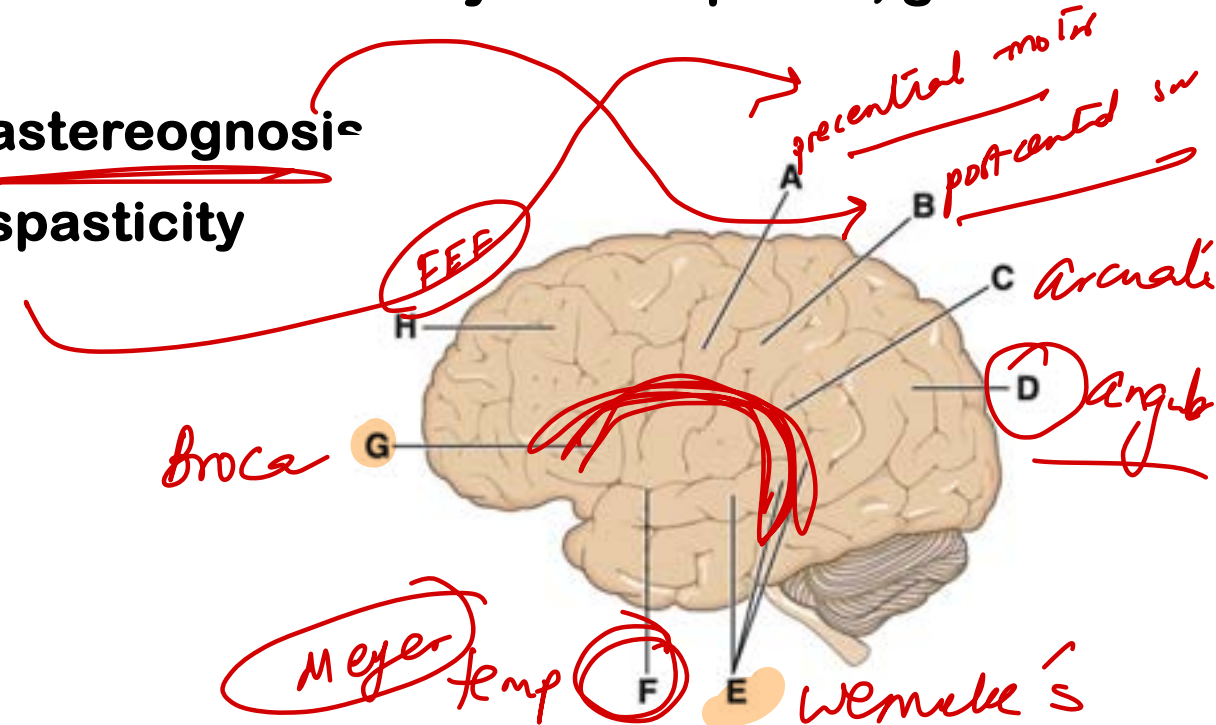
D. Supplementary motor cortex

*planning*

#### 45. Match the following:

1. Stimulation of this area results in turning the eyes and head to the contralateral side
2. A lesion here results in nonfluent, telegraphic speech
3. Ablation in this area results in a contralateral upper homonymous quadrantanopia
4. A lesion here results in fluent speech with neologisms
5. A lesion of this area is characterized by finger agnosia, dyscalculia, dysgraphia, and dyslexia
6. Destruction of this area results in an aphasia characterized by fluent speech, good comprehension, and poor repetition
7. Lesions in this gyrus result in contralateral astereognosia
8. Lesions in this gyrus result in contralateral spasticity

- A. 1-H, 2-F, 3-G, 4-D, 5-E, 6-C, 7-A, 8-B  
B. 1-H, 2-G, 3-F, 4-E, 5-D, 6-C, 7-B, 8-A  
C. 1-H, 2-G, 3-E, 4-F, 5-D, 6-B, 7-C, 8-A  
D. 1-D, 2-G, 3-F, 4-E, 5-H, 6-C, 7-B, 8-A



46. The diameter of the structure in the picture taken from a dead male is 3.1 cm. What is the name of the autosomal recessive trait that this person evidenced?

- A. Spontaneous pneumothorax ~~XX~~
- B. Asbestosis ~~XX~~
- C. Emphysema ~~XX~~
- D. Mounier-Kuhn syndrome

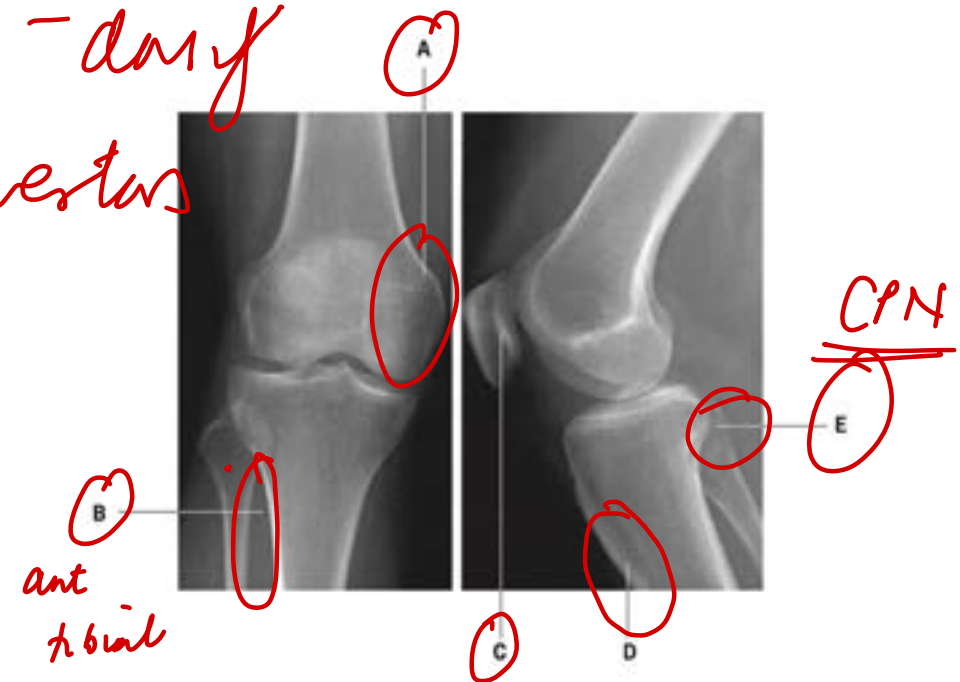
trachea  
> 2.5cm



## 47. Match the following:

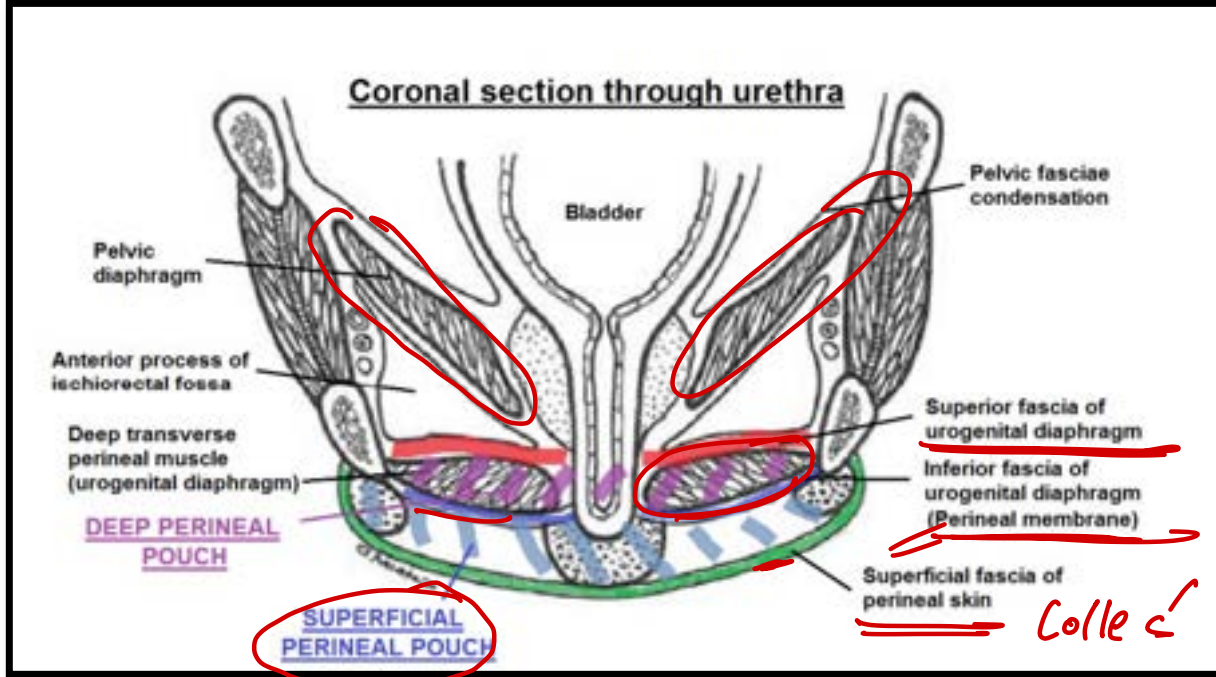
1. Rupture of the tendon superior to this structure would most likely cause an inability to extend the ~~knee~~ joint. *C-1*
2. Fracture of this structure would most likely cause weakness in adduction of the thigh. *adductor*
3. A knife penetrating through this point would most likely cause muscle ischemia in the anterior compartment of the leg. *ant*
4. Fracture of this structure would most likely cause impaired dorsiflexion of foot *DPN - dory*

- A. 1-B, 2-A, 3-C, 4-D
- B. 1-C, 2-A, 3-B, 4-E**
- C. 1-E, 2-A, 3-D, 4-C
- D. 1-B, 2-E, 3-C, 4-A



48. A 46-year-old woman has a history of infection in her perineal region. A comprehensive examination reveals a tear of the superior boundary of the superficial perineal space. Which of the following structures would most likely be injured?

- A. Pelvic diaphragm X
- B. Colles fascia X
- C. Deep perineal fascia X
- D. Perineal membrane



~~\_\_\_\_\_~~  
 ↓ sup-UGD  
 ↓ inf-UGD  
 ↓ Perineal  
~~\_\_\_\_\_~~  
 Colles

49. Match the descriptions in items 1 to 5 with the appropriate lettered lesion in the diagram of a cross-section of the spinal cord.

1. Ipsilateral lower limb dystaxia

2. Ipsilateral flaccid paralysis

3. Contralateral loss of pain and temperature sensation one segment below the lesion

4. Exaggerated muscle stretch reflexes below the lesion

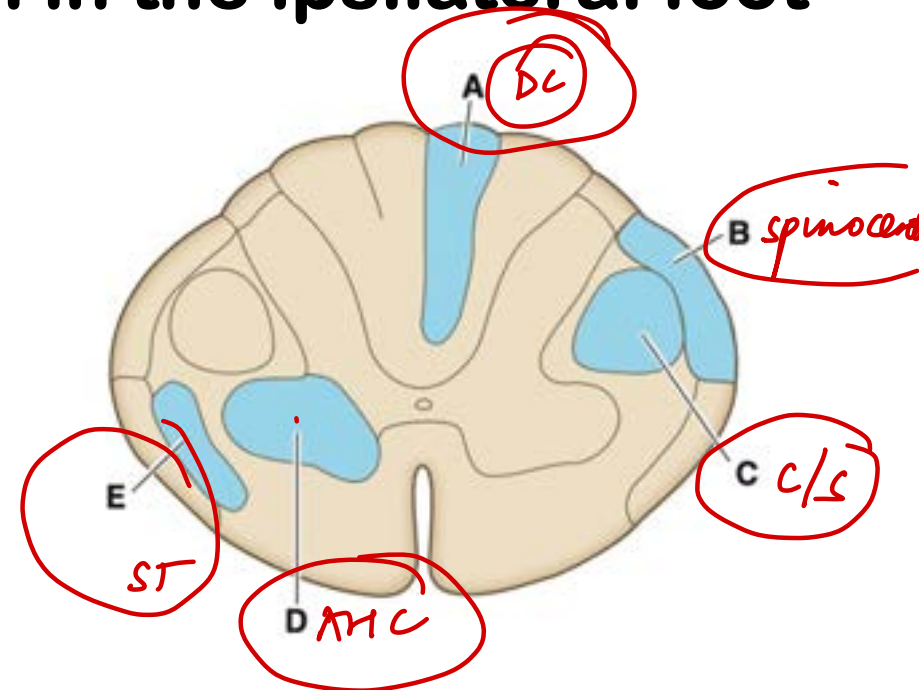
5. Loss of two-point tactile discrimination in the ipsilateral foot

~~A.~~ 1-B, 2-D, 3-E, 4-C, 5-A

B. 1-B, 2-E, 3-D, 4-C, 5-A

~~C.~~ 1-C, 2-D, 3-E, 4-A, 5-B

~~D.~~ 1-E, 2-B, 3-A, 4-C, 5-D



50. . 36-year-old woman is admitted to the hospital with severe head injuries after a car crash. During neurologic examination her uvula is found to be deviated to the right. Which nerve is most likely affected to result in this deviation?

A. Right vagus

B. Left vagus

C. Left glossopharyngeal

D. Right glossopharyngeal

7 + 10

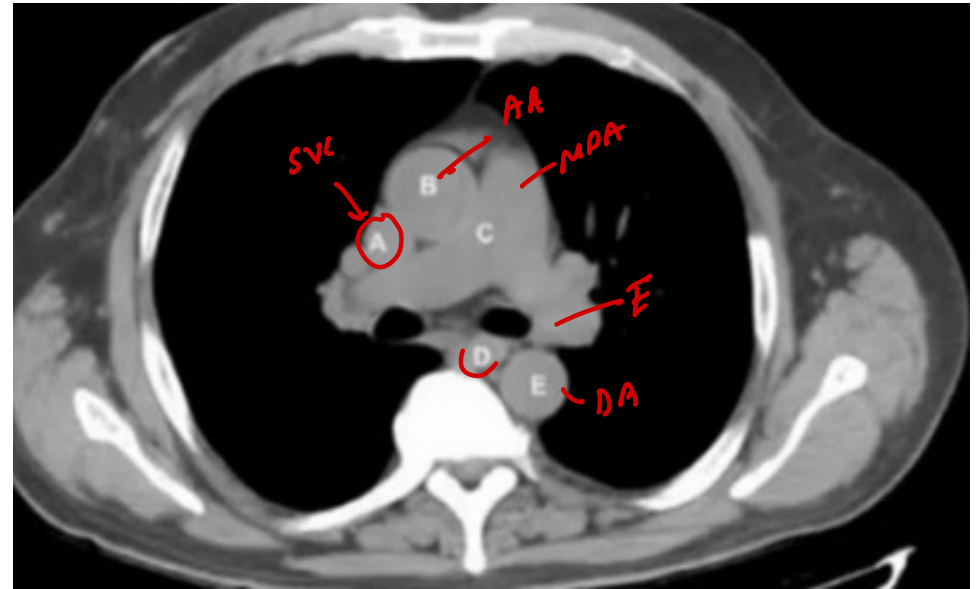
\_\_\_\_\_

5 + 12

\_\_\_\_\_

51. A chest CT scan is performed on a 35-year-old man who presented with chronic cough and weight loss. Which of the following structures labelled below is a derivative of the common cardinal veins? (Anatomy)

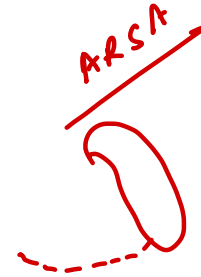
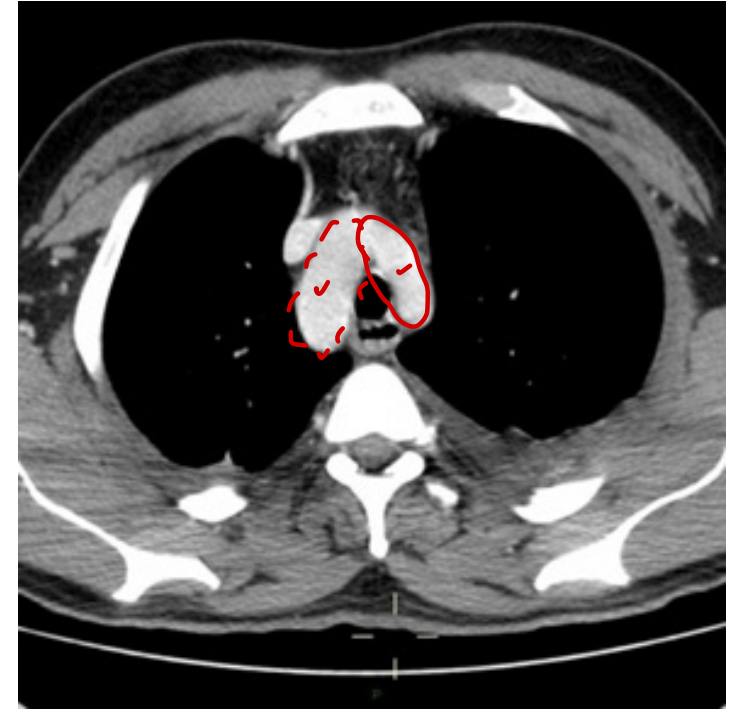
- A. A
- B. B
- C. C
- D. D



52. The given condition is due to persistence of which of the following embryonic vessel? (Anatomy)

- A. Persistence of right dorsal aorta
- B. Persistence of left 4th arch artery
- C. Persistence of left dorsal aorta
- D. Persistence of left 6th arch artery

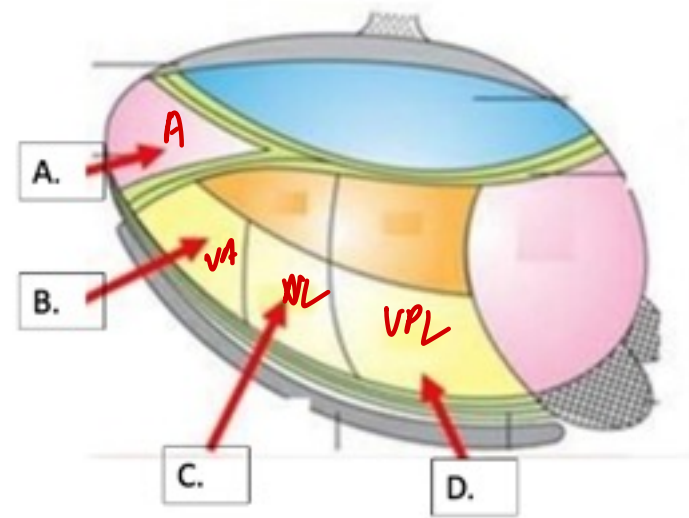
Double aortic arch



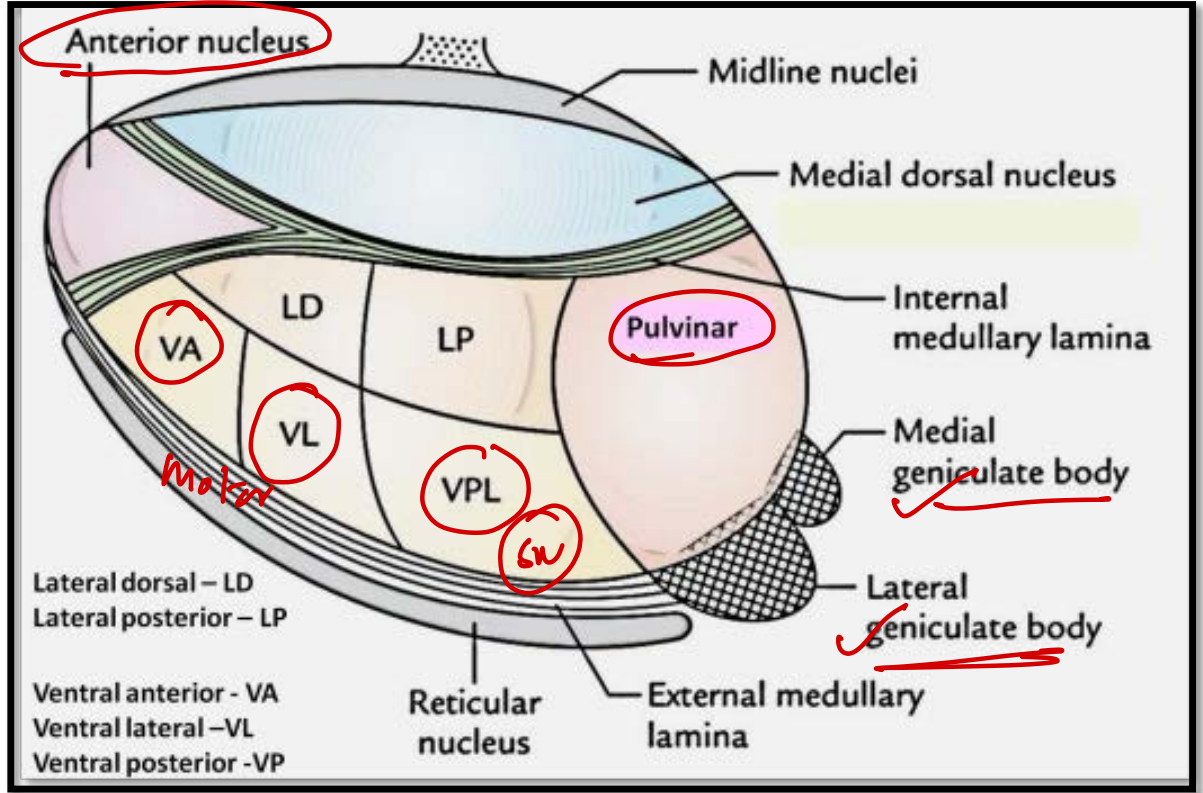
ARSA  
An interseg A +  
At. dors a A

53. Fibres from mamillary bodies terminate at which of the following points? (Anatomy)

- ~~A. A~~
- B. B
- C. C
- D. D



Paper 2



54. Area marked A in the given figure contain all the following, except: (Anatomy)

A. Zonula occludens

B. Zonula adherens

C. Macula adherens

D. Gap junction

COT → ZOT



Intercalated

**55. All of the following structures lie in the relation to the left ureter except:**

A. Psoas major ✓

B. Left testicular vessels ✓✓

C. Quadratus lumborum ✓

D. Sigmoidal veins ✓✓

# Abdominal part - Anterior Relations

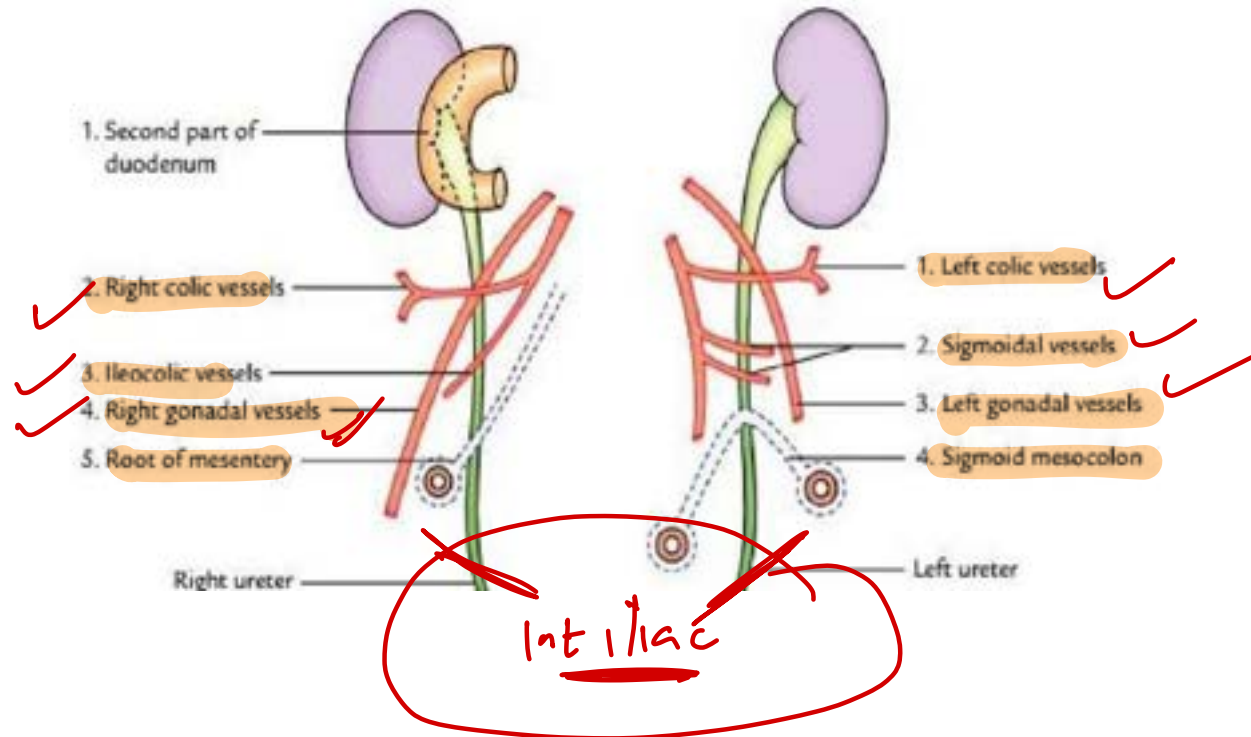
Q)

- Right side

- 2<sup>nd</sup> part of duodenum
- Right colic vessels
- Iliocolic vessels
- Right testicular / ovarian vessels
- Root of mesentery

- Left side

- Left colic vessels
- Sigmoidal vessels
- Left testicular / ovarian vessels
- Sigmoid mesocolon



- Posteriorly (lumbar part): Psoas major, bifurcation of common iliac artery.

## 56. Identify the synovial joints

1. Costovertebral joint - Plane

2. Costovertebral joint -

~~3. Costo-chondral joints - Cartilaginous 1°~~

4. 2nd Sternocostal joint - Plane

5. Sternoclavicular joint

Saddle

↓  
(1st) - Fibrous

A. 1,2,3,4,5

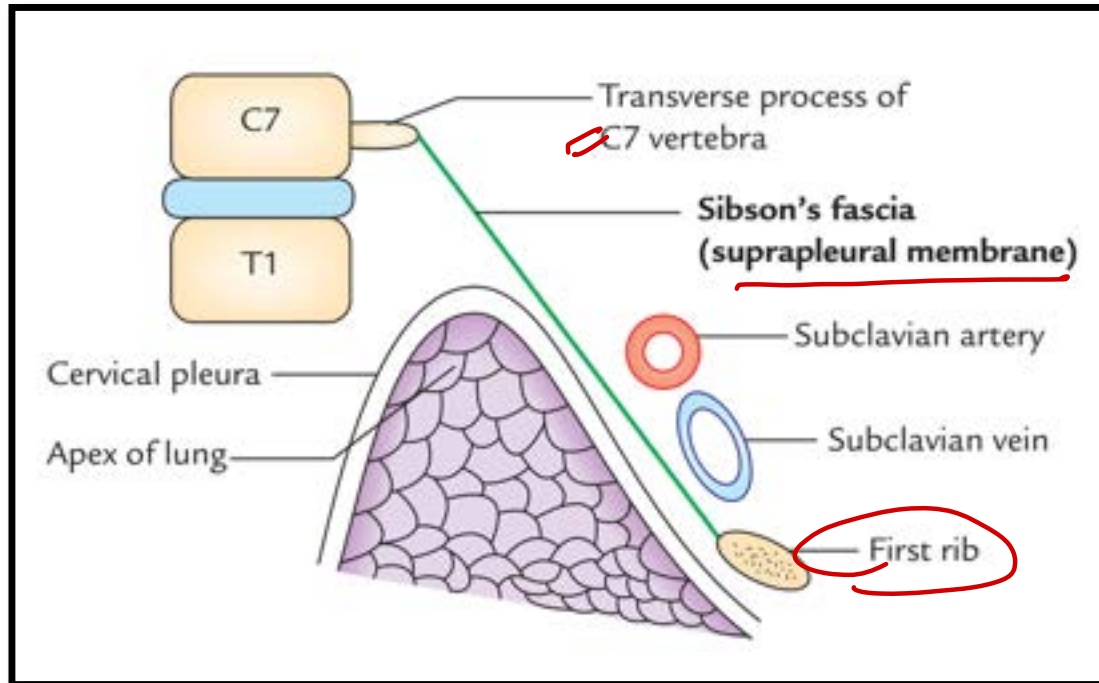
B. 4,5

~~C. 1,2,4,5~~

D. 1,2,4

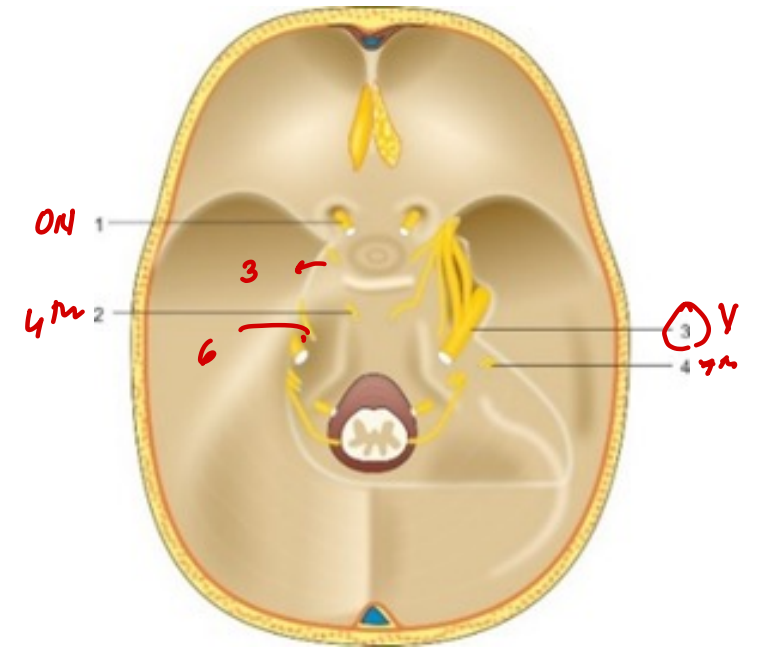
## 57. Which among the following is incorrect regarding Sibsons's fascia?

- A. Attached to the inner border of 2nd rib ~~XX~~
- B. Covers apical part of lung
- C. Part of scalenus minimus muscle
- D. Vessels pass above the fascia



58. A patient presents with a unilateral throbbing headache, photophobia, and excessive lacrimation. He also complains of hemifacial pain on clenching of teeth. On examination, pupillary reflex, light reflex, and accommodation reflex are normal. Which of the following marked nerves is involved in the above scenario?

- A. 1
- B. 2
- ~~C. 3~~
- D. 4



59. All the following form the marked structure except?

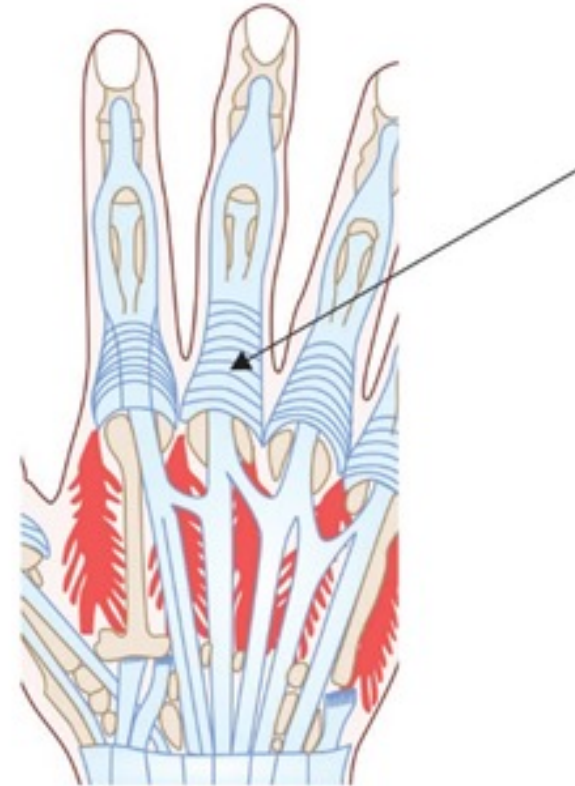
pyq -

A. 2nd Dorsal interossei ✓

B. Lumbricals ✓

C. Extensor digitorum ✓

D. 2nd Palmar interossei ✗ middle



60. Which nerve injury is most likely responsible for the observed symptoms of foot?

A. Common peroneal nerve

B. Femoral nerve

C. Sciatic nerve

D. Tibial nerve

- DPN - dorsiflexors  
- SPN - evertors



61. All of the following are true about grey rami communicantes except?

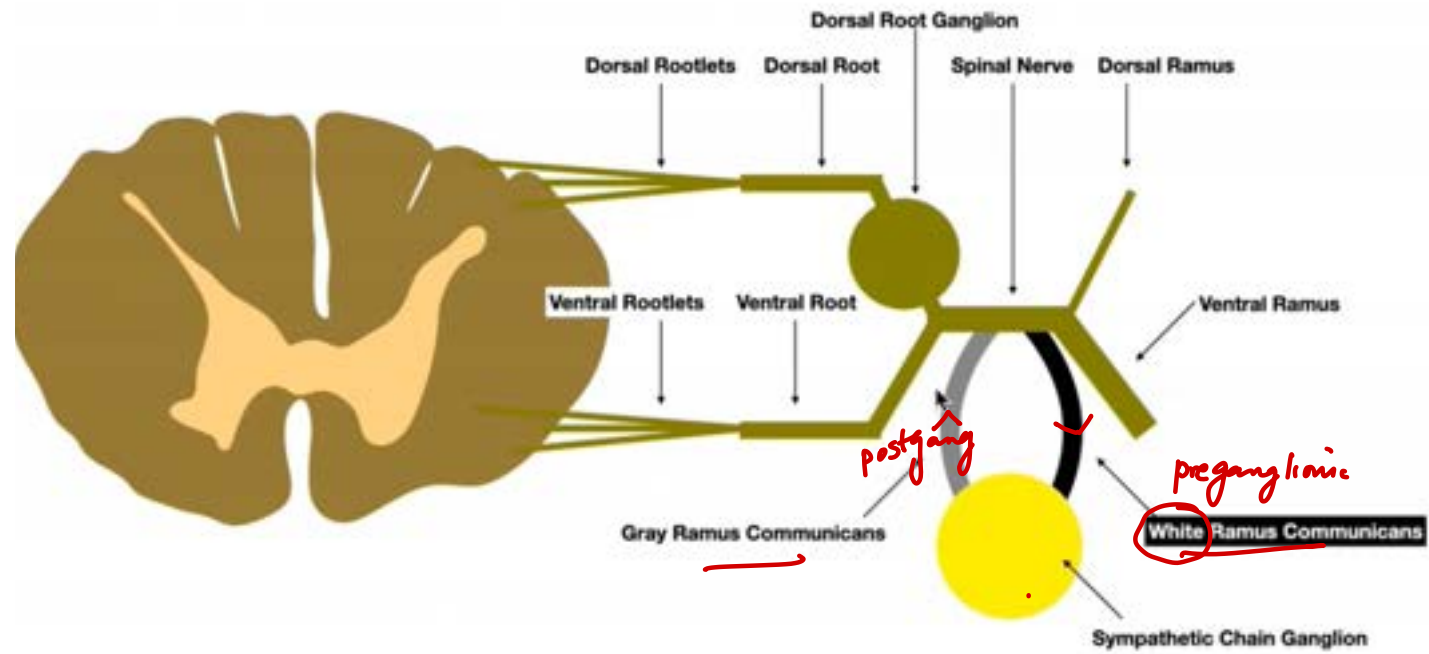
A. Unmyelinated

B. Connected to spinal nerve

C. ~~Preganglionic~~

post

D. Present medial to white rami communicantes



62. Which is not a branch of the vessel known as the Anesthetist's artery?

A. Lateral nasal

B. Mental

C. Superior labial

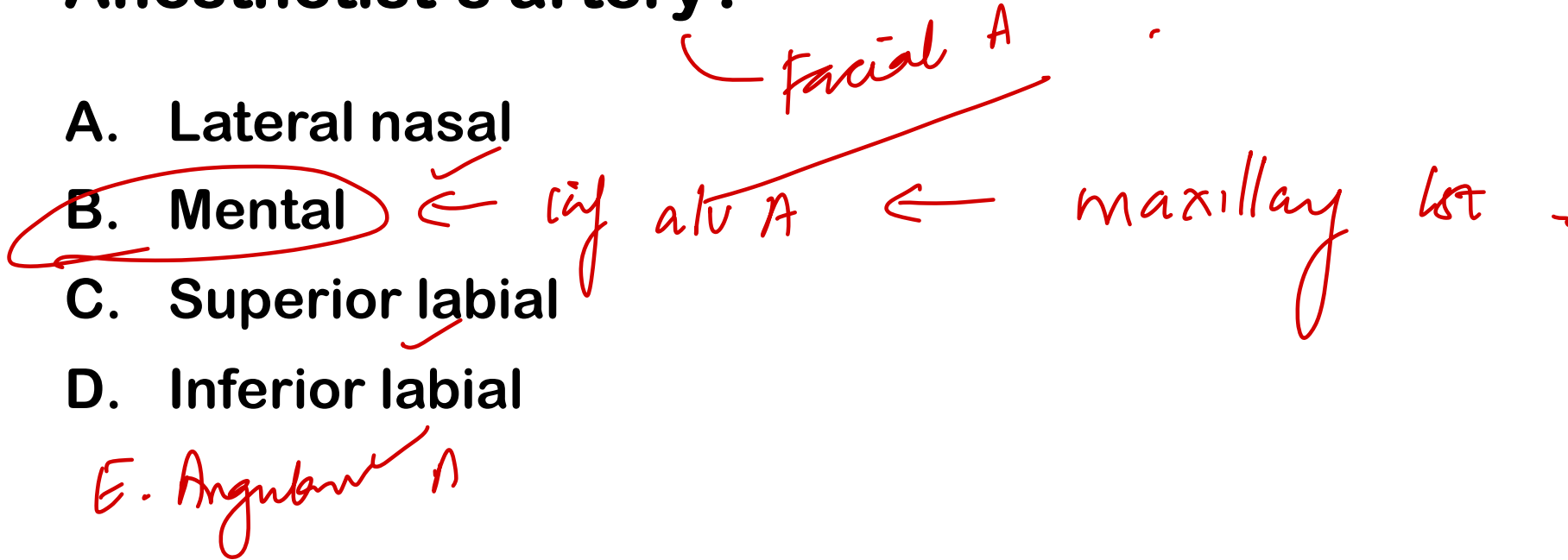
D. Inferior labial

E. Angular A

facial A

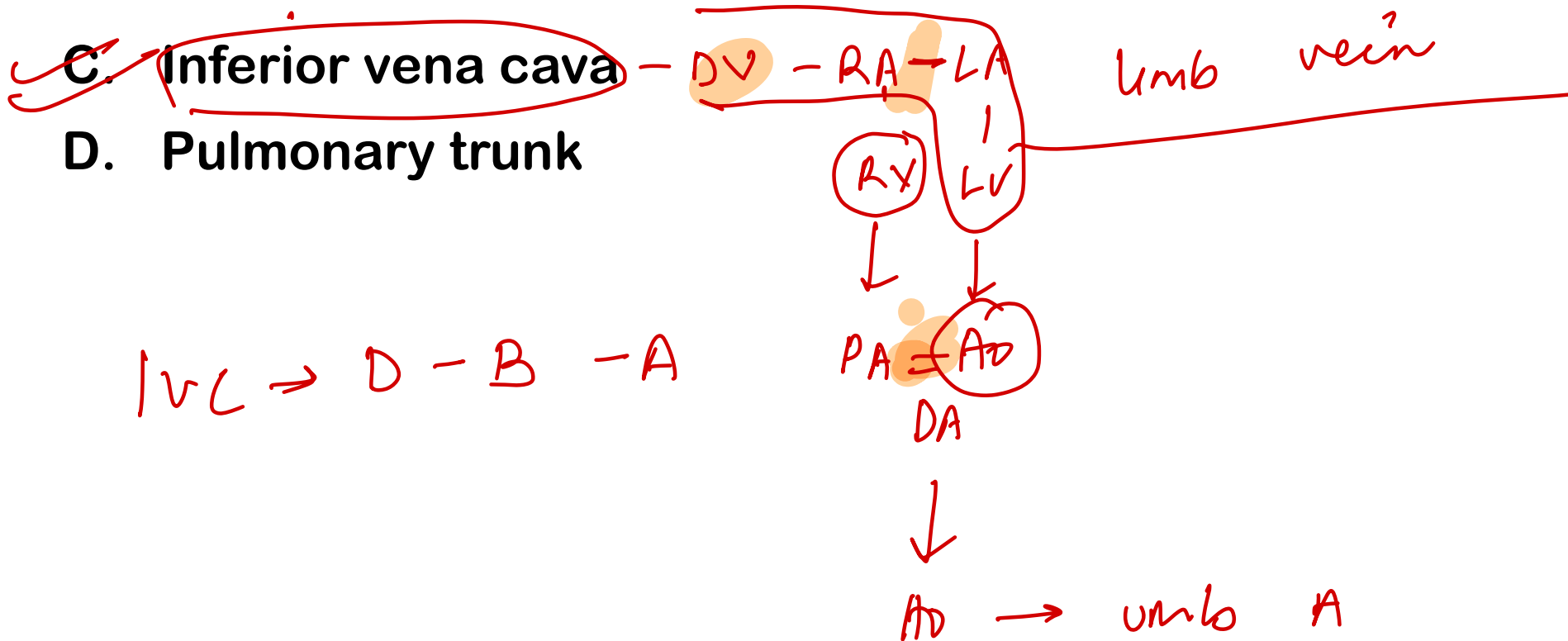
infraorb A

maxillary art



63. The blood oxygen saturations measured from different fetal vessel samples are 71%, 64%, 62%, 55%, and 43%. The sample with the greatest oxygen saturation was most likely obtained from which of the following blood vessels?

- A. Descending aorta
- B. Ductus arteriosus
- C. Inferior vena cava
- D. Pulmonary trunk



**64. The structure marked in the image is embedded in which of the following structures?**

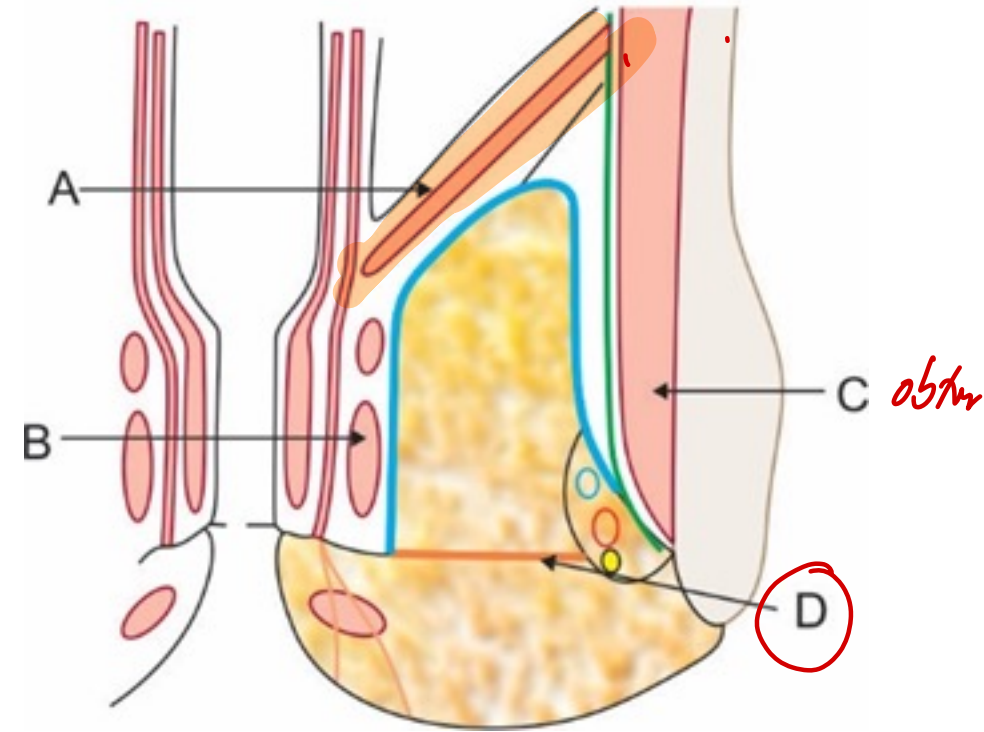
- A. Medial head of gastrocnemius
- B. Lateral head of gastrocnemius**
- C. Popliteal artery
- D. Adductor longus

*Fabella*



65. All of the following are true about structure marked A except

- A. Supplied by sacral nerves S3 and S4 and pudendal nerve.
- B. Converge downwards and medially
- C. Consists of iliococcygeus and pubococcygeus
- ~~D.~~ Attached to pelvic brim



**66. Which of the following lobes of the lung is affected when there is aspiration in supine position?**

- A. Lingula
- B. Superior segment of right lower lobe**
- C. Anterior segment of right upper lobe
- D. Right middle lobe

Right lung is a more common site for inhaled foreign bodies because right main stem bronchus is wider, more vertical, and shorter than the left. If you aspirate a peanut:

- While supine—usually enters superior segment of right lower lobe or sometimes enters posterior segment of right upper lobe.
- While lying on right side or prone—usually enters right upper lobe.
- While upright—usually enters right lower lobe. Q

67. A 30-year-old female presents with chronic fatigue, weight loss, and hyperpigmentation. Her laboratory investigations are given below. Which is the source of the affected structure?

Na<sup>+</sup> : 118 mEq/L

K<sup>+</sup>: 5.5 mEq/L

Cortisol: low

Aldosterone: low

A. Paraxial mesoderm

B. Intermediate mesoderm

C. Lateral plate mesoderm

D. Neural crest cells ← medulla.

1° adrenal insuff  
Cortex

68. Which of the following is an example of the same class of glands as shown in the image?

- A. Mammary gland
- B. Ceruminous gland
- C. Sweat gland
- D. ~~Meibomian glands~~



Mj d apocrine

- mammary
- ceruminous
- Moll's

**69. Identify the branch of the structure marked 'a' in the image given below?**

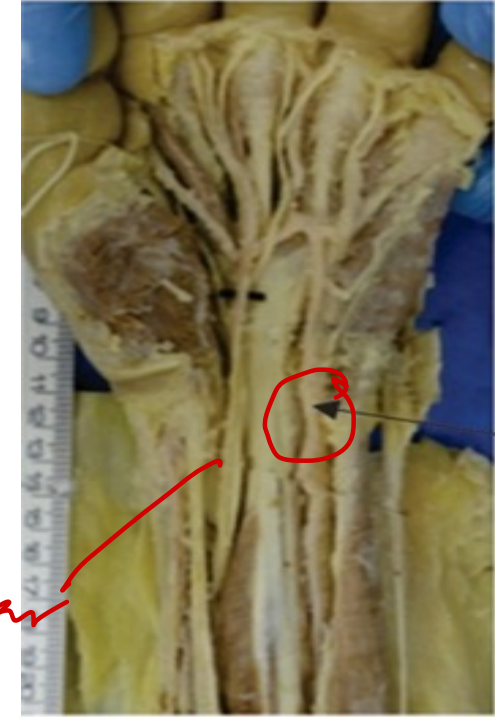
A. Anterior interosseous artery

B. Anterior ulnar recurrent artery

C. Posterior interosseous artery

D. Radial recurrent artery

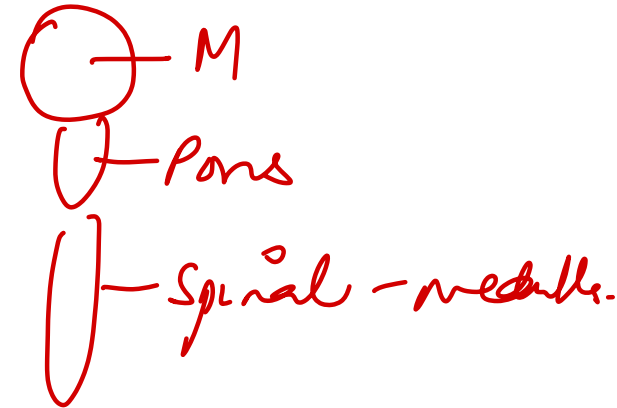
*ulnar*



*ulnar*

# 70. Identify the incorrect pair of function with trigeminal nucleus:

- A. Mesencephalic nucleus-Proprioception from muscles of mastication
- B. Principal sensory nucleus-Touch from face
- C. ~~Spinal nucleus~~-~~Touch~~ from neck *Pain / Temp*
- D. Special visceral efferent-Muscles of mastication



GSA:

Mesencephalic: Proprioception

Principal sensory: Touch, pressure

Spinal: Pain, temp

Jaw jerk

**71. A 6-year-old child falls from his bicycle and injures his hand. On X-ray, a fracture of the first metacarpal bone is noticed. Where is the epiphysis of the affected bone?**

**A. A. At the base**

**B. B. At the neck**

**C. C. At the head**

**D. D. In the shaft**

- For 2nd–5th metacarpals → the epiphysis is located at the head (distal end).
- For the 1st metacarpal (thumb) → the epiphysis is located at the base (proximal end).

## 72. Identify the tissue from the histology appearance:

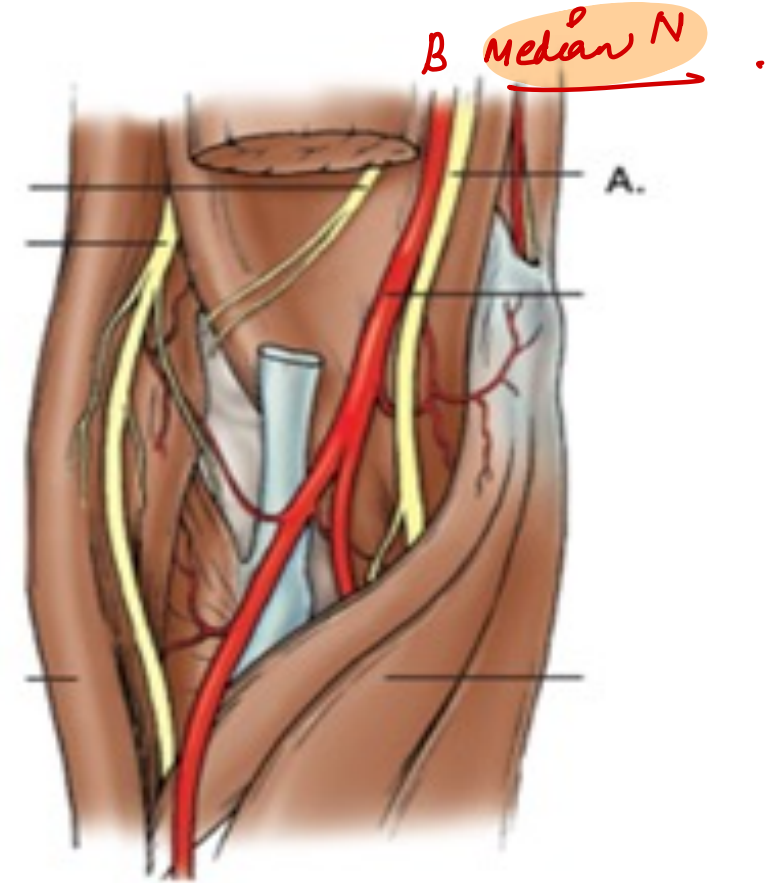
- A. Thymus
- B. Spleen
- C. Prostate
- D. Urinary bladder

Hassal  
Corpuscles



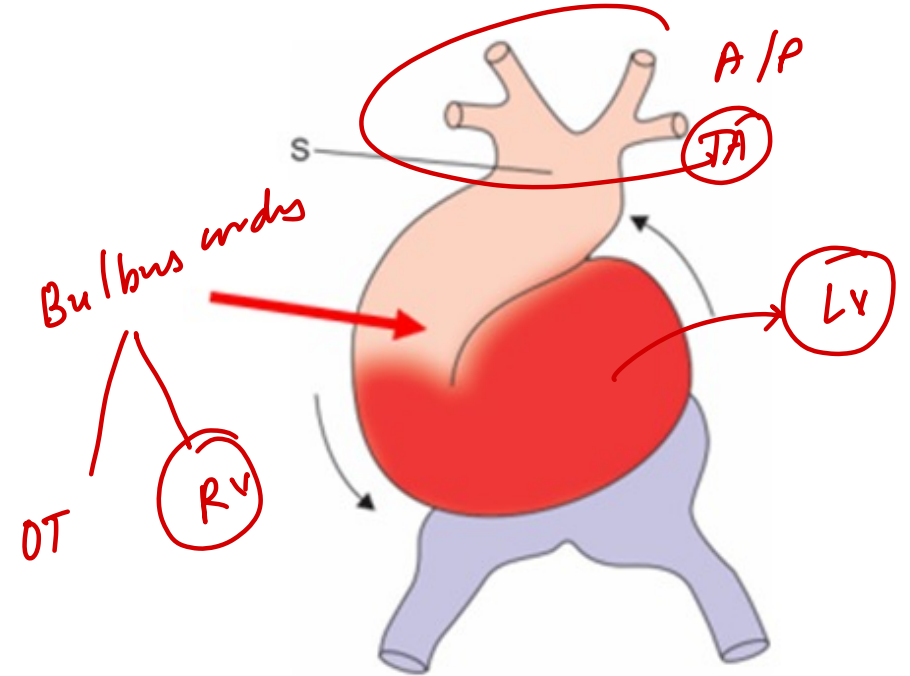
73. A 12-year-old girl is brought to the emergency room after she sustained a supracondylar fracture of the humerus with injury to the structure marked as 'A' in the given image. Which of the following is most likely to be affected?

- A. Adduction of thumb ulnar
- B. Abduction of thumb ●
- C. Flexion of little finger ● ulnar
- D. Abduction of little finger ● ulnar



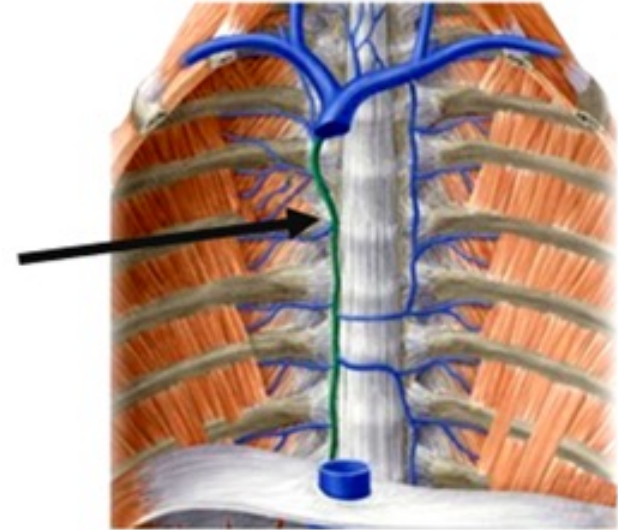
74. Given is a model of embryological development of the heart. Which structure develops from the area marked with red arrow?

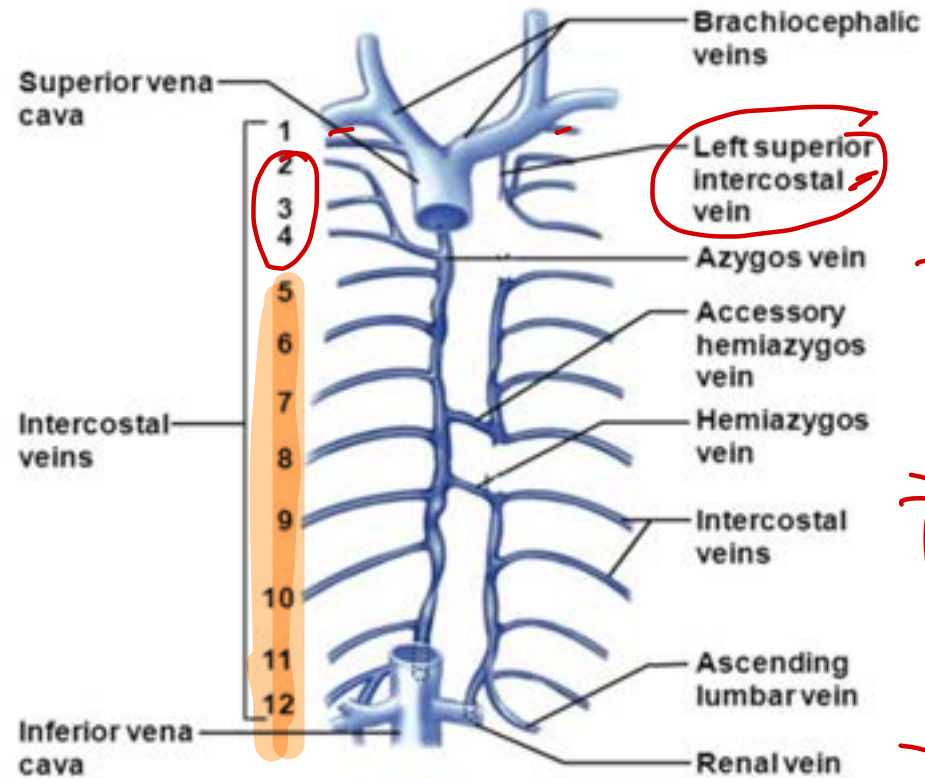
- A. Aorta ~~X~~
- B. Left Ventricle ~~X~~
- C. Right ventricle
- D. Pulmonary artery ~~X~~



75. Identify the tributaries of the vessel marked in the image except?

- A. Right ascending lumbar
- B. Right subcostal vein
- C. Right 5th posterior intercostal vein
- D. ~~Left 5th posterior intercostal vein~~





## Azygos

Formed by: Right Lumbar azygos, right subcostal, right ascending lumbar

Tributaries:

Right superior intercostal vein: 2,3,4 PICV

Right 5-11<sup>th</sup> PICV

Hemiazygos, Accessory hemiazygos-T8

T4->SVC

## Hemiazygos

Formed by: left Lumbar azygos, left subcostal, left ascending lumbar

Tributaries:

Left 9-11<sup>th</sup> PICV

## Acc Hemiazygos

Tributaries:

Left 5-8<sup>h</sup> PICV

76. At which level does the nerve supply for the marked structure arise?

- A. Aqueduct of Sylvius / SC
- B. Sub thalamic nuclei
- C. Decussation of pyramidal tract X X
- D. Thalamus X X



LR 6      SU 4

MR  
3

77. A 55-year-old man with a history of smoking and hypertension presents to the clinic with difficulty swallowing and hoarseness. On examination, he has a decreased gag reflex and asymmetry of the soft palate with uvula deviating to the left upon phonation. These findings suggest a lesion in which of the following structures?

A. Hypoglossal Nucleus ~~XX~~

B. Nucleus Solitarius NTS

Baroreceptor  
Taste

C. Nucleus Ambiguus

D. Dorsal Motor Nucleus of Vagus → Parasymp 3/7/9/10.

78. In which of the following chambers can one palpate a muscular ridge, which is the site of origin of pectinate muscles?

- A. Right atrium
- B. Left atrium
- C. Right ventricle
- D. Left ventricle

*Crista terminalis*  
*sinus venarum*

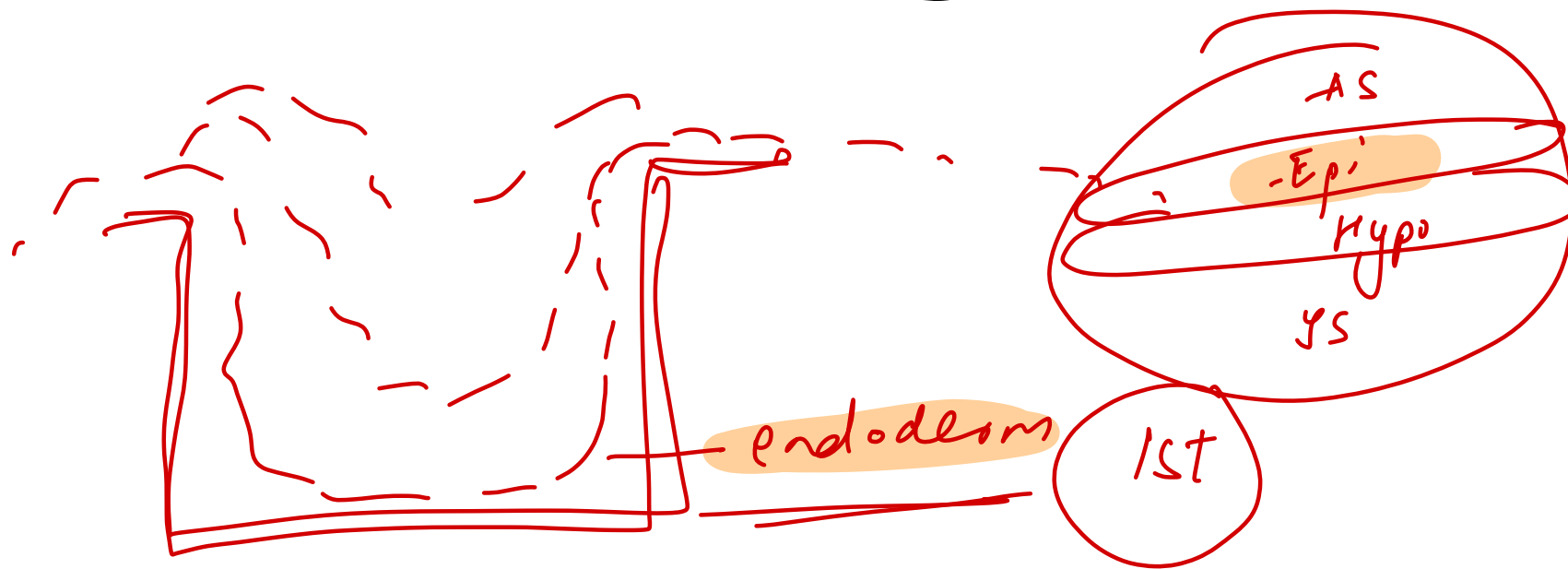
# 79. All of the following are correct except

A. The primitive streak develops from epiblast (7)

~~B.~~ Levator veli palatini arises from 1st pharyngeal arch. XX 2nd arch  
*tensor veli palatini*

C. Fabella develops in the lateral head of gastrocnemius (7)

D. Celiac plexus is located Anterolateral to aorta (7)



80. Which among the following statements is true regarding the course of the mandibular nerve?

1. Auriculotemporal nerve is a branch from the ~~anterior~~<sup>post</sup> division of the mandibular nerve, and it emerges from behind the temporomandibular joint.

2. Buccal branch is a branch from the anterior division of the mandibular nerve, and it emerges from behind the mandibular ramus.

3. Lingual nerve is a branch from the posterior division of the mandibular nerve, and it arcs around the submandibular duct.

4. ~~Ophthalmic nerve~~ is a branch from the ~~anterior division~~ of the ~~mandibular nerve~~, and it arises in the middle cranial fossa.

A. 2, 3

B. 1, 3

C. 3, ~~4~~

D. ~~1, 4~~

V3

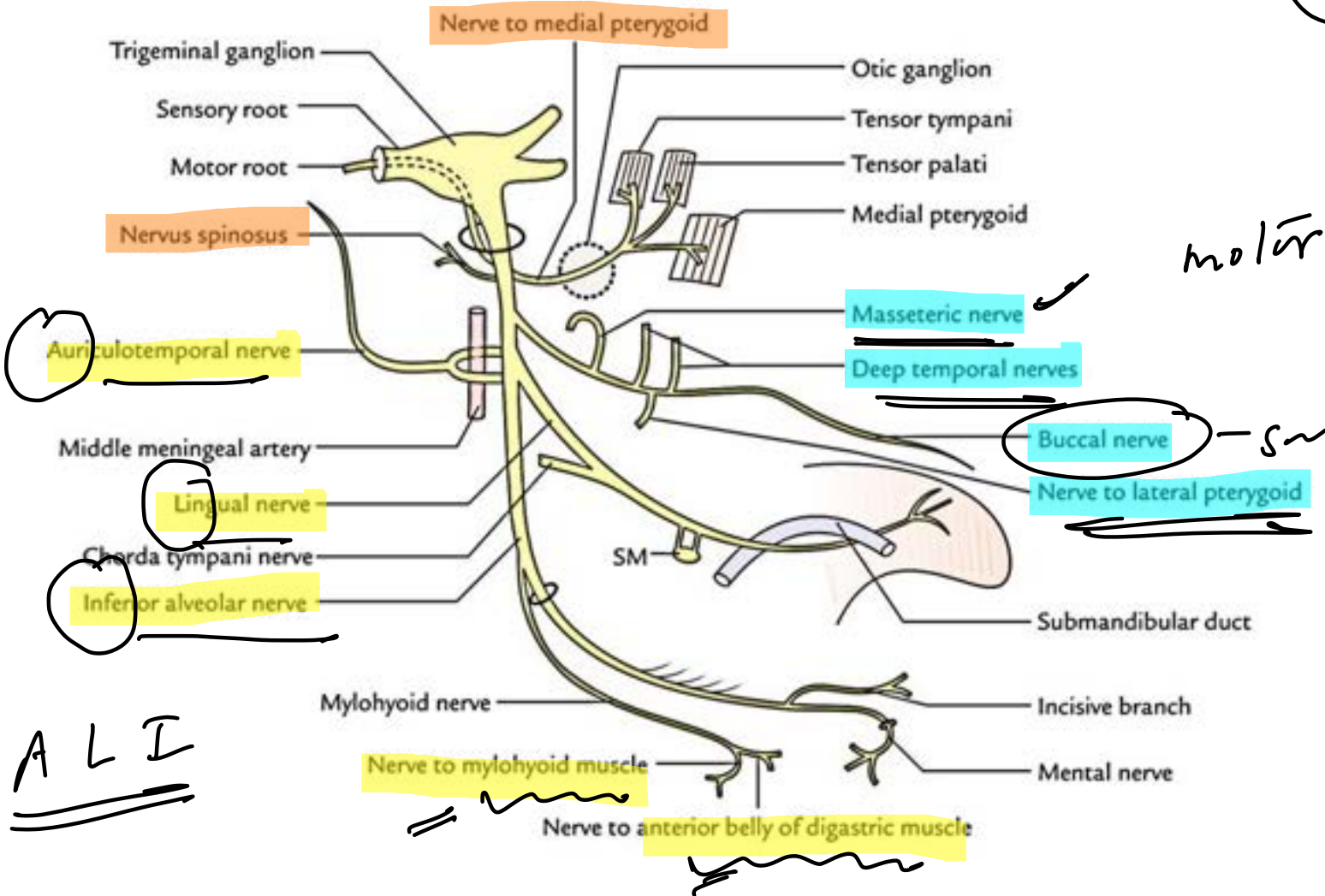
Post

SN

ALI

ant

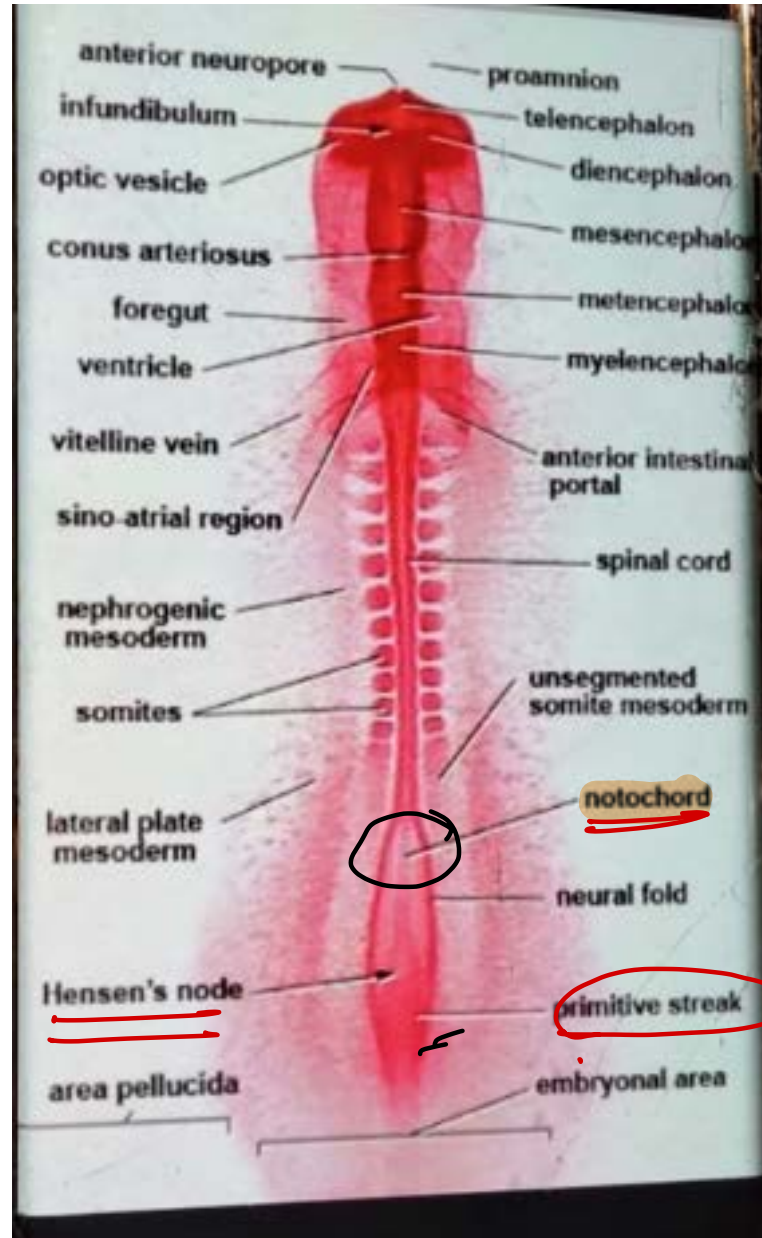
molar



## 81. Identify the marked structure:

- A. Primitive streak
- B. Notochord
- C. Neural groove
- D. Secondary neural plate

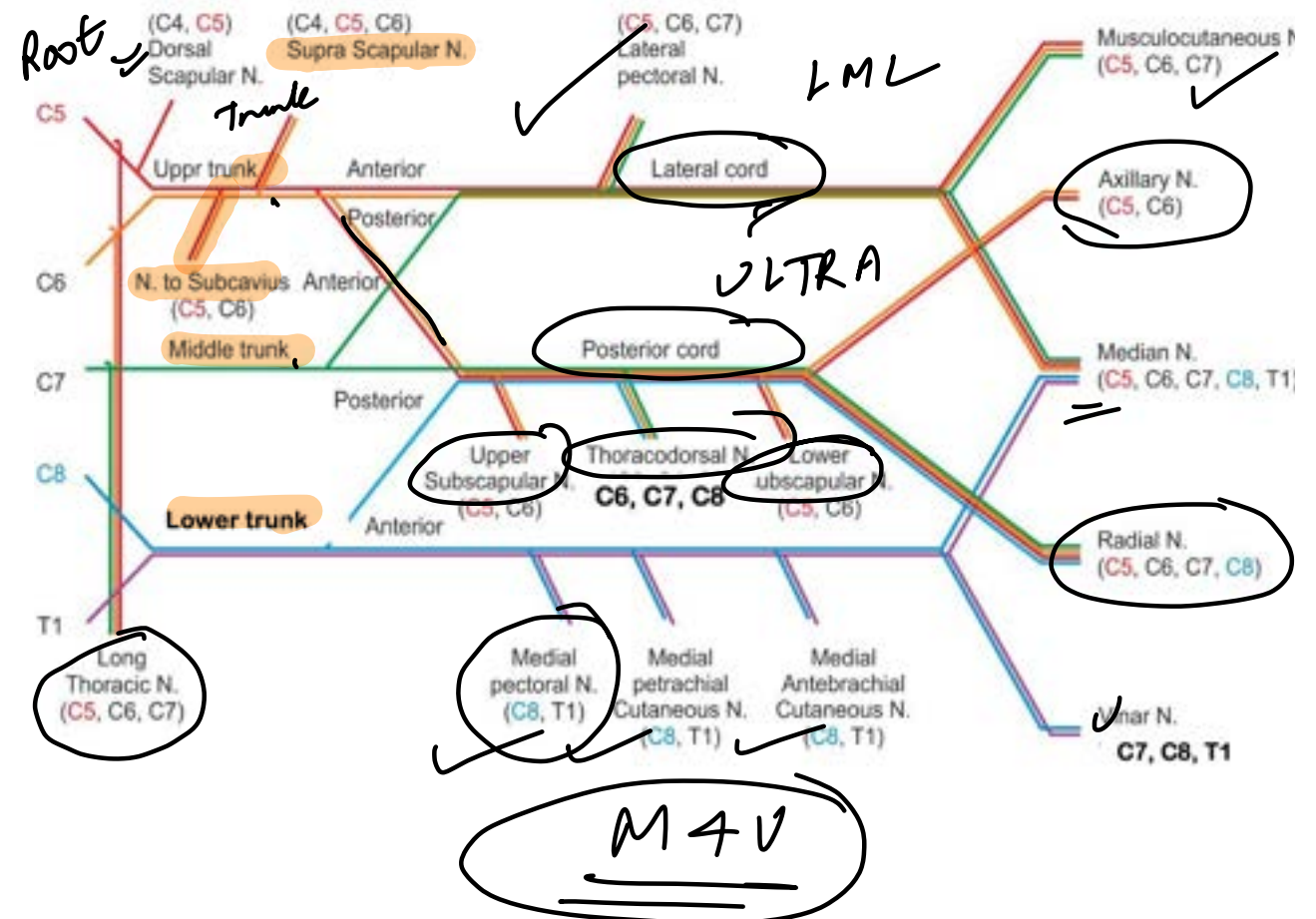
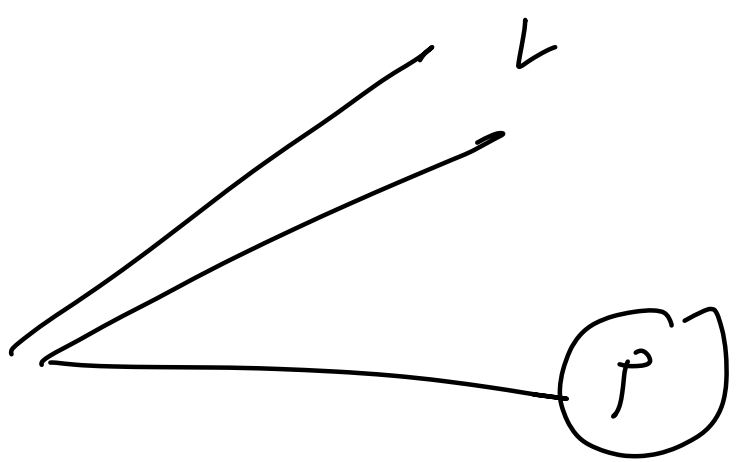




82. A surgeon inadvertently injured the middle trunk of the brachial plexus while removing a Pancoast tumor. Which of the following nerve functions can be impaired?

- A. Medial pectoral nerve
- B. Nerve to subclavius
- C. Suprascapular nerve
- D. Thoracodorsal nerve

UT



83. A 16-year-old boy was diagnosed with urethral stricture. He underwent visual internal urethrotomy in the lithotomy position with stirrups supporting both popliteal fossa and proximal parts of tibia. No ankle support was used. On the first postoperative day, the patient complained of decreased sensation on the lateral aspect of right leg, the lateral border of his right foot and difficulty in dorsiflexion of the right foot due to compression of a particular nerve of the lower limb. Which of the following muscles is supplied by the nerve involved in this scenario?

- A. Flexor Hallucis Longus
- B. Abductor Hallucis
- C. Extensor Digitorum Longus
- D. Semi-Membranosus

→ DPN

84. A 50-year-old woman presents to the clinic with symptoms of urinary incontinence. She reports a sensation of urgency followed by involuntary loss of urine. Her medical history is significant for type 2 diabetes mellitus and hypertension. Upon further evaluation, you consider the role of the detrusor muscle in her condition. In understanding the embryological origins of muscles, which of the following muscles is not derived from the paraxial mesoderm?

- A. Genioglossus ✓
- B. Superior oblique ✓
- C. Biceps ✓

D. Detrusor

Smooth

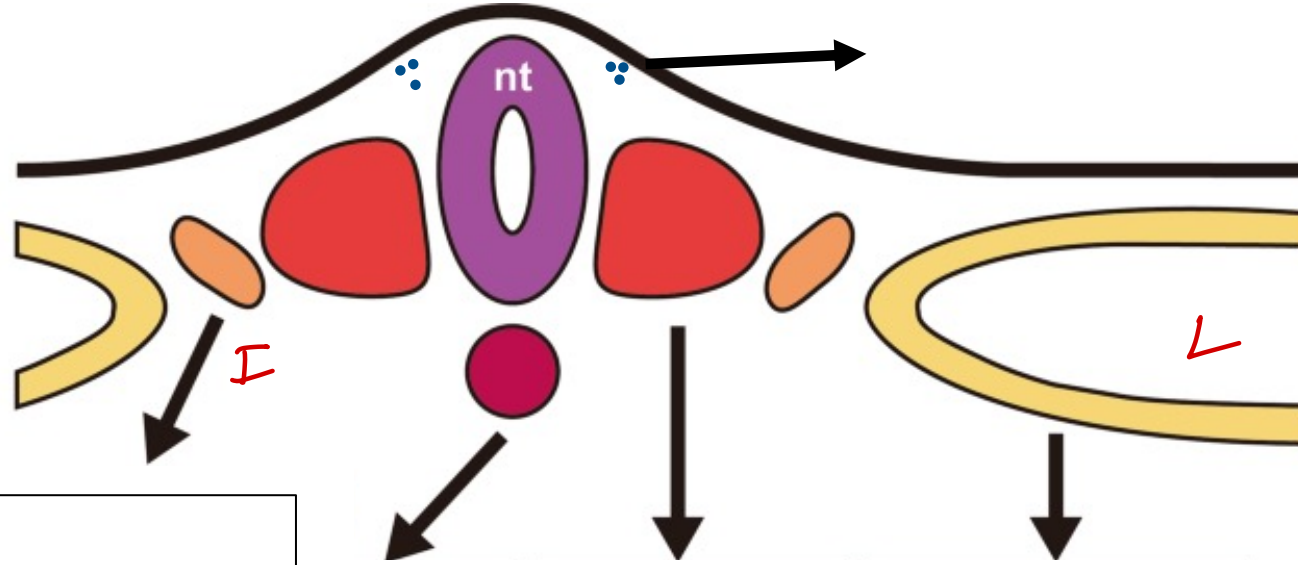


SF

— LP  
==

# EMBRYOLOGY

## NEURAL CREST MOTEL PASSES



GU system  
Adrenal cortex  
Gonads

Nucleus pulposus  
Tectorial membrane

Dura  
SOMITES:  
Axial skeleton  
Dermis of back  
Skeletal muscles  
Tongue / EOM

SOMATOPLEURIC:  
Dermis of anterior torso, limbs  
Appendicular skeleton

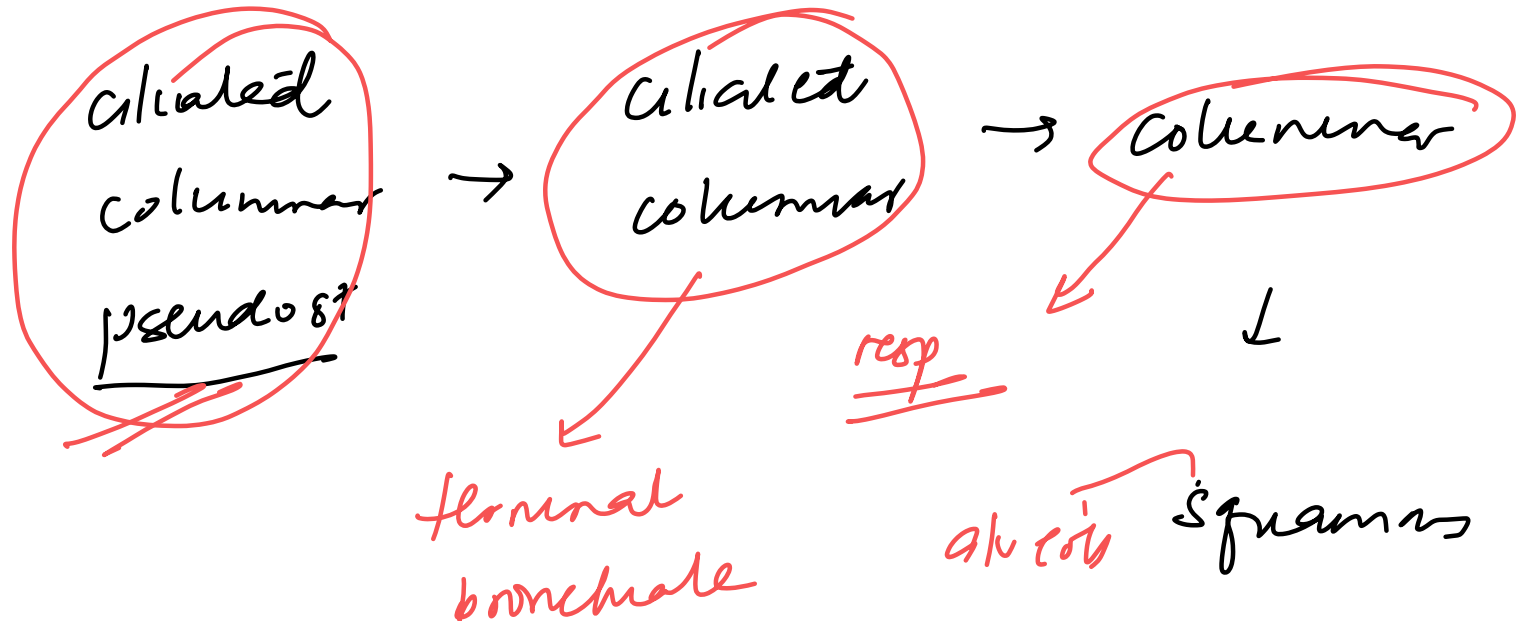
SPLANCHNOPLEURIC:  
Cardiac muscles  
Smooth Muscles  
RES-Spleen, Microglia  
Serosa, endothelium

Adrenal cortex-  
Adrenal medulla-

Dura-  
Leptomeninges-

85. Fourth-year medical students are recruited for a research study assessing their ability to interpret biopsy samples obtained during routine clinical practice. As part of the study, they are given samples of normal respiratory mucosa and asked to identify the cell types present after staining with hematoxylin and eosin. The students observe that the respiratory epithelium changes in composition as the airways continue distally from the trachea to the alveolar ducts. Which of the following features is last to disappear?

- A. Cartilage ✗
- B. Cilia
- C. Goblet cells ✗
- D. Mucous glands ↗



## 86. Which of the following is true regarding the anatomy of the breast?

- A. ✓ Tail of spence extends across anterior axillary fold.
  - B. Inner quadrants of breast contain the most breast tissue OOQ
  - C. The suspensory ligaments of cooper's ligaments are found in the lower part of breast. //
  - D. Breast is made up of 10 lobes 15-20 lobes
- dimpling*

87. What is the outer covering of the condition shown in the image?

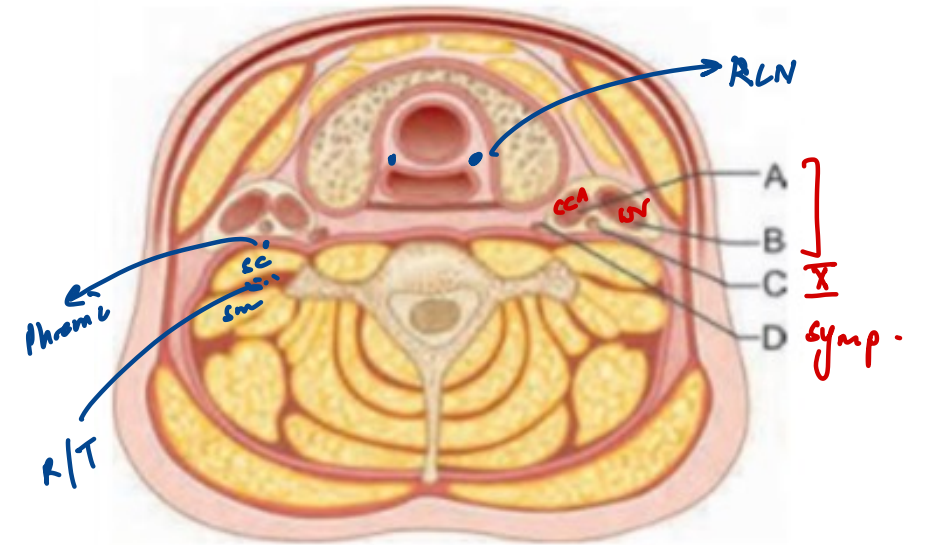
Ans

- A. Endoderm
- B. Ectoderm
- C. Chorion
- D. Amnion



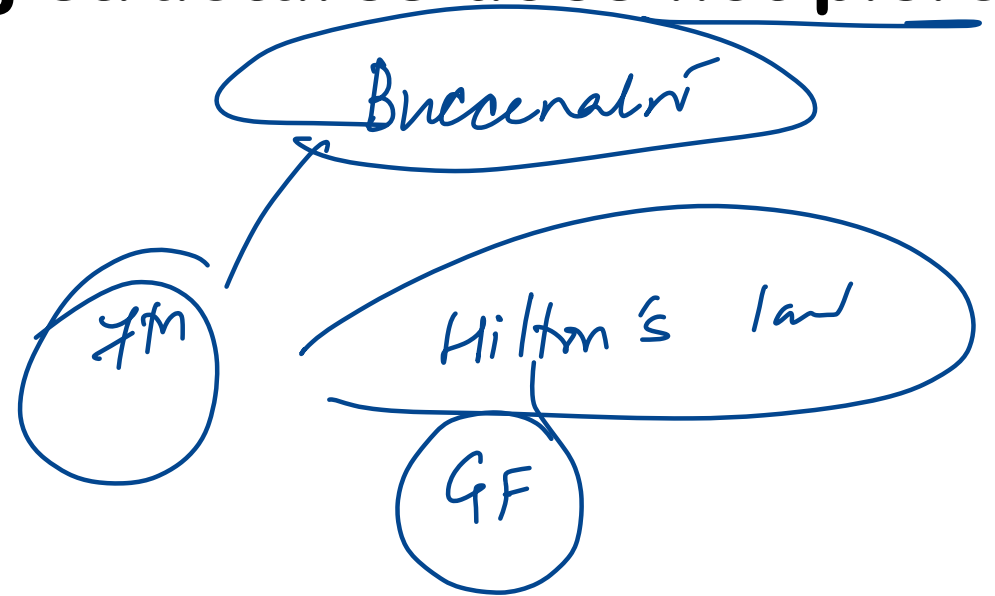
88. . In the cross section given below, locate the vagus nerve:

- A. A
- ~~B. C~~
- C. D
- D. B



89. A 38-year-old patient presents with sudden-onset facial weakness and drooping on one side of the face. The patient also complains of drooling while eating, likely due to weakness in a muscle. Which of the following structures does not pierce the involved muscle?

- ~~A.~~ Buccal branch of facial nerve
- B. Buccal branch of mandibular nerve
- C. Parotid duct
- D. Molar mucous glands



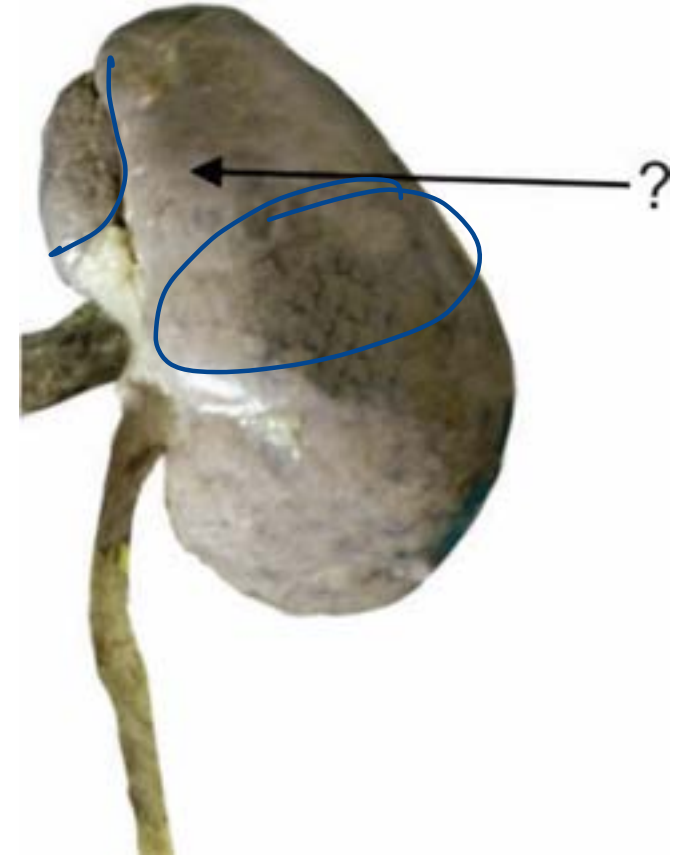
90. Which of the following is related to the marked area in the image?

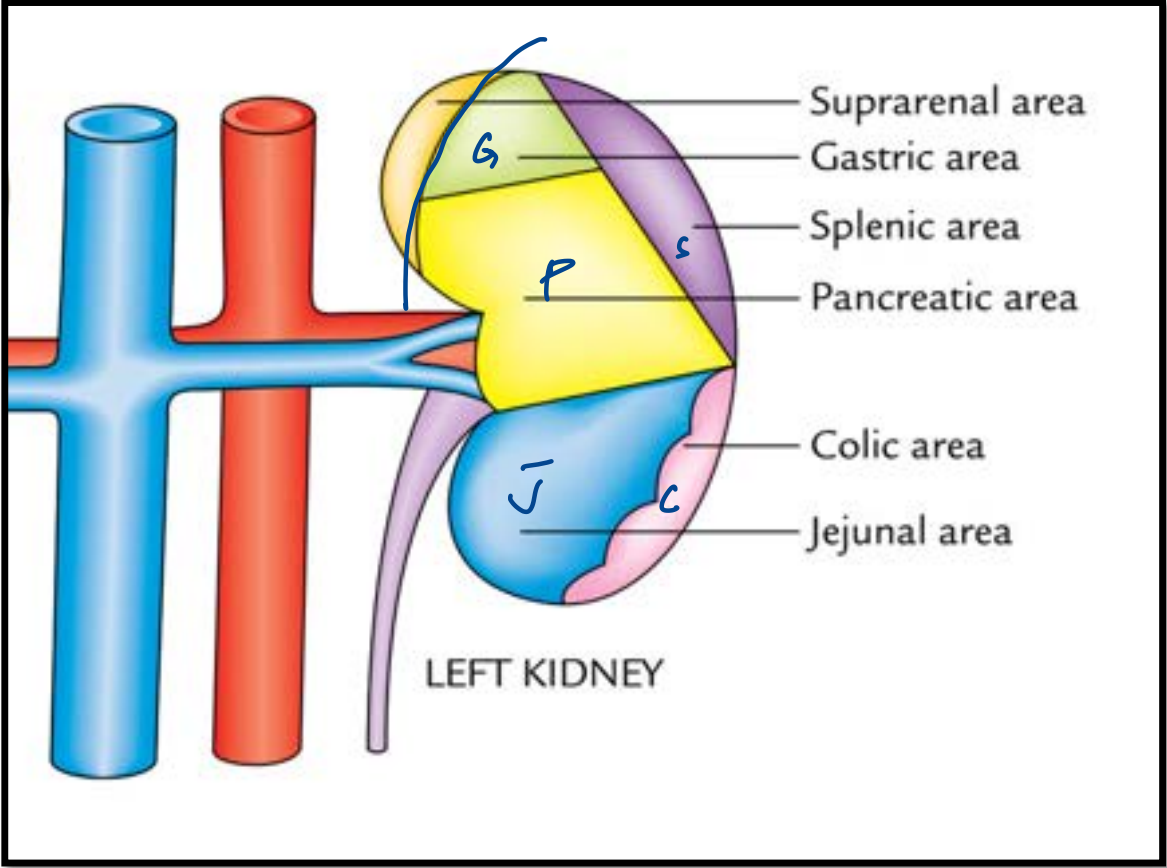
A. Stomach

B. Spleen

C. 2nd part of duodenum

D. Pancreas





**91. . A 44 yr old female presents to the OPD with high grade fever, pain that is constant, throbbing, and worse when sitting down with history of constipation in the past. Fluctuation is noted near the anal region. The Resident decides to drain the ischioanal abscess. Which of the following structures can be injured while draining the ischioanal abscess?**

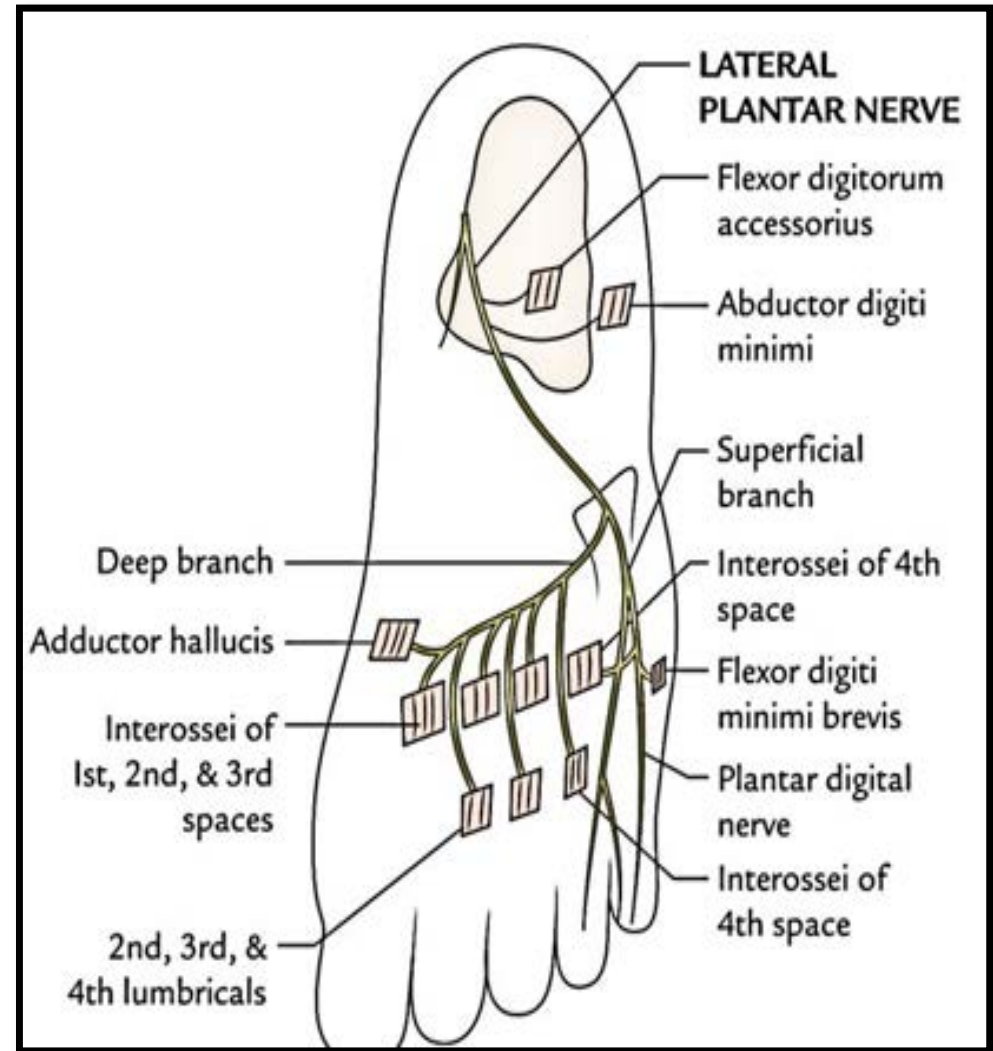
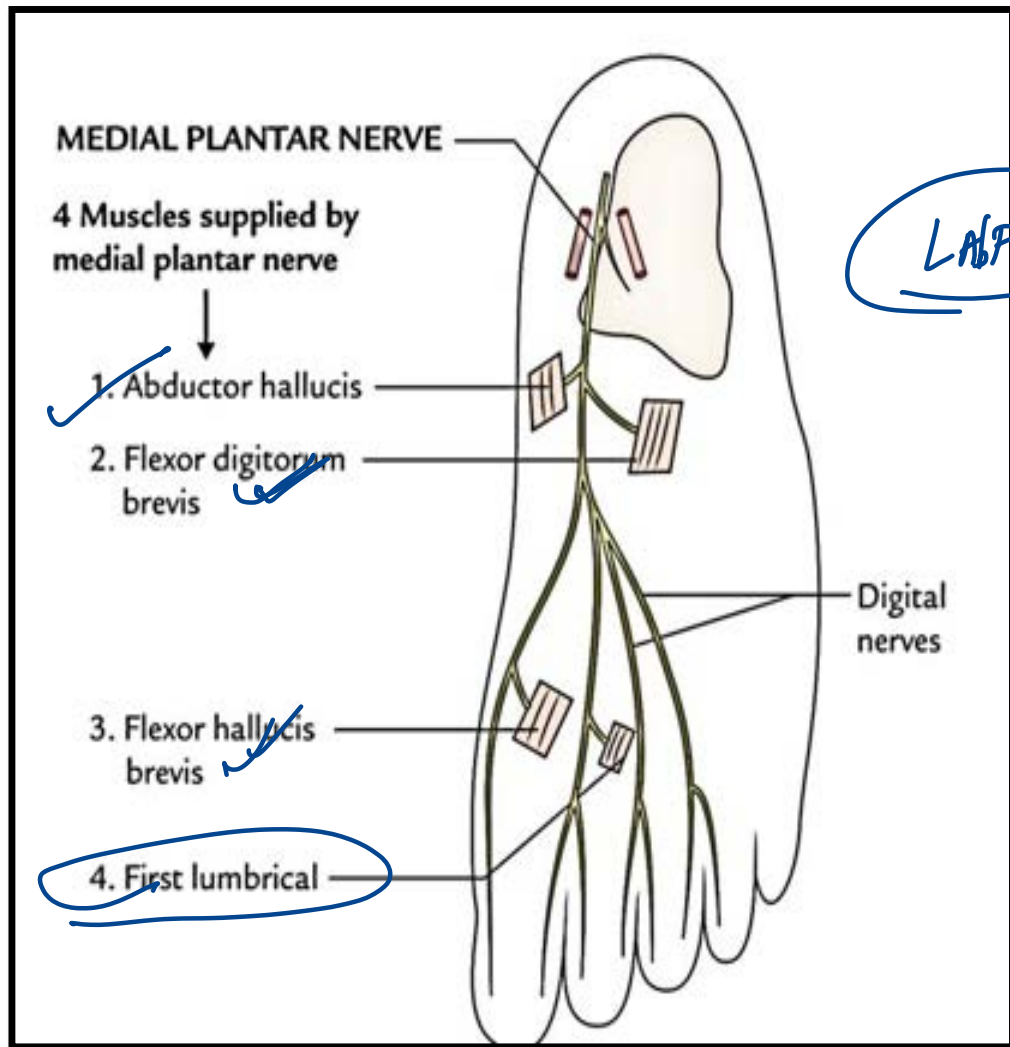
- A. Inferior rectal nerve**
- B. Pudendal nerve**
- C. Internal pudendal artery**
- D. Posterior labial nerve**

92. Which of the following muscles are supplied by the lateral plantar nerve?

1. Abductor hallucis ~~x~~
2. Flexor digitorum accessorius
3. Flexor hallucis brevis
4. First lumbrical ~~xx~~
5. First interossei

medial

- A. 2 and 5
- B. ~~3 and 4~~
- C. 1 and 3
- D. ~~2 and 4~~



93. Which of the following is not a derivative of neural crest cells?

A. Ciliary muscles ✓ NC

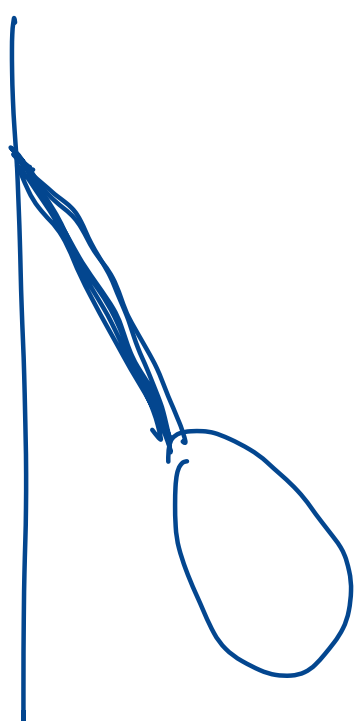
B. Retinal pigment epithelium — Neuroectoderm

C. Ciliary ganglion ✓

D. Ganglion cell layer

94. Which of the following is associated with condition shown below:

- A. Adenocarcinoma bladder
- B. Omphalocele
- C. Persistent vitellointestinal duct
- D. Hypospadias



Urachal remnant

Ex Strophy

**95. Which of the following bones violates 'The secondary ossification center that appears first, fuses last' law?**

A. Radius

**B. Fibula**

C. Ulna

D. Sternum

Primary ossification centres appear before birth and are single

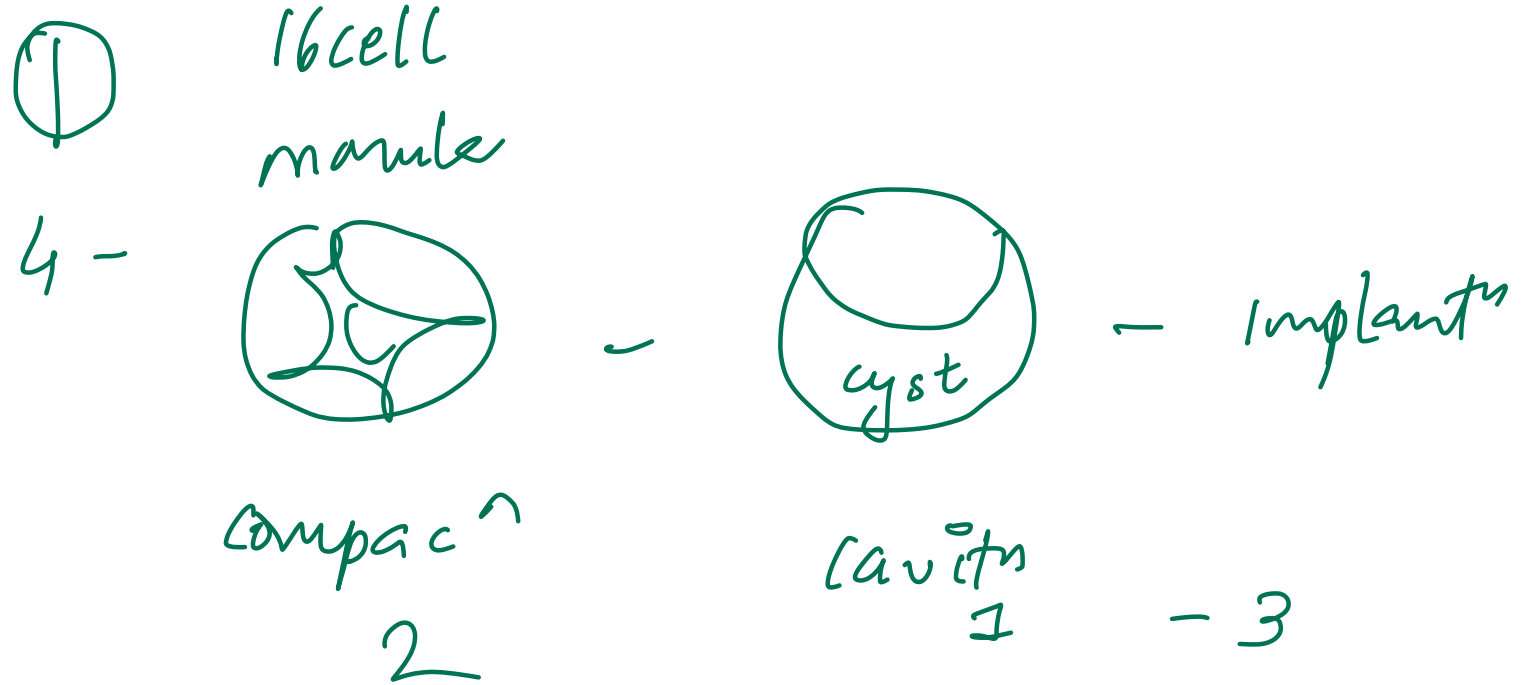
↳ clavicle

↓  
after birth:  
Carpal bones

96. Arrange the following events of pre-embryonic development in order, from the earlier stage to the later stage:

1. Cavitation
2. Compaction
3. Implantation
4. Cleavage

- A. 2 - 4 - 1 - 3  
B. 3 - 1 - 2 - 4  
C. 4 - 2 - 3 - 1  
**D. 4 - 2 - 1 - 3**



**97. Which of the following descending tracts in the spinal cord remains uncrossed?**

A. Tectospinal tract

B. Rubrospinal tract

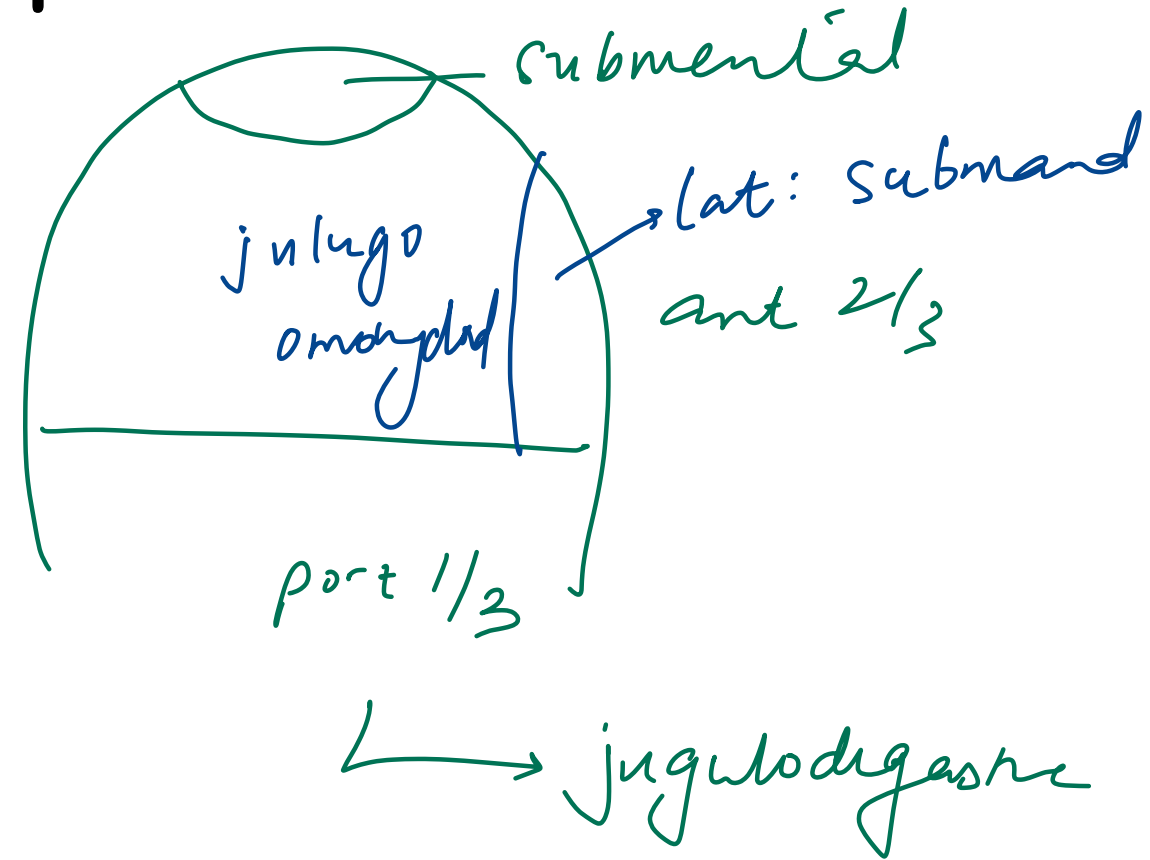
C. Vestibulospinal tract

D. Pyramidal tract

*C/S tract - ant (10-15%)*

98. A 40-year-old man with a history of tobacco chewing presented with a non-healing ulcer over the tip of the tongue. Biopsy revealed squamous cell carcinoma. Which of the following would be the sentinel lymph nodes?

- A. Submandibular lymph nodes
- B. Submental lymph nodes
- C. Deep cervical lymph nodes
- D. Jugulo-omohyoid lymph nodes



**99. Which of the following muscle causes opening of laryngeal inlet?**

A. Vocalis

**B. Thyroepiglotticus**

C. Cricoarytenoid

D. Thyroarytenoid

## Muscles acting on the larynx

**Movement**

Muscle

**Elevation of larynx**

Thyrohyoid, mylohyoid

**Depression of larynx**

Sternohyoid, sternothyroid

**Opening inlet of larynx**

Thyroepiglottic

**Closing inlet of larynx**

Aryepiglottic

**Abductor of vocal cords**

Posterior cricoarytenoid only

oo //

**Adductor of vocal cords**

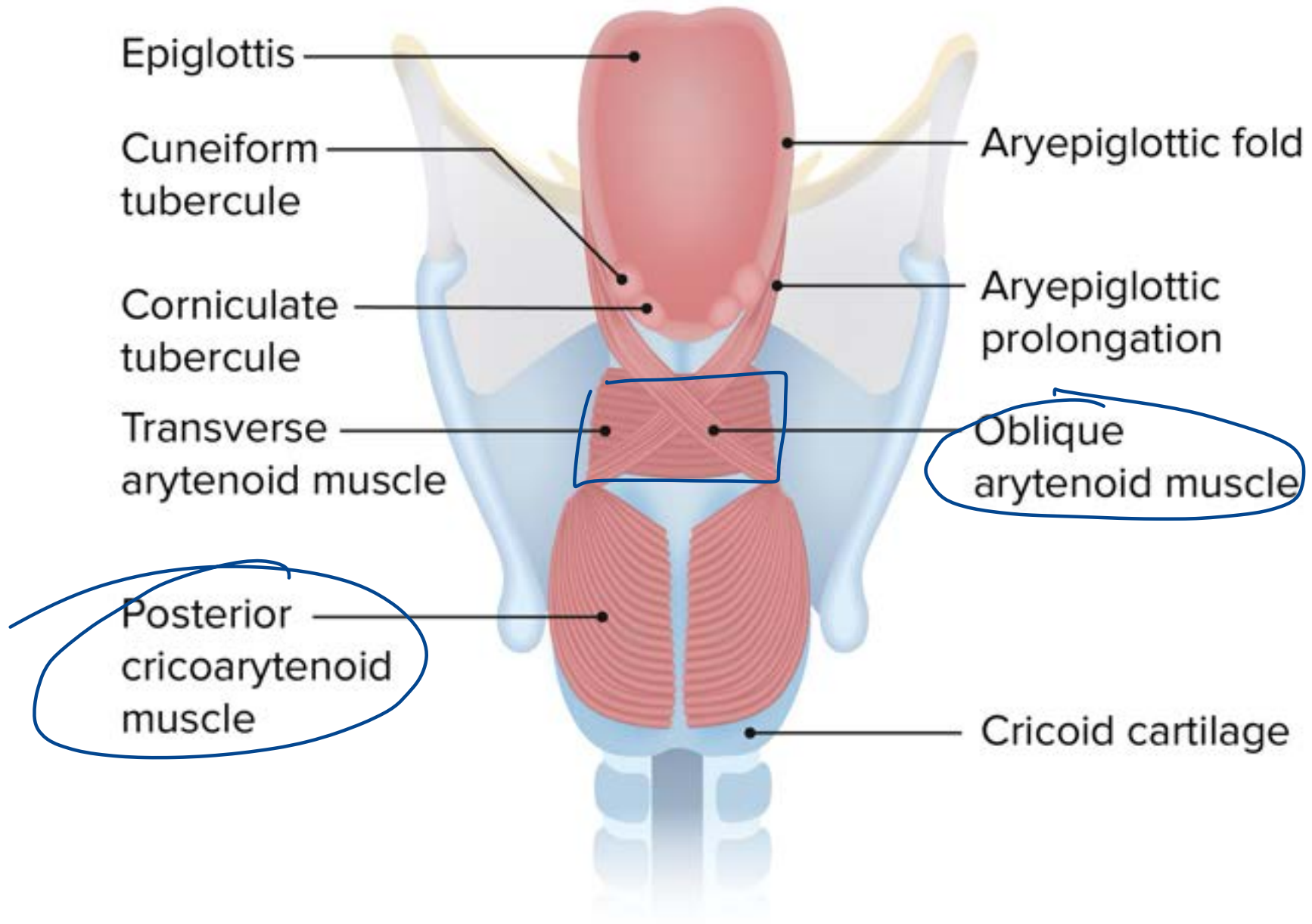
Lateral cricoarytenoid (whisper), transverse and oblique arytenoids

**Tensor of vocal cords**

Cricothyroid

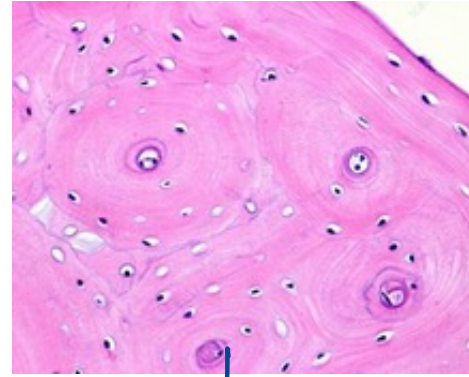
**Relaxor of vocal cords**

Thyroarytenoid and vocalis (modulator)



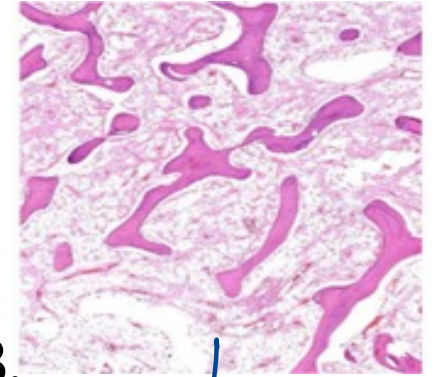
100. Following are 2 histology slides of types of bone. Which of the following statements are correct?

- A. A-Cortical bone, B-Cancellous bone
- B. A-Cancellous bone, B-Cortical bone
- C. A-Trabecular bone, B-Cancellous bone
- D. A- Trabecular bone, B-Spongy bone



A.

*cortical*



B.

*Cancellous  
trabecular  
Spongy*

**Thank You**

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