

The Neck – part 2

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1

Gray's Anatomy for students, 4th edition

Pages

- Cervical vertebrae (67-69), ligamentum nuchae (82)
- Hyoid bone (833)
- ALL (989 – 999) - (except carotid system)
- Transverse cervical nerve & Ansa cervicalis (1005,1006)
- ALL (1011-1019) - (except subclavian artery)
- Suboccipital muscles (99 – 101)

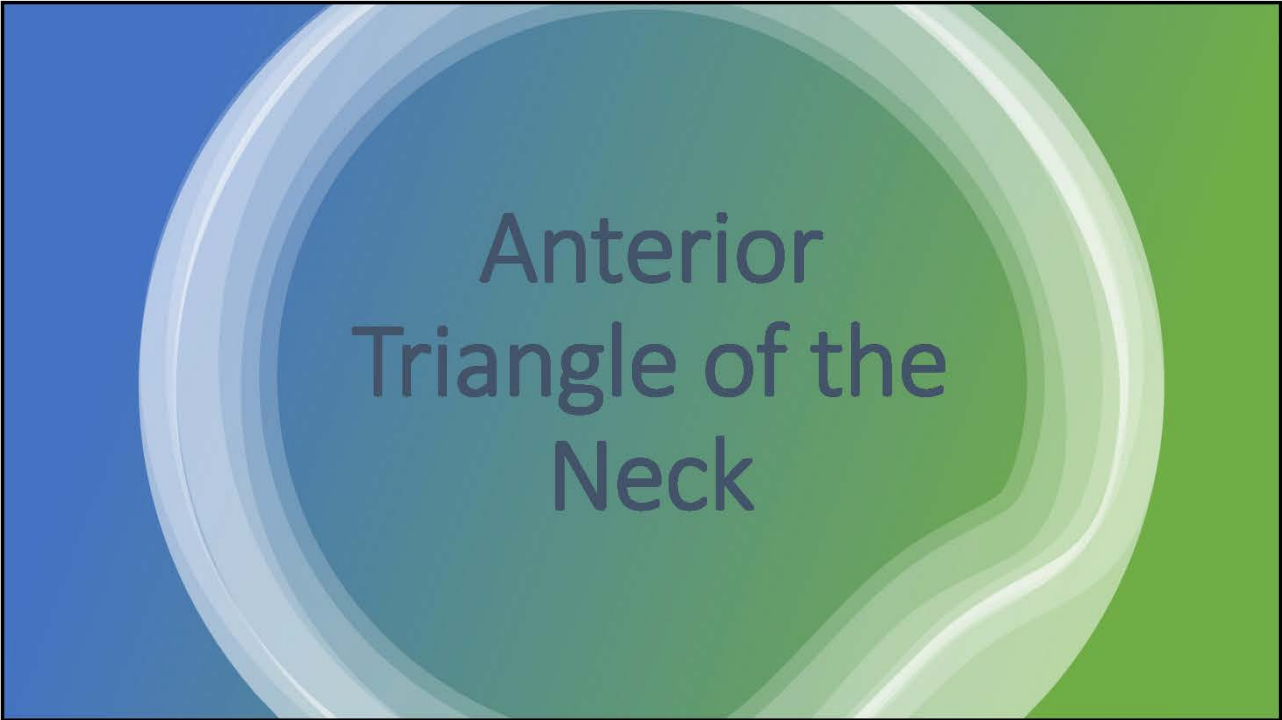
Lecture Notes

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Objectives

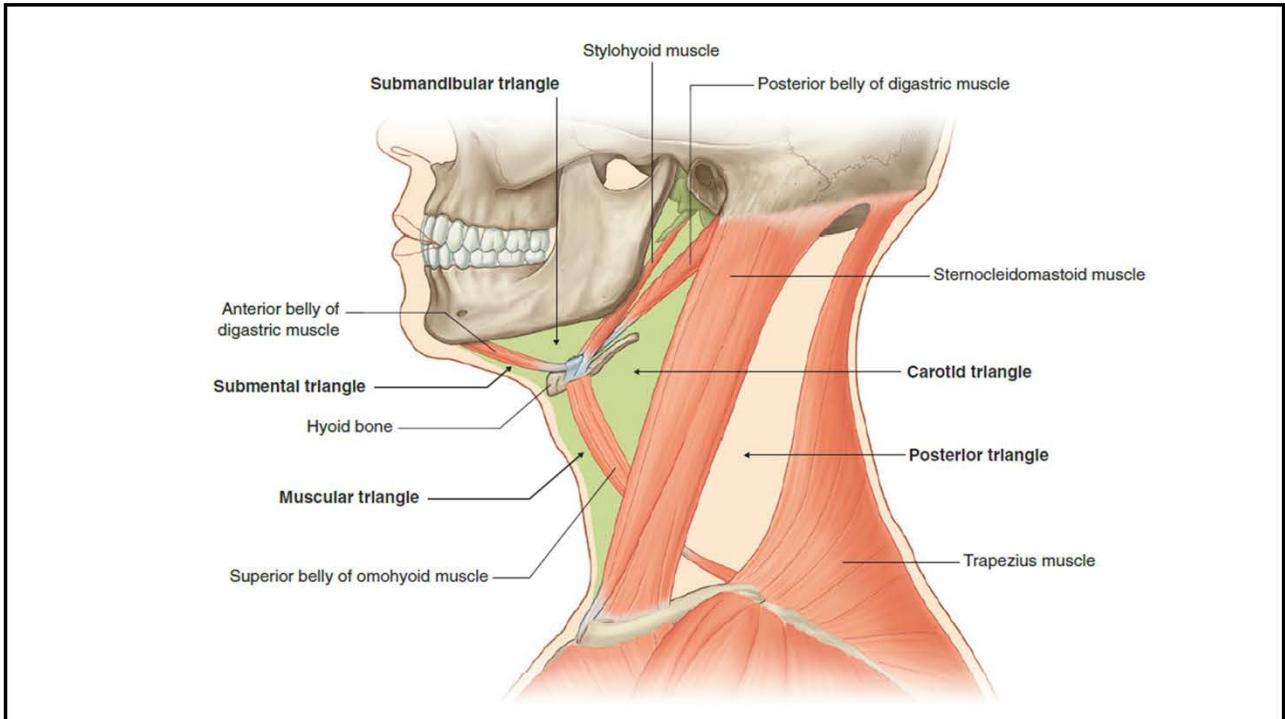
Outline	Outline the gross structure of the neck (including cervical vertebrae & hyoid bone)
Know	Know the fascial layers, spaces & compartments of the neck
Describe	Describe the anterior and posterior triangles of the neck: boundaries and contents
Know	Know the smaller triangles of the neck within the posterior and anterior triangles: boundaries and content
Learn about	Learn about cervical plexus and suboccipital triangle

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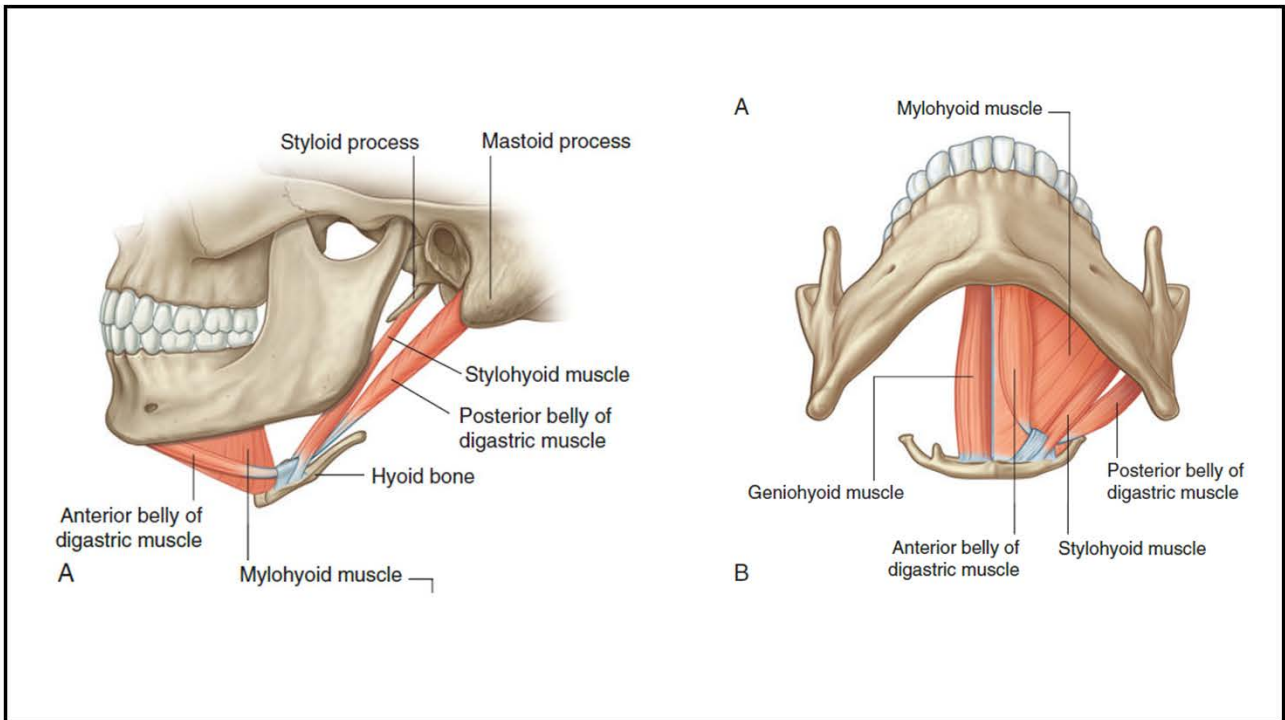
A graphic featuring the text "Anterior Triangle of the Neck" centered within a large, stylized circular shape. The shape is composed of concentric, overlapping bands of color, transitioning from a dark blue on the left to a light green on the right. The text is in a dark blue, sans-serif font.

Anterior Triangle of the Neck

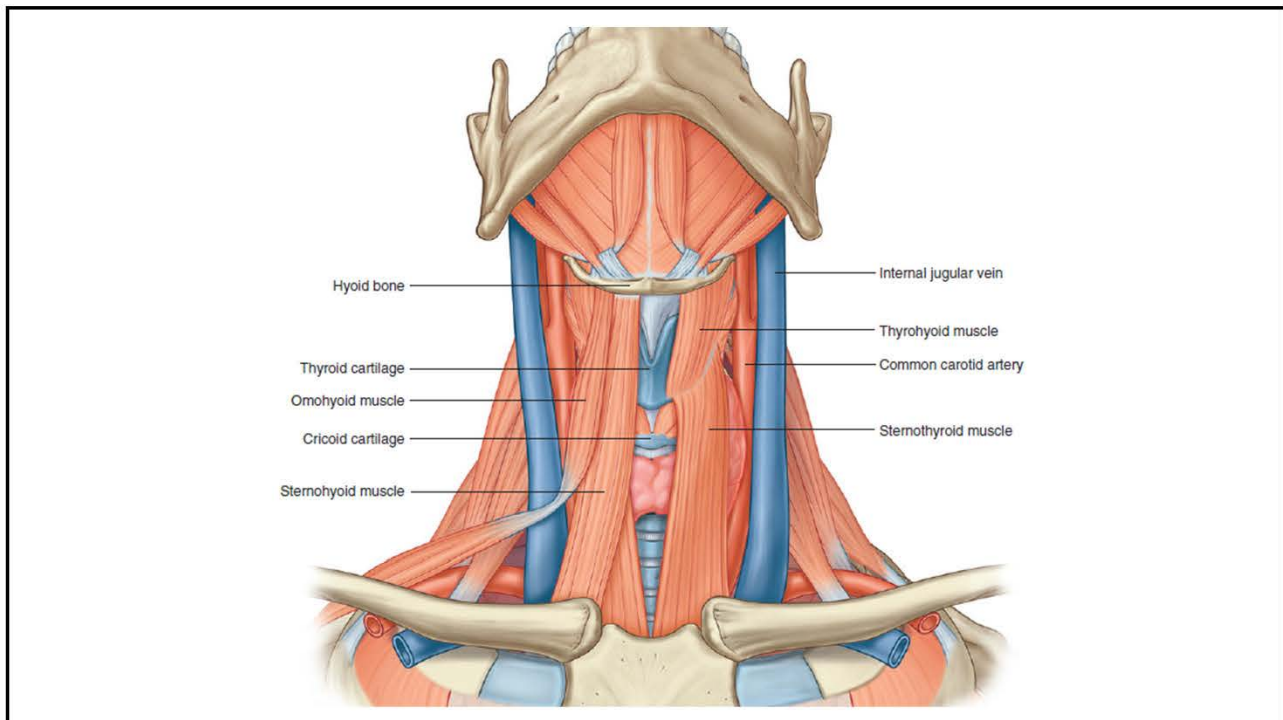
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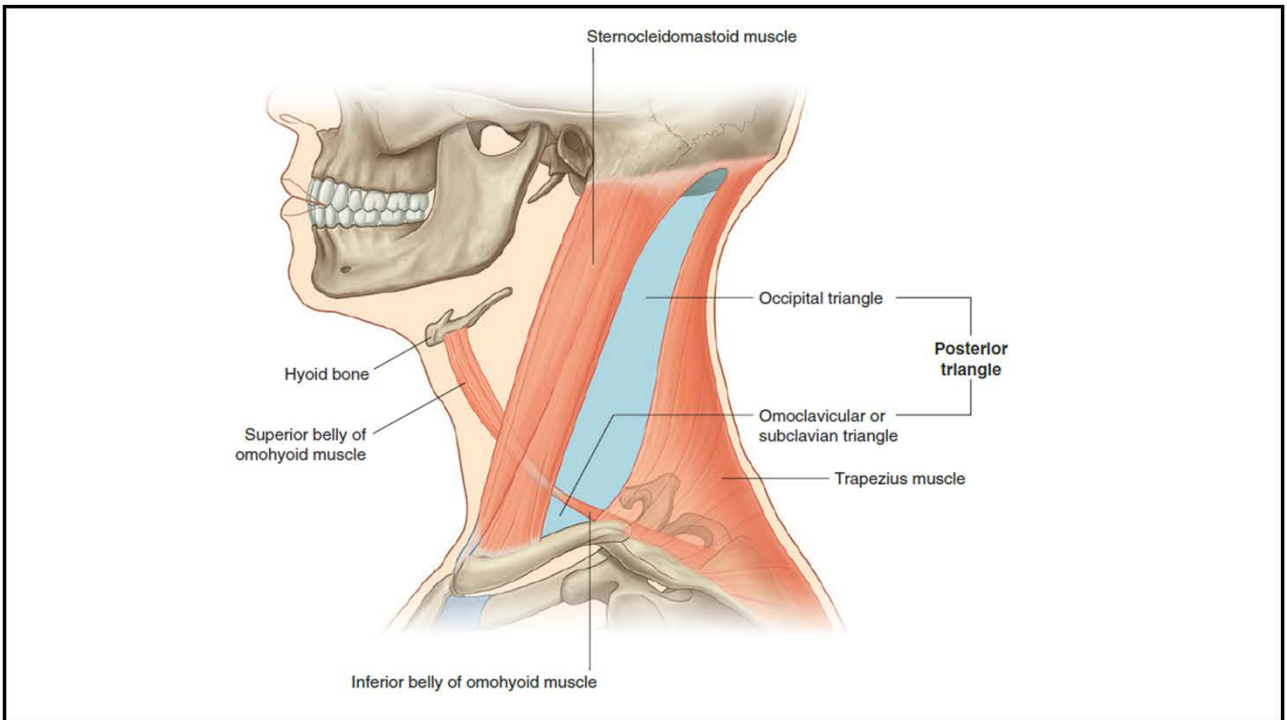
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Table 8.14 Subdivisions of the anterior triangle of the neck—a regional approach		
Subdivision	Boundaries	Contents
Submental triangle (unpaired)	Mandibular symphysis; anterior belly of digastric muscle; body of hyoid bone	Submental lymph nodes; tributaries forming the anterior jugular vein
Submandibular triangle (paired)	Lower border of mandible; anterior belly of digastric muscle; posterior belly of digastric muscle	Submandibular gland; submandibular lymph nodes; hypoglossal nerve [XII]; mylohyoid nerve; facial artery and vein
Carotid triangle (paired)	Posterior belly of digastric muscle; superior belly of omohyoid muscle; anterior border of sternocleidomastoid muscle	Tributaries to common facial vein; cervical branch of facial nerve [VII]; common carotid artery; external and internal carotid arteries; superior thyroid; ascending pharyngeal; lingual, facial, and occipital arteries; internal jugular vein; vagus [X], accessory [XI], and hypoglossal [XII] nerves; superior and inferior roots of ansa cervicalis; transverse cervical nerve
Muscular triangle (paired)	Midline of neck; superior belly of omohyoid muscle; anterior border of sternocleidomastoid muscle	Sternohyoid, omohyoid, sternohyoid, and thyrohyoid muscles; thyroid and parathyroid glands; pharynx

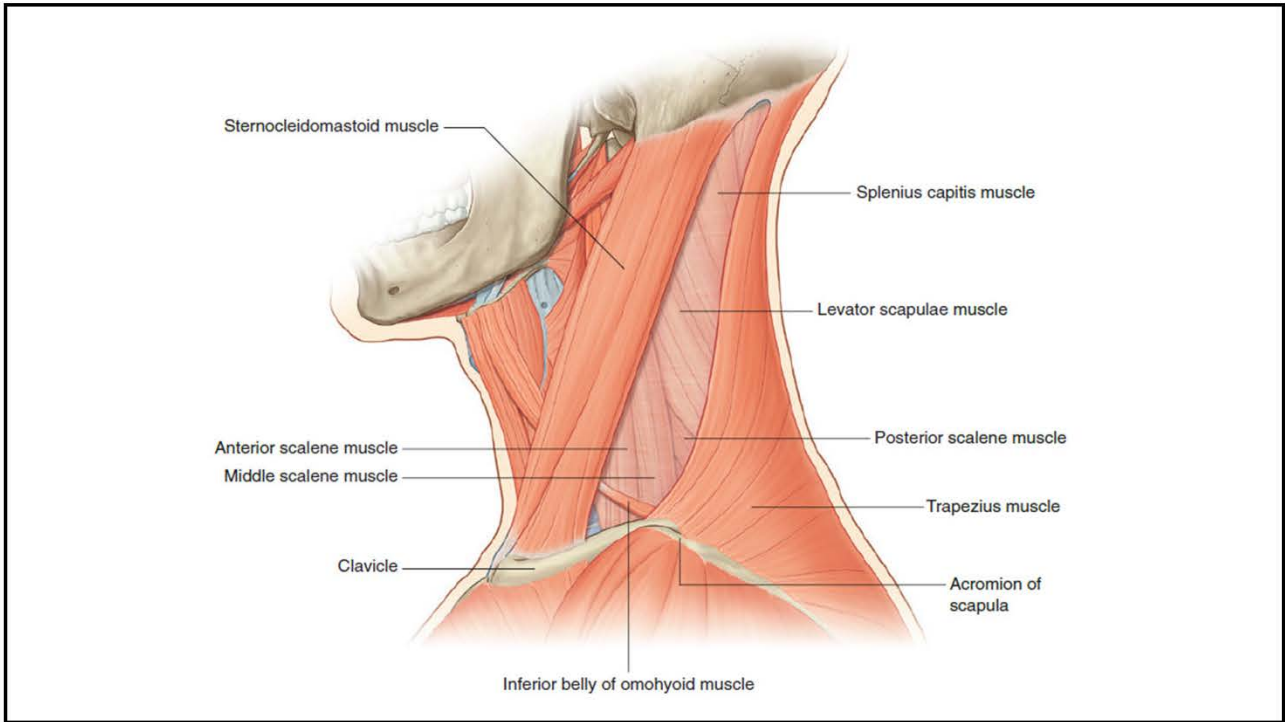
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Posterior triangle of the neck

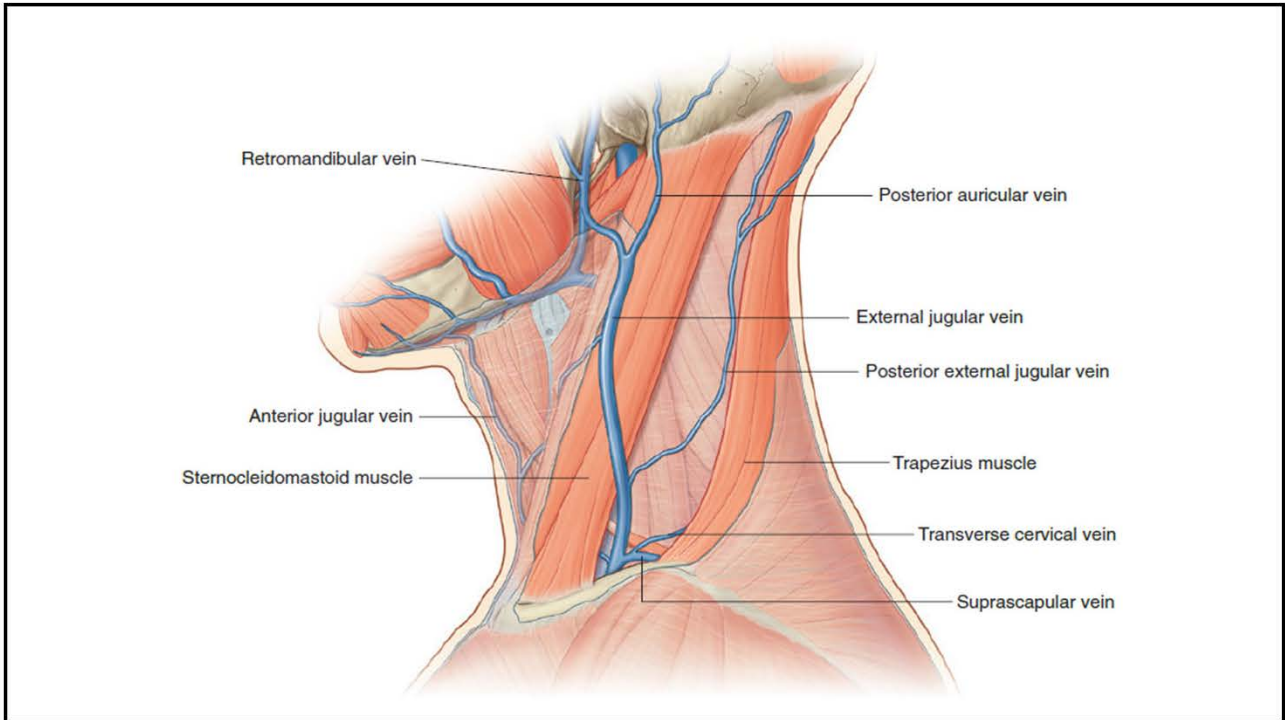
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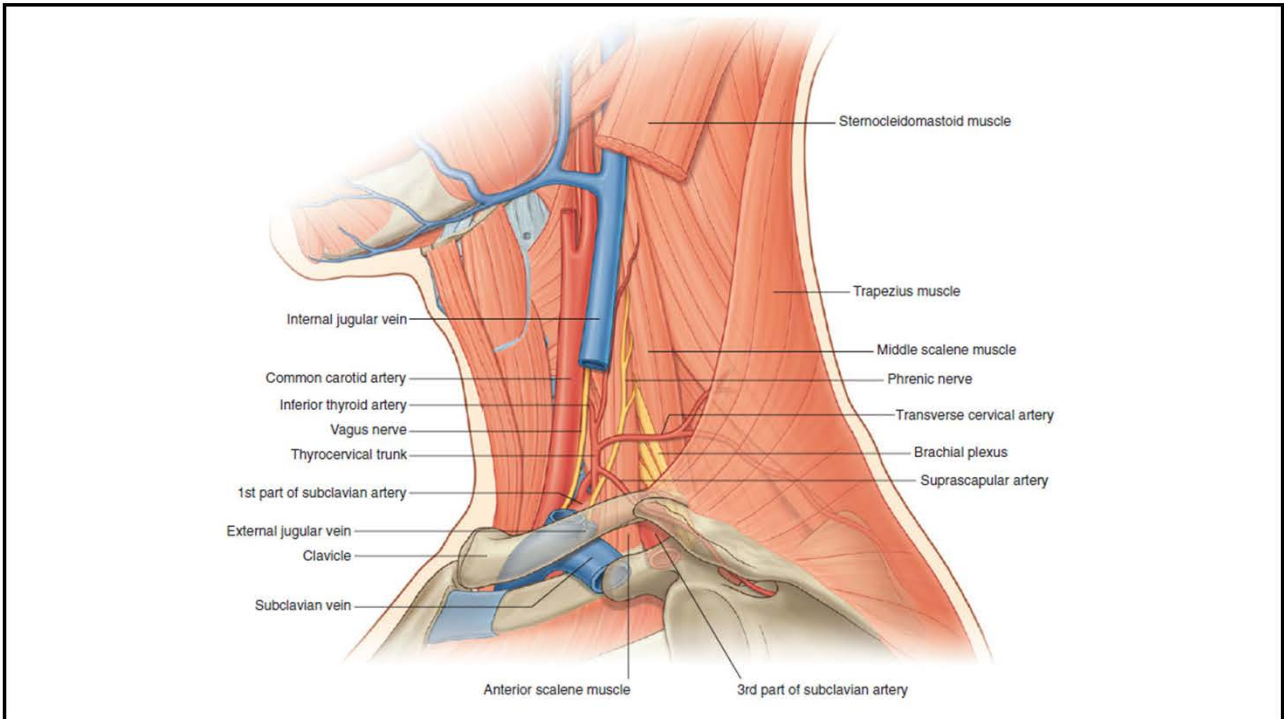
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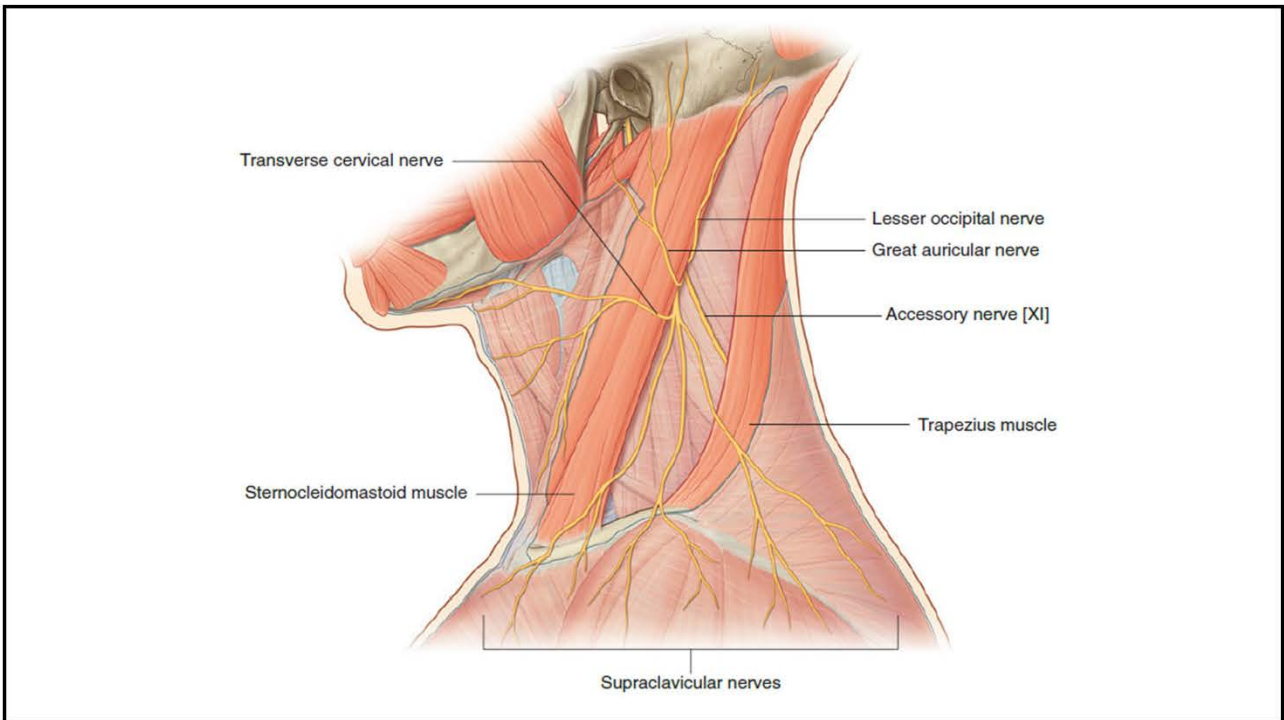
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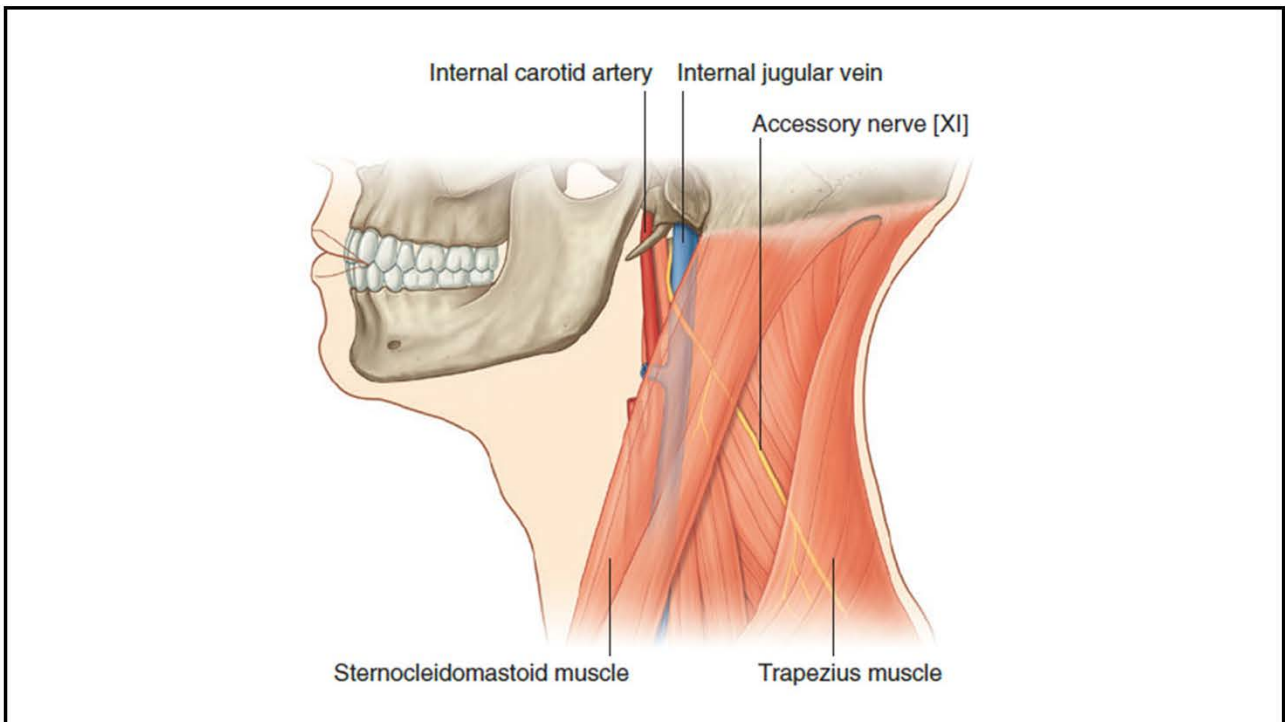
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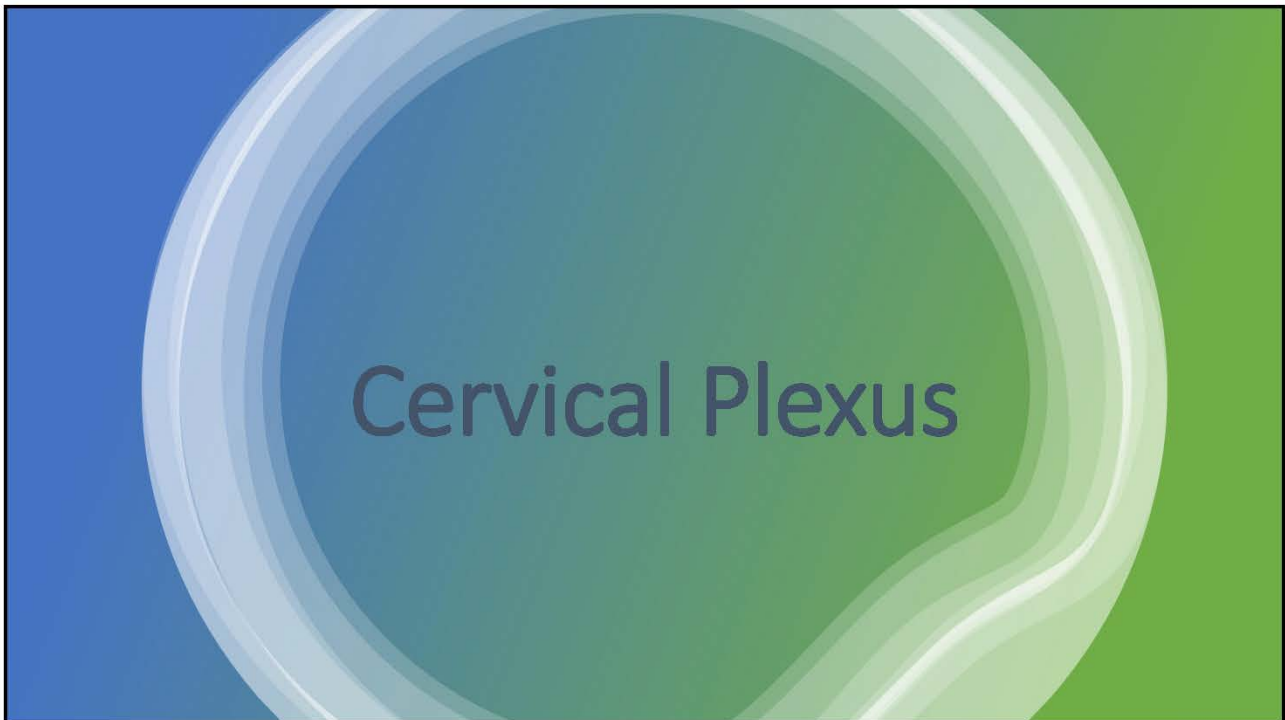
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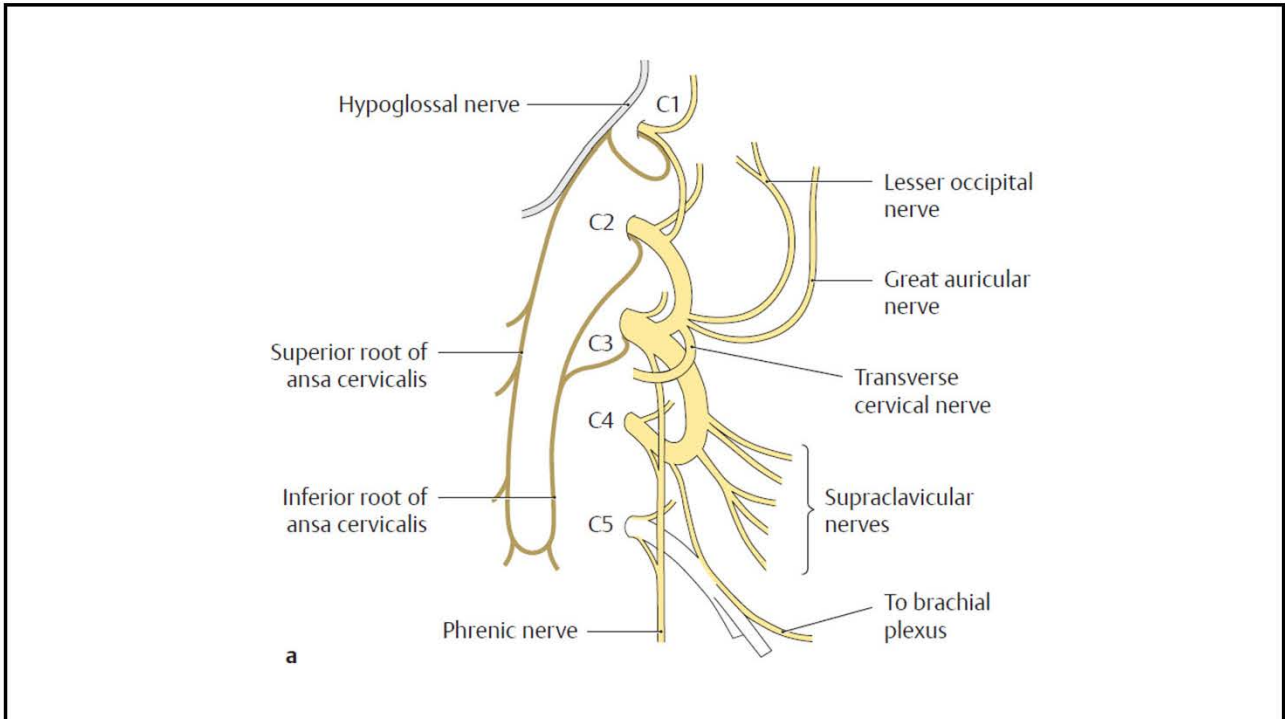
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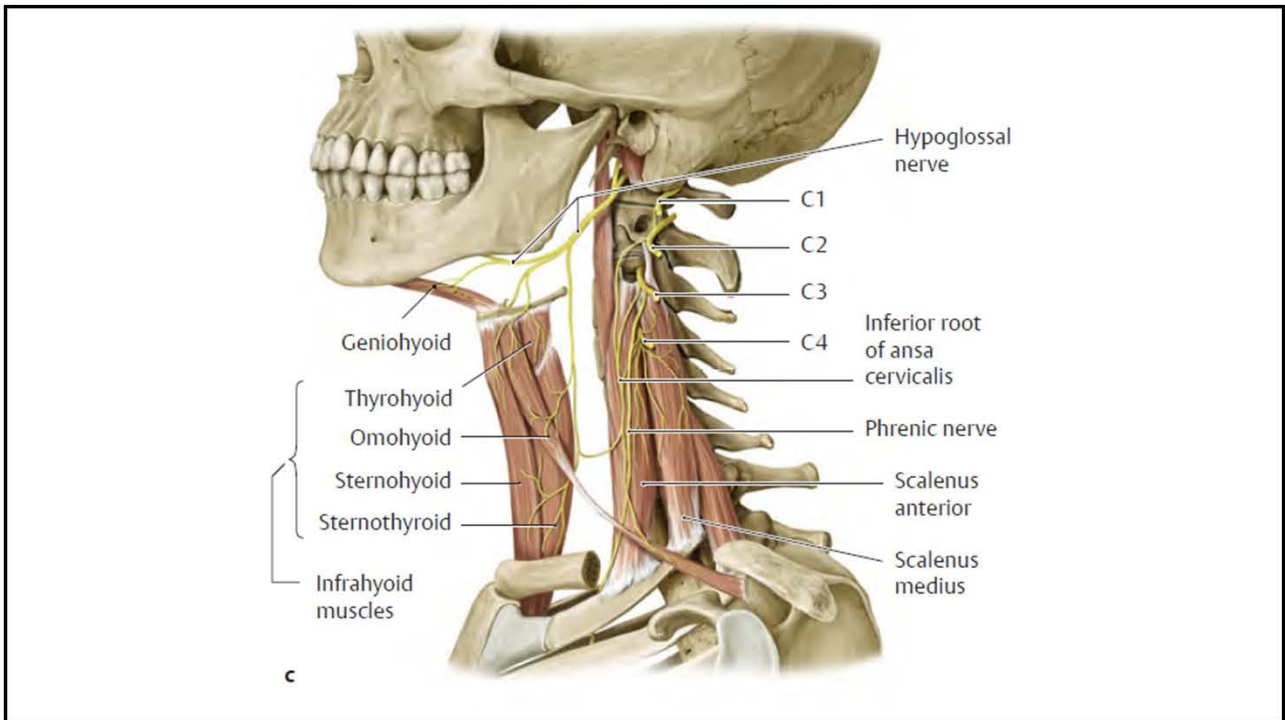
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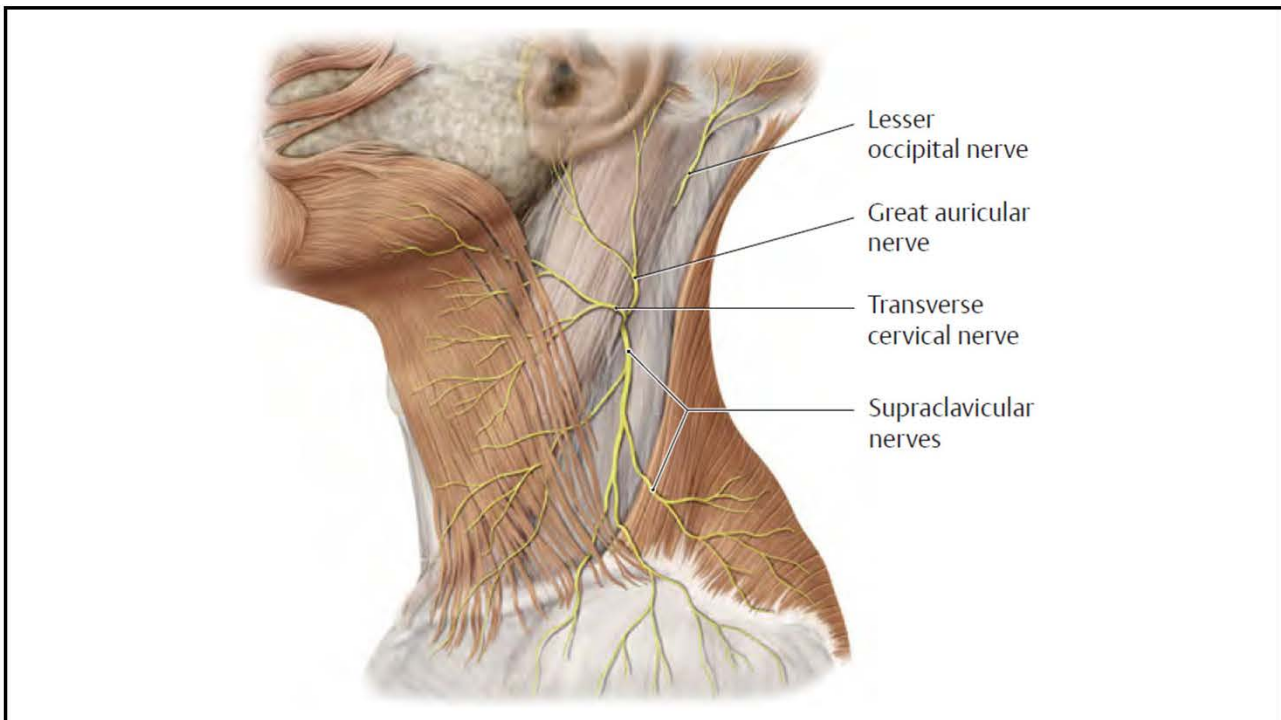
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Anatomic Points

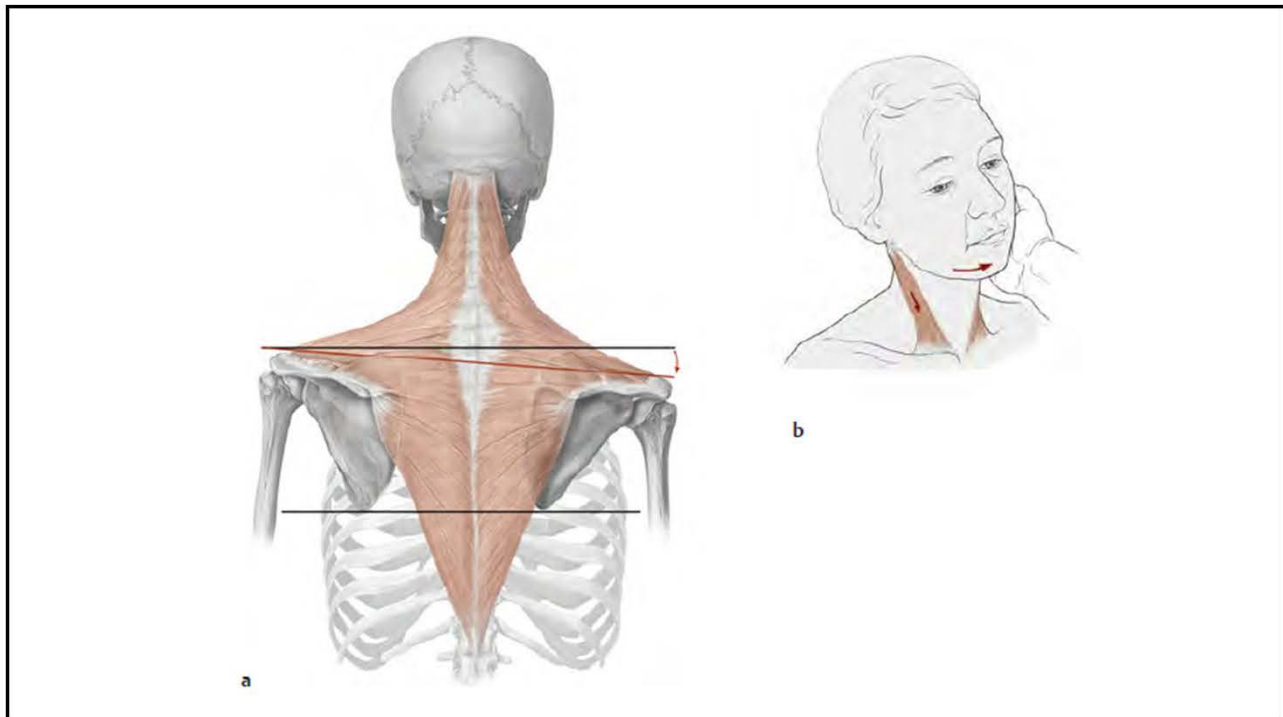
- **Spinal accessory nerve** has a subcutaneous course in posterior triangle and can be damaged during surgery. Injury causes weakness of sternocleidomastoid and trapezius muscles.
- The **phrenic nerve** arises from cervical nerve roots to supply the diaphragm. Irritation of the diaphragm, e.g., because of infection, can cause referred pain to the C3, C4, C5 dermatome (shoulder).

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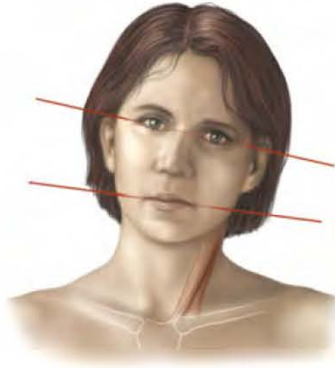
Clinical Points

- **Torticollis**
- In adults, spasm of the SCM can cause pain and turning and tilting of the head (torticollis)
- Congenital torticollis can occur in infants due to a fibrous tissue tumor in the SCM that develops in
- utero
- Head bends to affected side and face turns away
- Facial asymmetry can occur, because of growth retardation on affected side

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D Left-sided muscular torticollis (after Anschütz)



E Retrosternal goiter (after Heggin)

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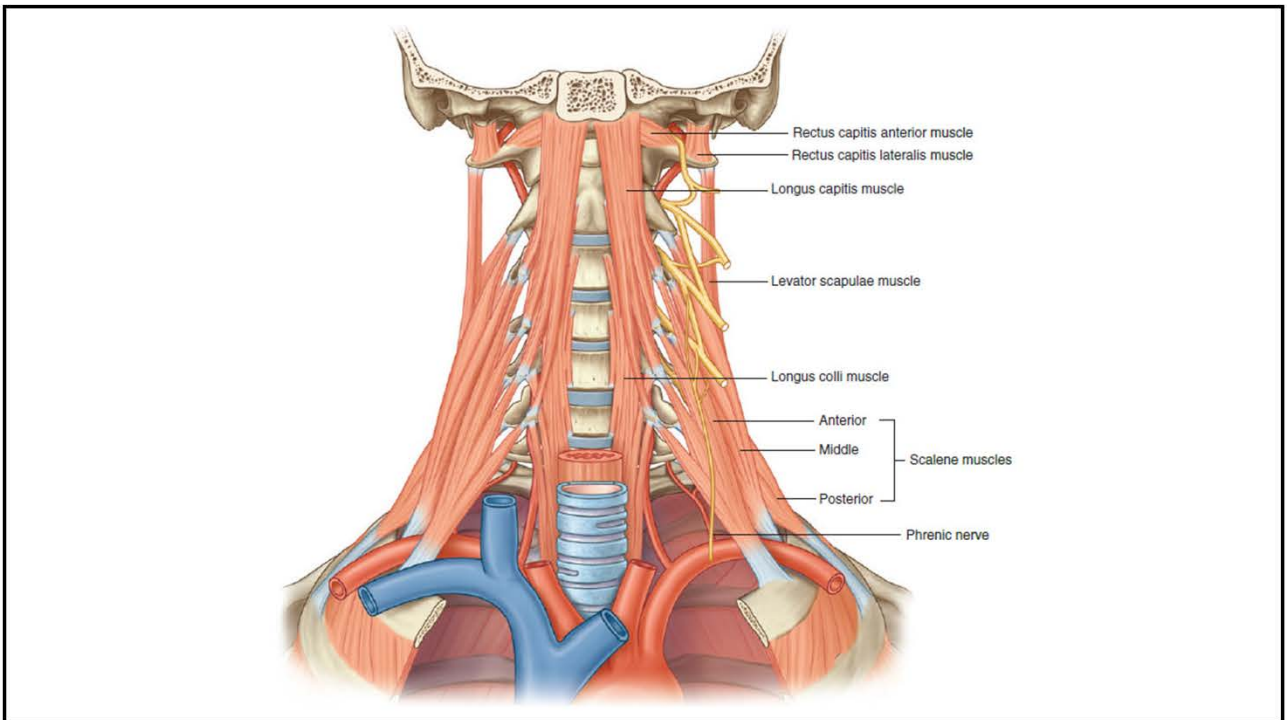
Clinical Points

- **Thoracic outlet syndrome**
- Caused by compression of the subclavian artery, vein, and roots of the brachial as they emerge from the root of the neck.
- Patient may complain of pain, paresthesia in the arm as a result of nerve compression; pallor, coldness, and pain in the arm as a result of arterial compression, or swelling in the arm as a result of decreased venous and lymphatic drainage.
- Common cause is the presence of a C7 cervical rib

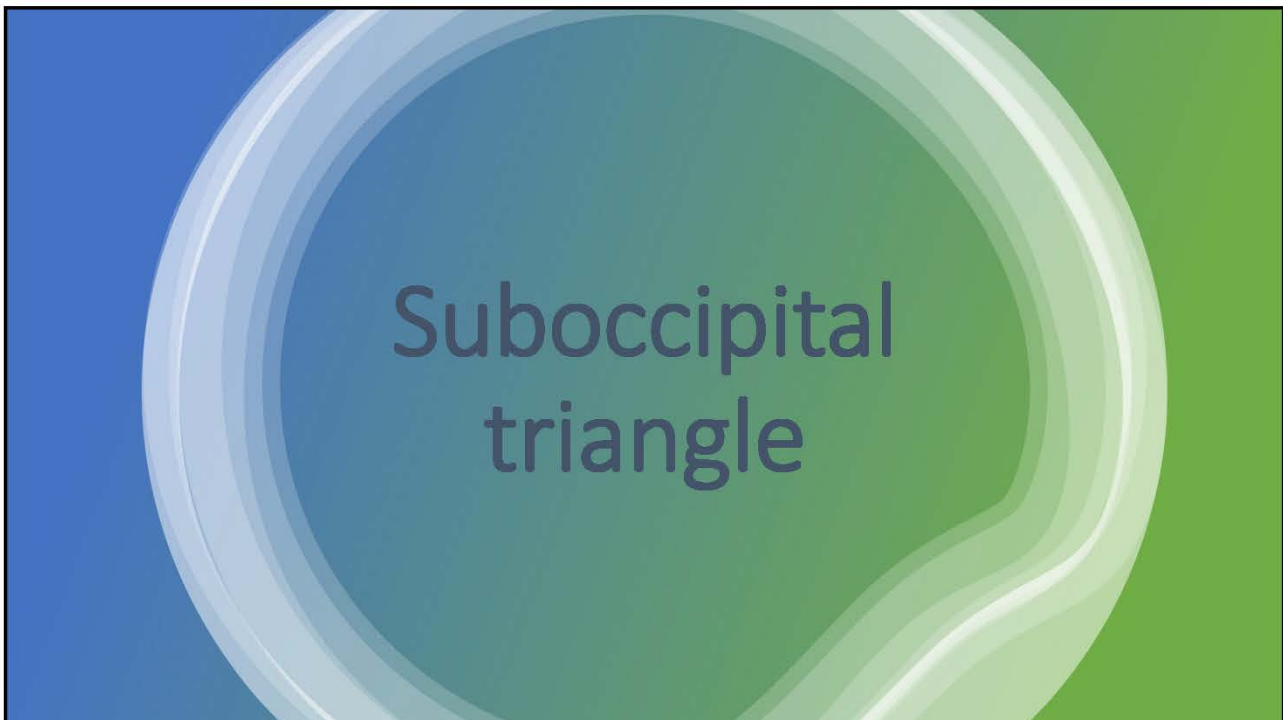
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Prevertebral and lateral vertebral muscles

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Suboccipital region

- Inferior to the occiput, deep to the trapezius and semispinalis capitis, overlying C1 and C2

Muscles

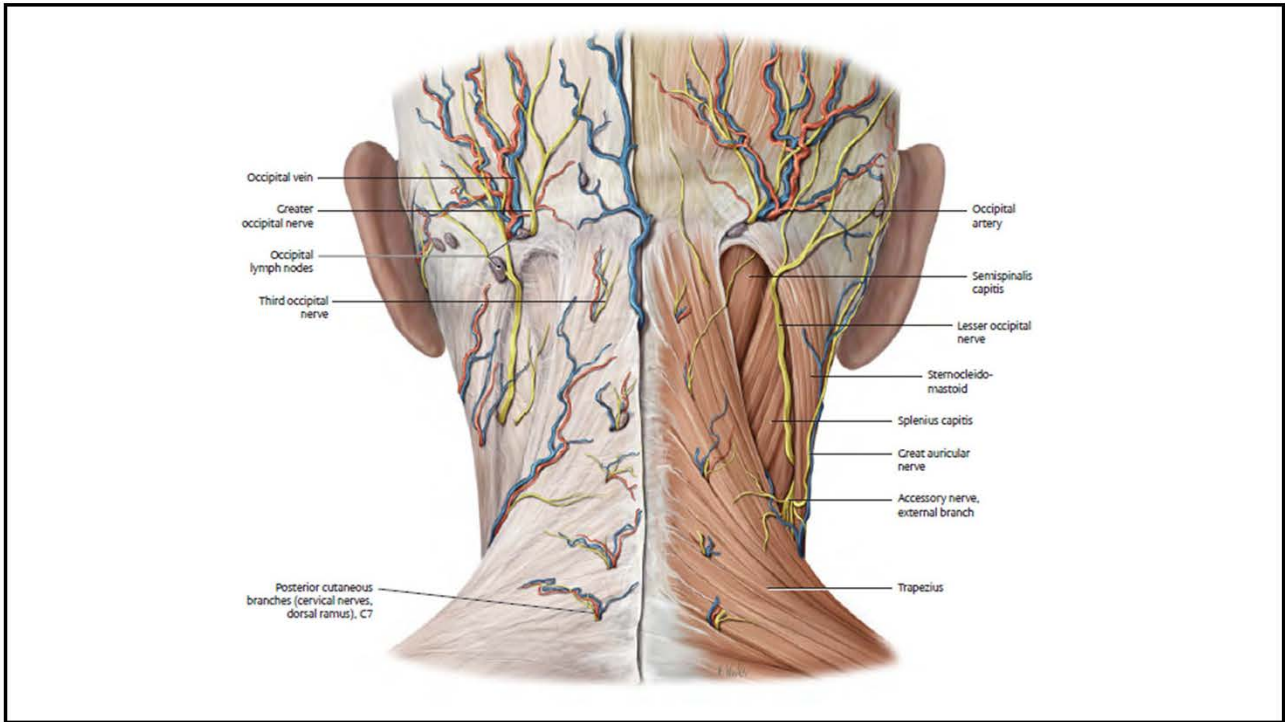
- Rectus capitis posterior minor and major
- Obliquus capitis superior and inferior
- All laterally flex, extend, and rotate the head
- All supplied by the suboccipital nerve (dorsal ramus of C1)

Contains the dorsal rami of C1-C4

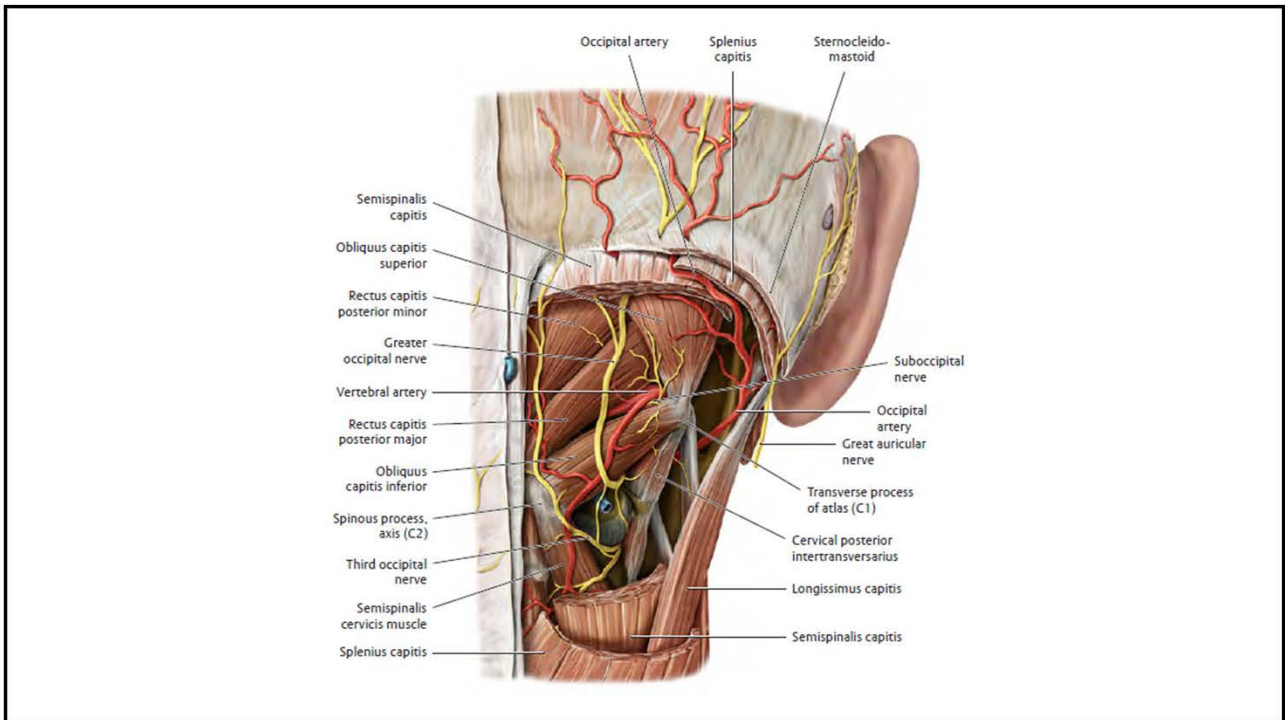
Suboccipital triangle

- Contains the vertebral artery, suboccipital nerve and suboccipital venous plexus.
- Bounded by rectus capitis posterior major, obliquus capitis superior and obliquus capitis inferior, floor-atlantooccipital membrane, roof-semispinalis capitis

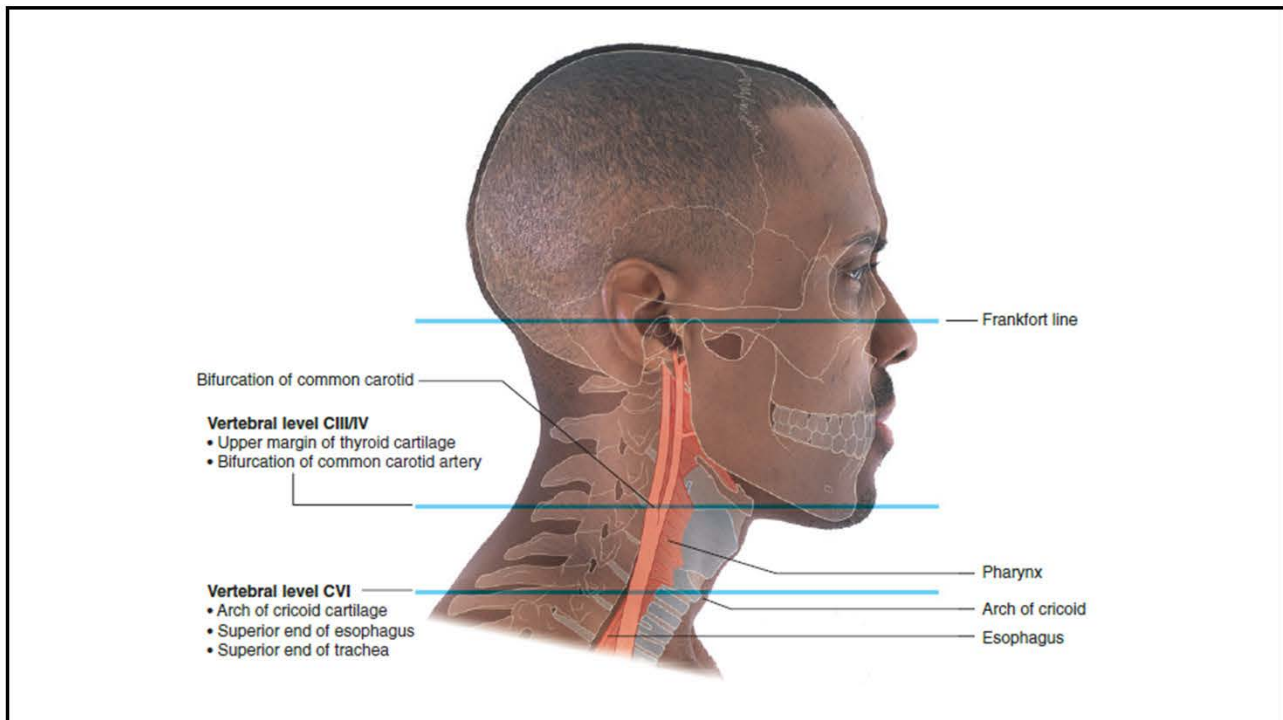
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If you have any
question:



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Lab sessions

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