

The Neck

頸部區域

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Outline:

Bone of neck

Fascia of neck

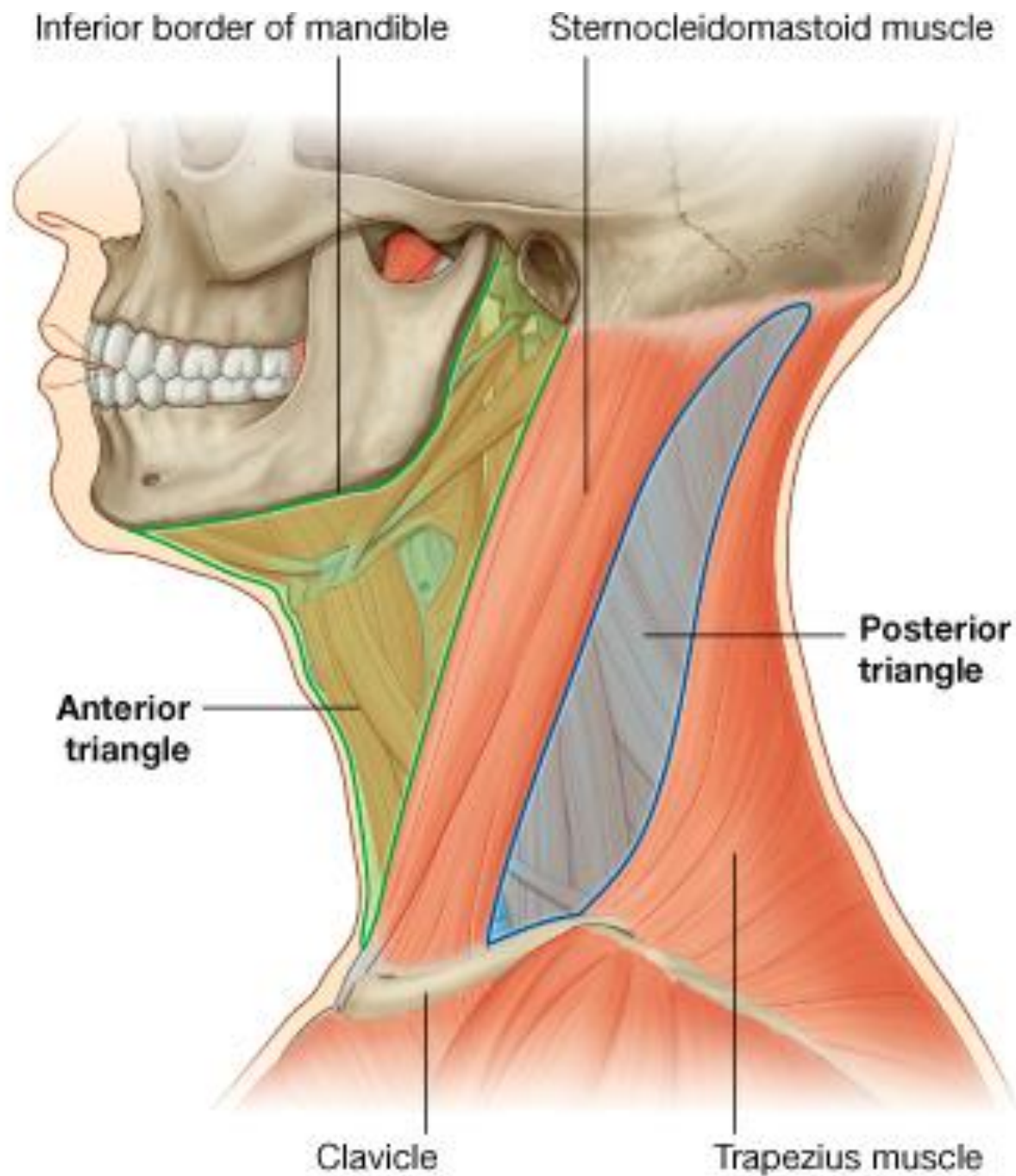
Superficial and lateral **muscles**

Triangles of neck

Deep structures of neck

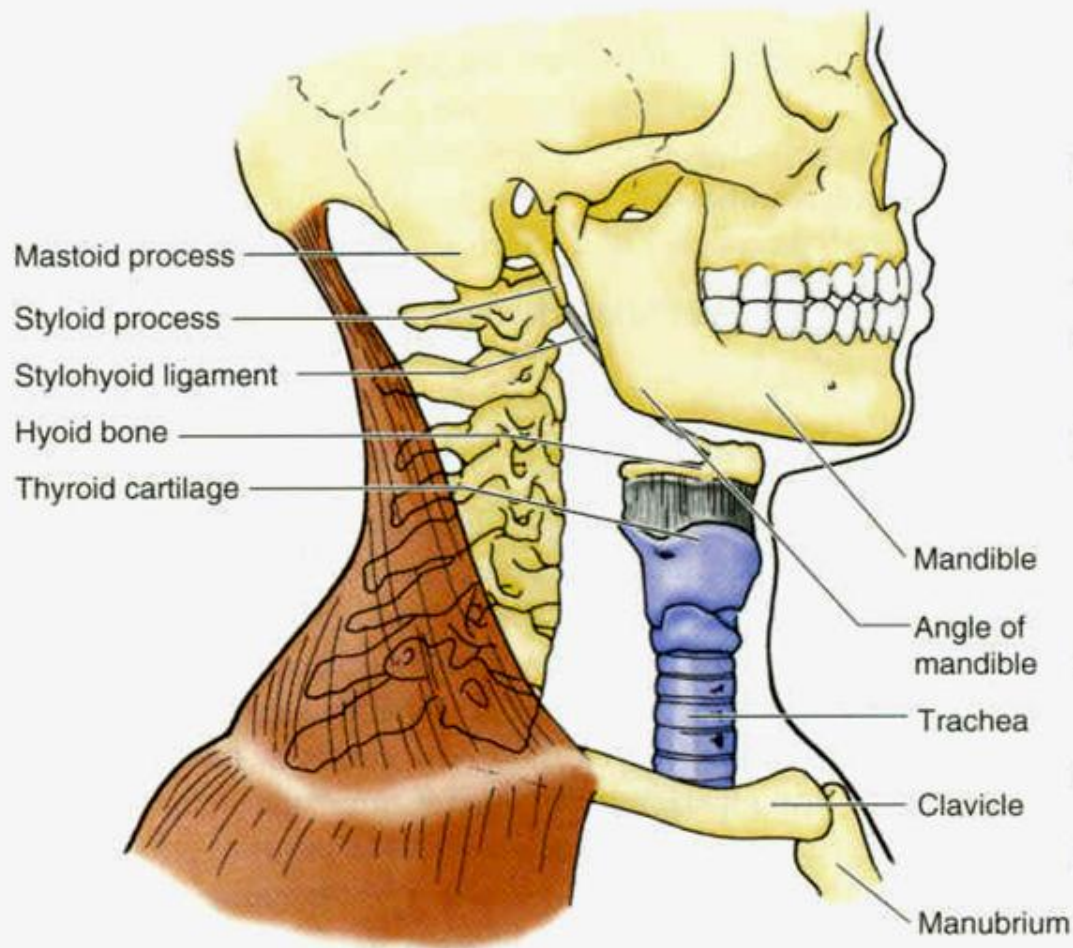
Viscera of neck

Root of the neck

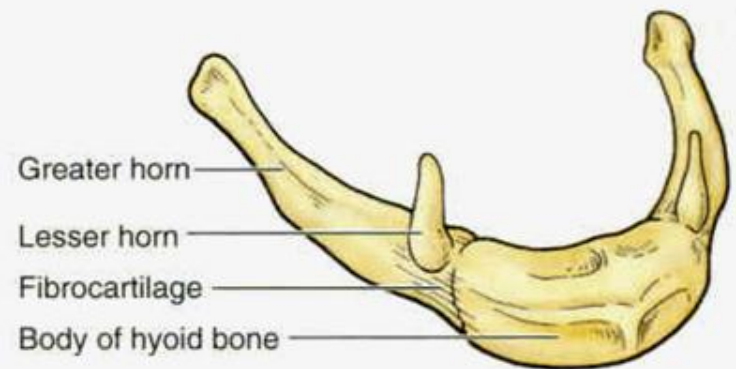


Bones of the Neck

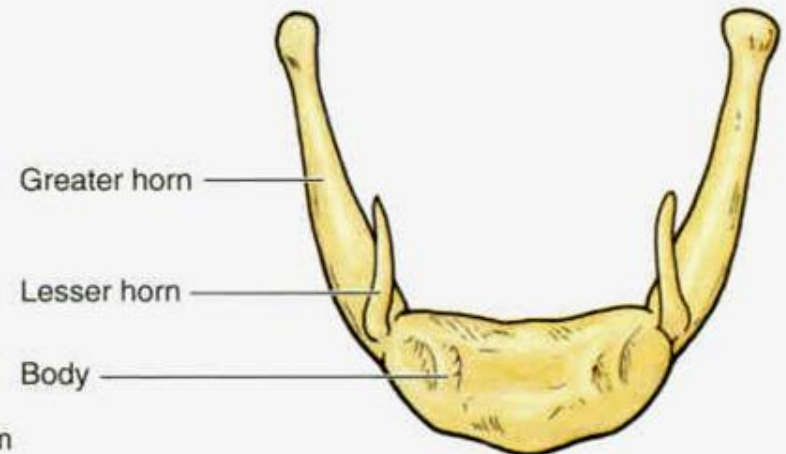
1. **cervical vertebrae** – transverse foramen
(**vertebral vein & artery** – *except for C7*)
C1 (**atlas**); C2 (**axis**) – dens (odontoid process);
C7 (**vertebra prominens**)
2. **hyoid bone** –
body
greater horn (**thyrohyoid membrane**)
lesser horn (**stylohyoid ligament**)
3. **clavicles**
4. **manubrium of the sternum**



(A) Lateral View



(B) Right anterolateral view of hyoid bone



(C) Anterosuperior view of hyoid bone

Figure 8.3. Bones and cartilages of the neck. **A.** Lateral view of the head and neck. Observe the bony and cartilaginous landmarks: vertebrae, mastoid and styloid processes, angle of the mandible (lower jaw), hyoid bone, thyroid cartilage, clavicle (collar bone), and manubrium of the sternum. **B.** Antero-lateral and **(C)** anterosuperior views of the hyoid bone.

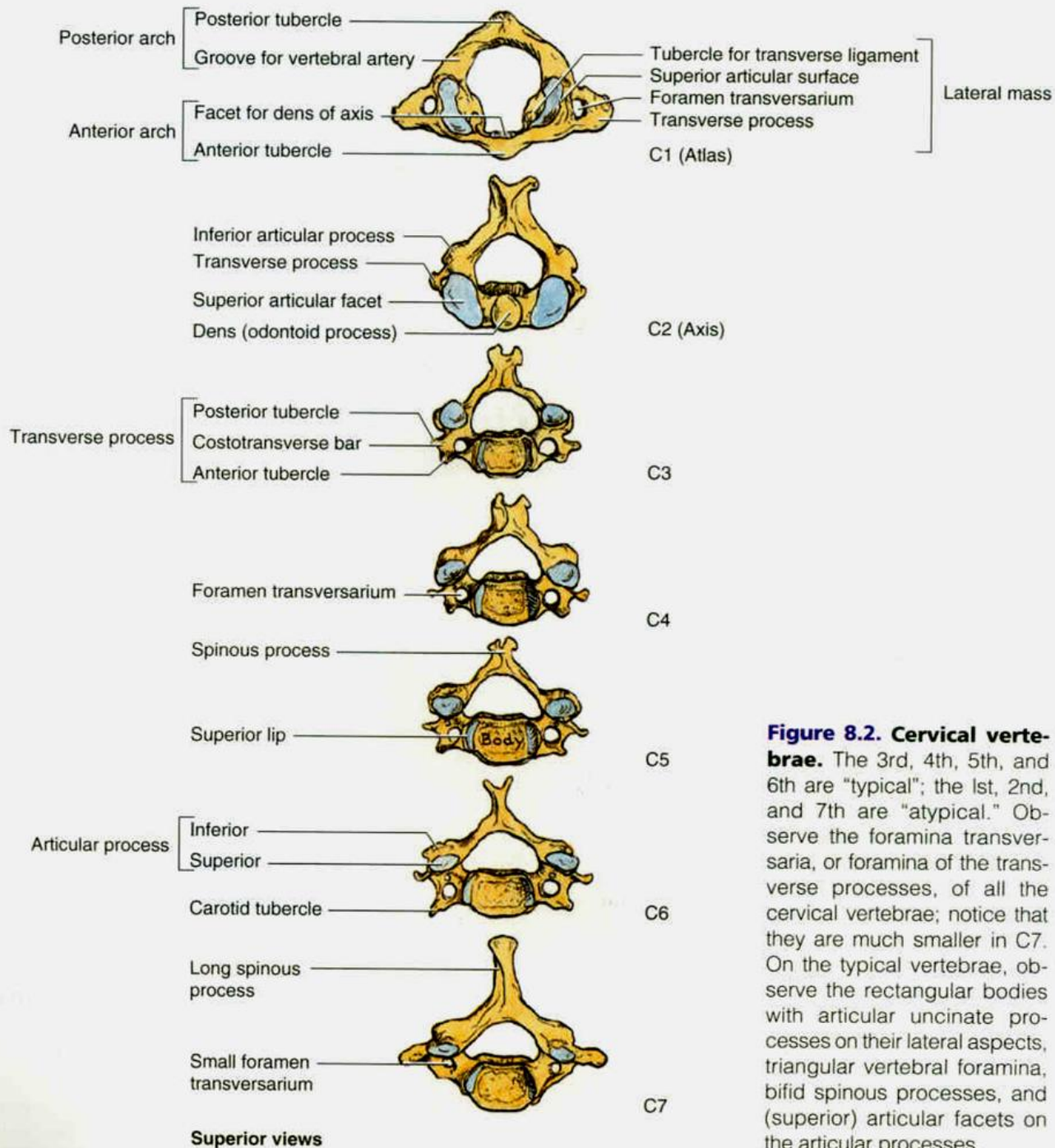


Figure 8.2. Cervical vertebrae. The 3rd, 4th, 5th, and 6th are "typical"; the 1st, 2nd, and 7th are "atypical." Observe the foramina transversaria, or foramina of the transverse processes, of all the cervical vertebrae; notice that they are much smaller in C7. On the typical vertebrae, observe the rectangular bodies with articular uncinat processes on their lateral aspects, triangular vertebral foramina, bifid spinous processes, and (superior) articular facets on the articular processes.

Fascia of the Neck

Superficial Cervical Fascia

-- subcutaneous connective tissue

platysma muscle

external jugular vein (EJV)

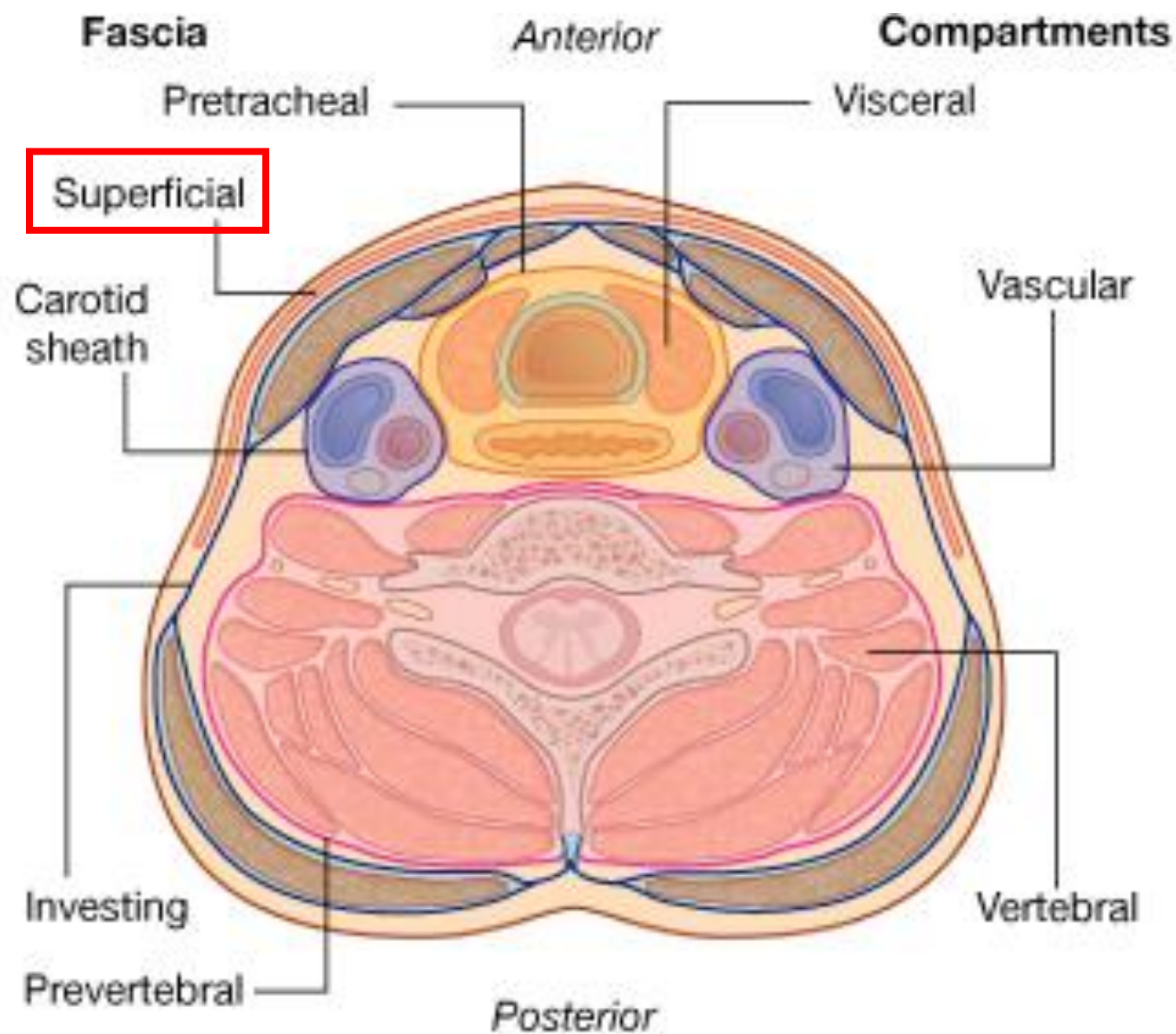
cutaneous nerves

lesser occipital n.

greater auricular n.

transverse cervical n.

supraclavicular ns.



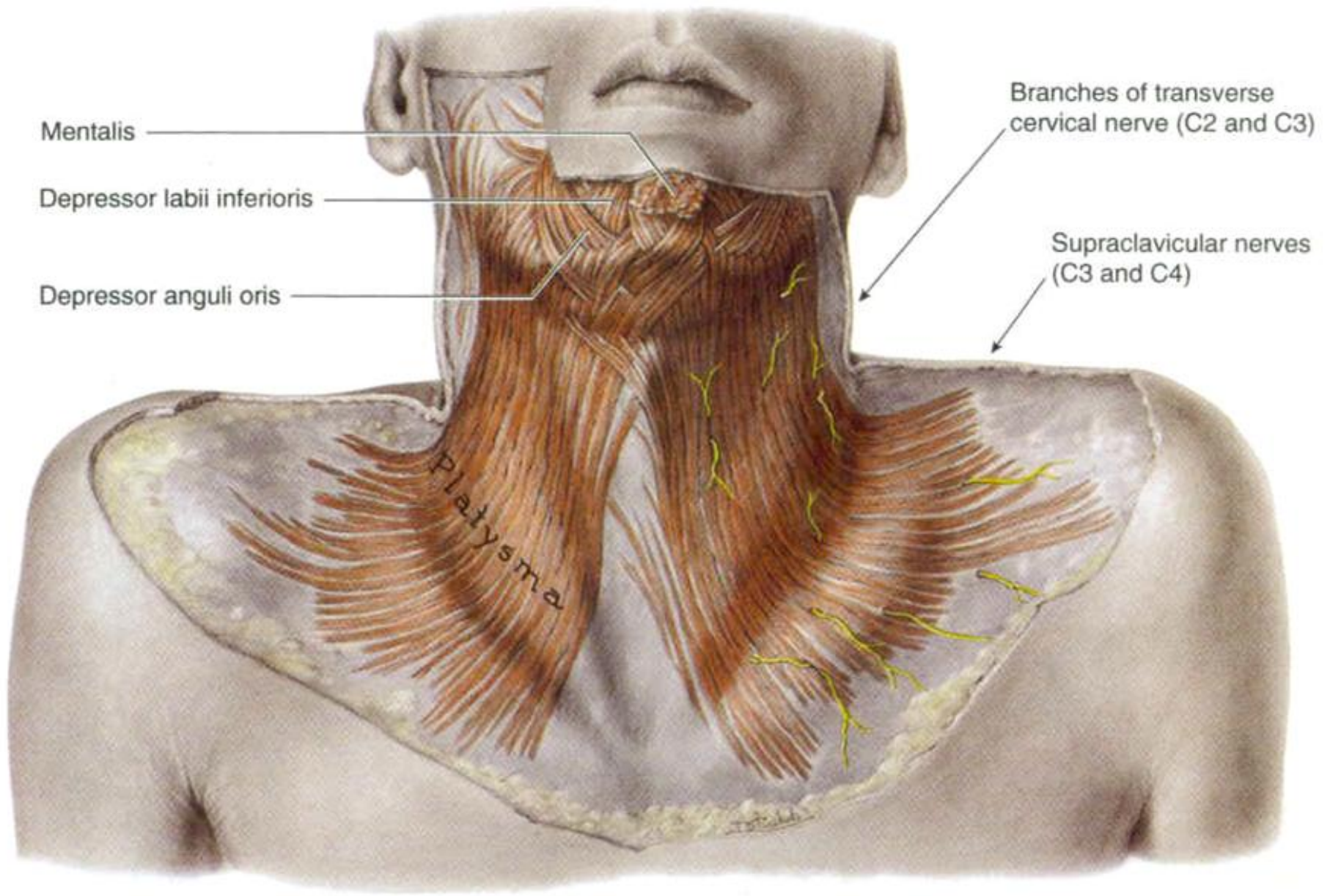


Figure 8.5. Platysma (G. flat plate) muscle. Observe that this thin muscle spreads subcutaneously like a sheet, passes over the clavicles, and is pierced by cutaneous nerves. Much variation is present in the continuity of this muscular sheet.

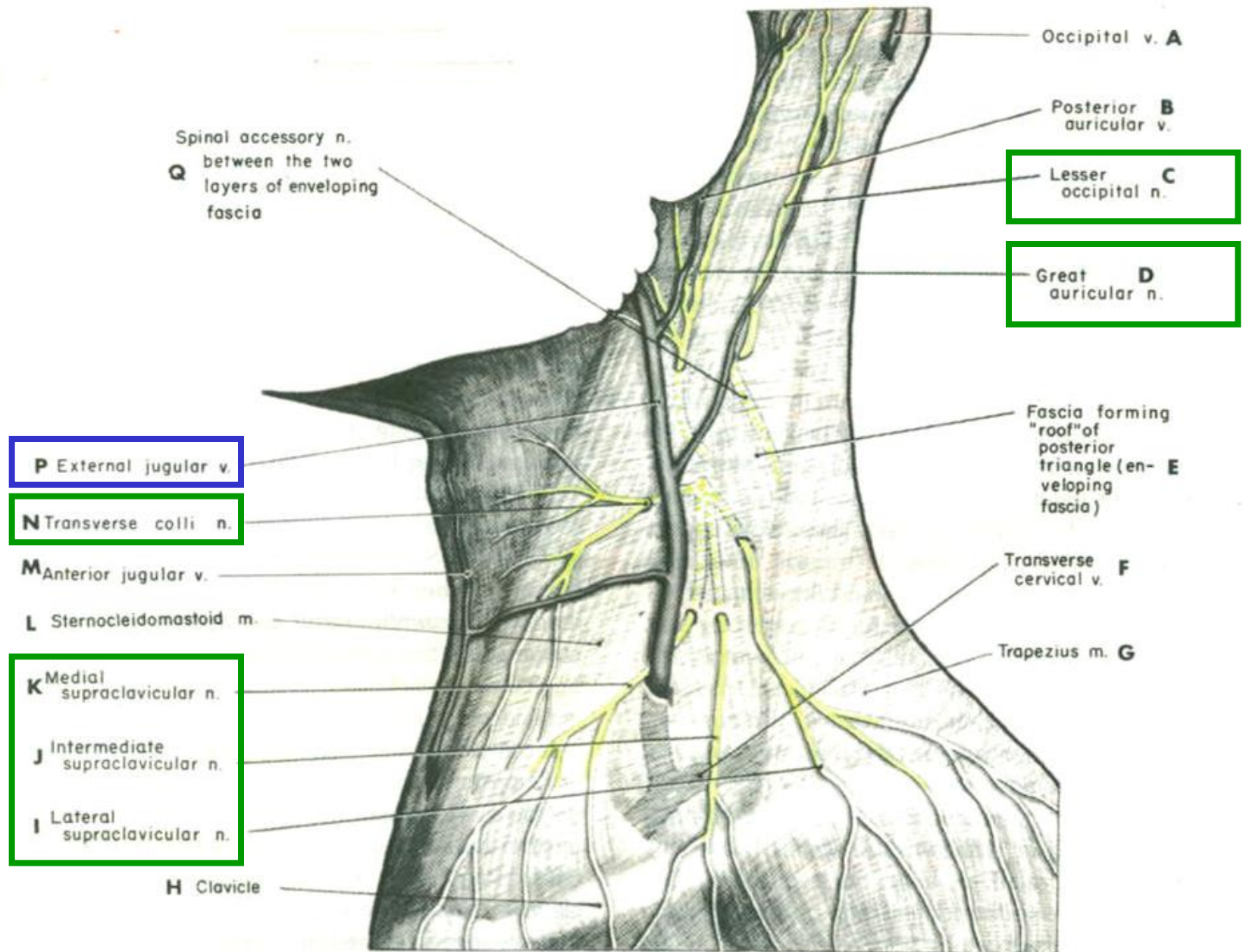


Figure 7-87. Posterior triangle of the neck I. The platysma muscle and superficial fascia have been removed.

Deep Cervical Fascia

1. investing layer

trapezius & SCM ; infrahyoid muscles

2. prevertebral layer

muscles associated with vertebral column

extend the **axillary sheath**

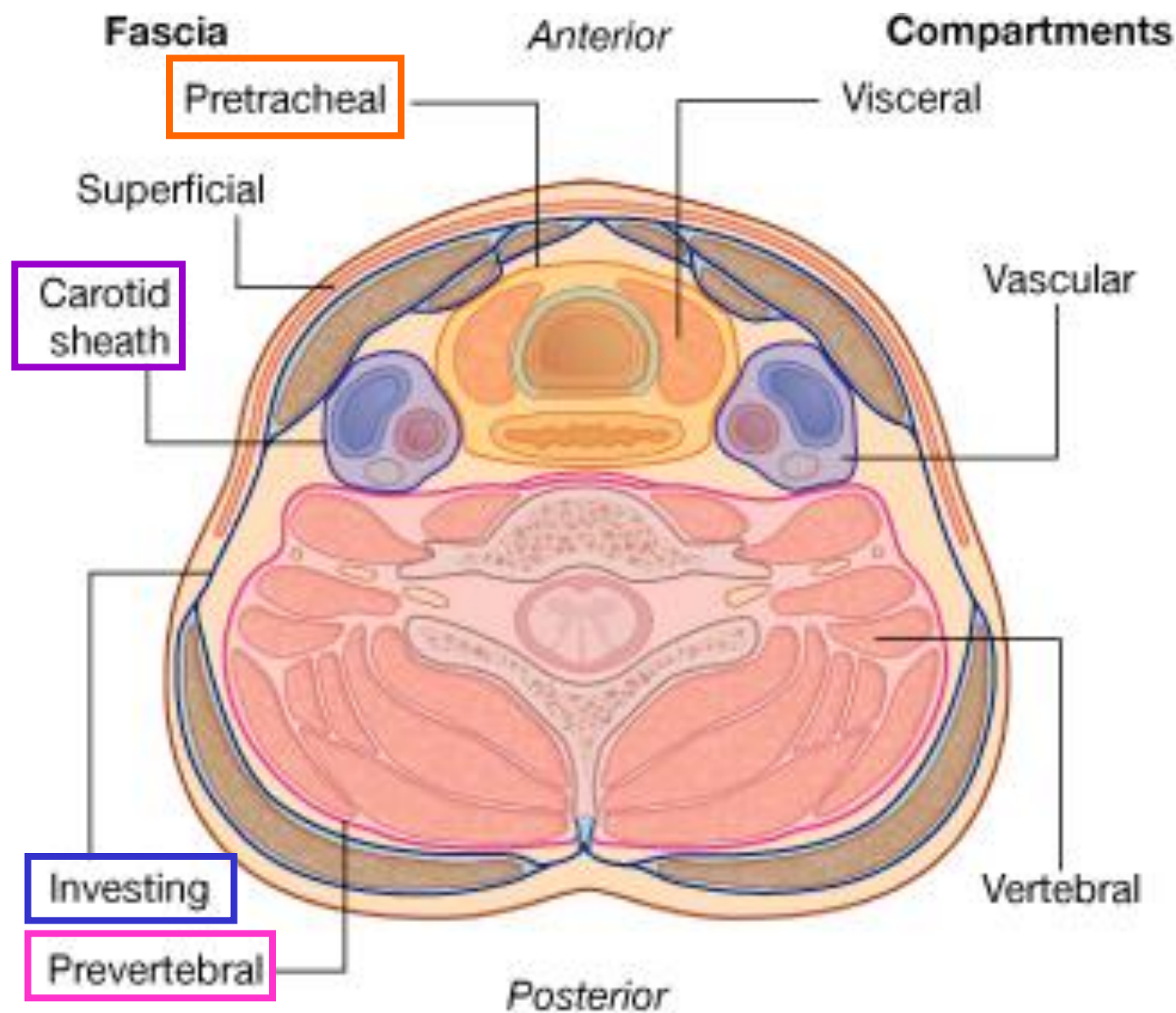
3. pretracheal layer

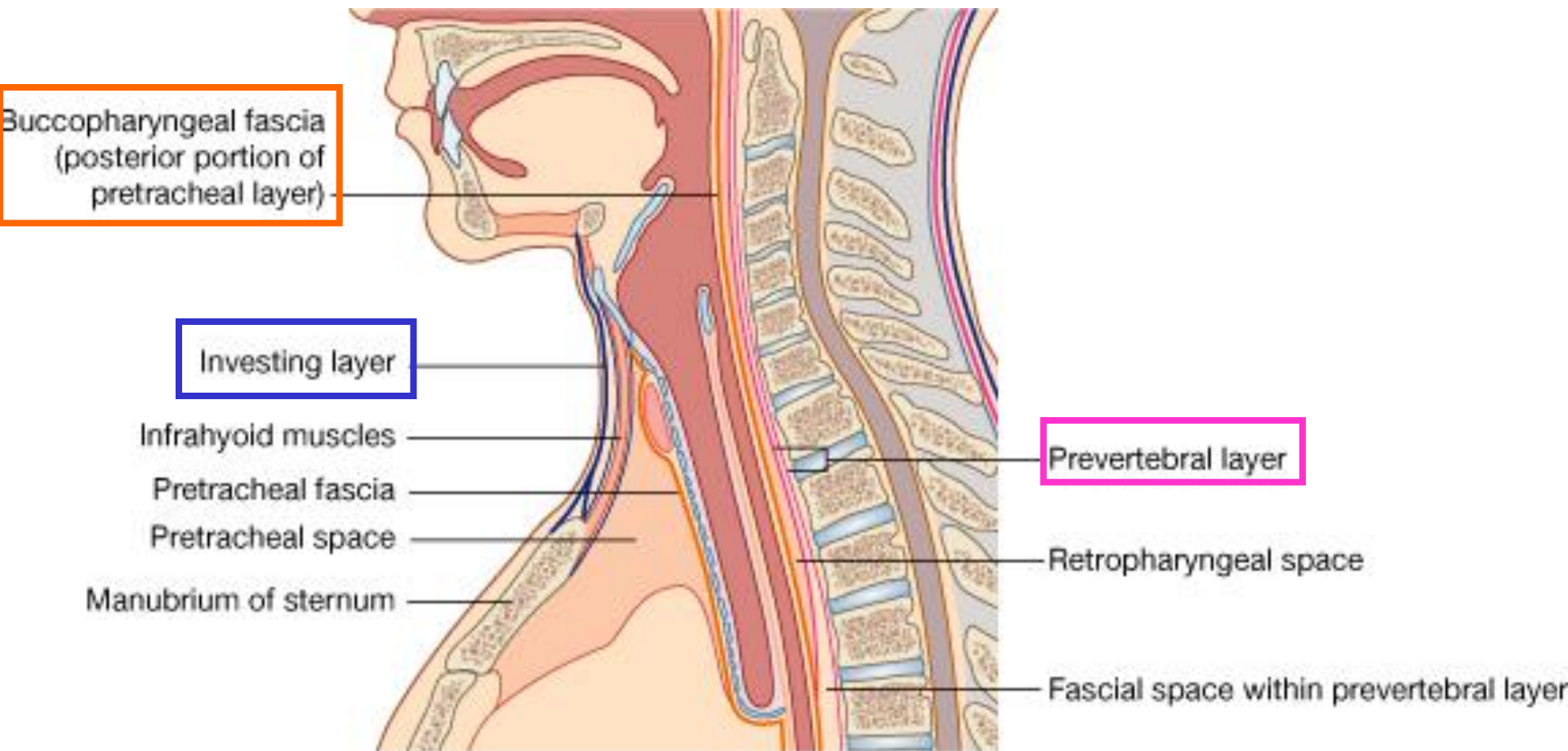
thyroid gland, trachea and esophagus

bucco-pharyngeal fascia (post. portion of pretracheal layer)

4. **carotid sheath**

(common & internal carotid a., IJV & vagus n.)





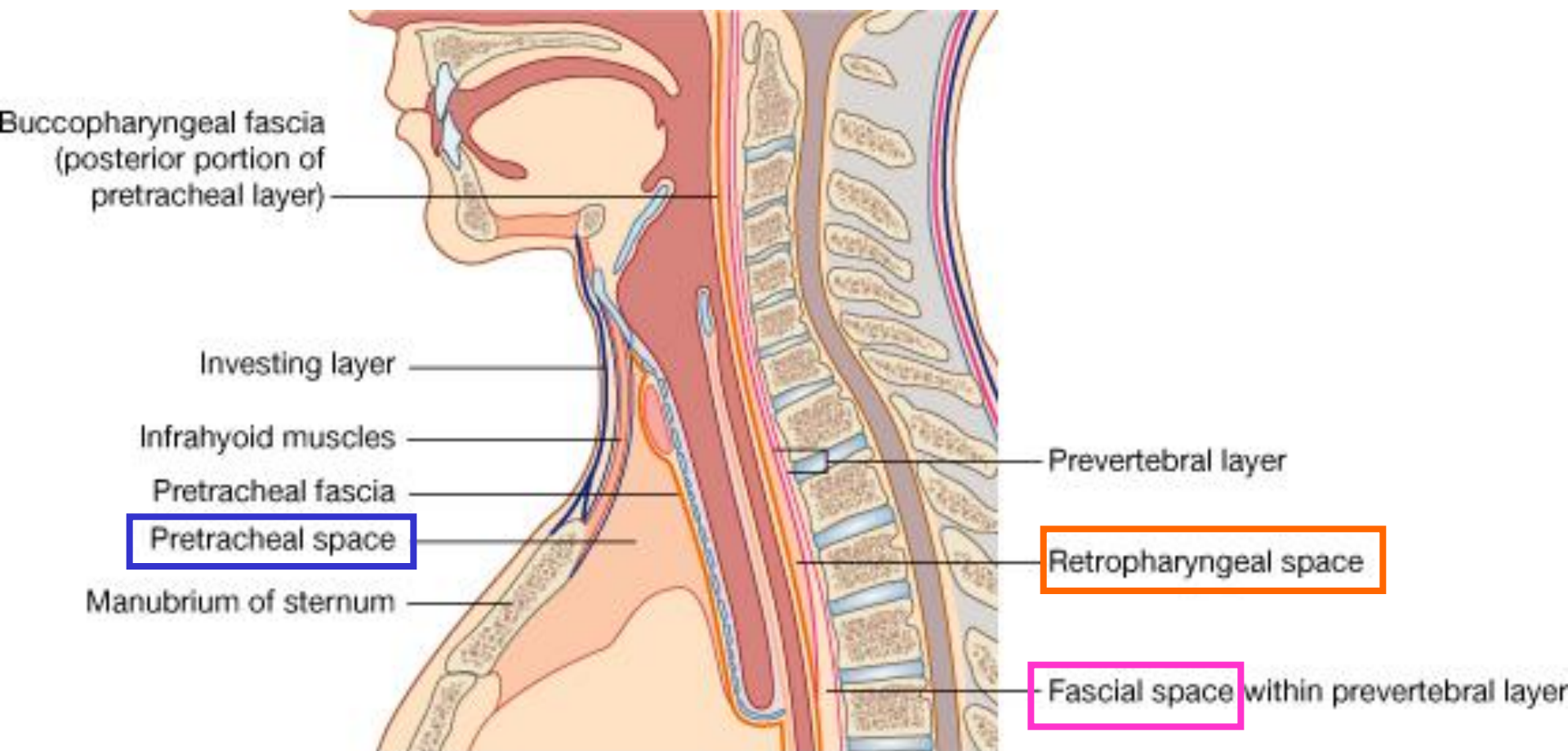
Fascial spaces

1. **pretracheal space**

2. **retropharyngeal space**

permits movement of pharynx,
esophagus & trachea during swallowing

3. **third space**: within prevertebral layer



Superficial venous drainage of Neck

External jugular vein:

(posterior auricular vein + retromandibular vein)=

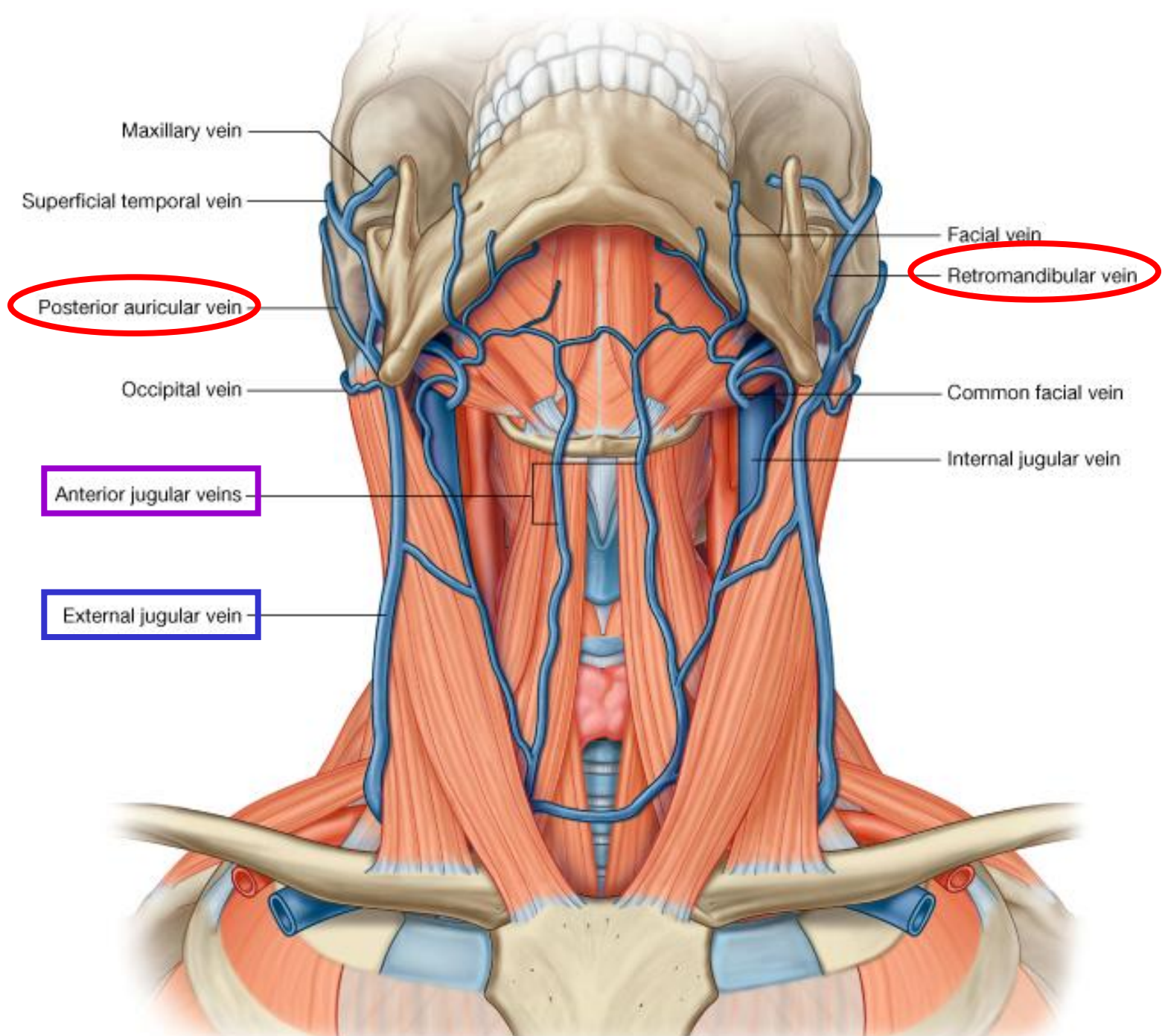
EJV → subclavian v.

Anterior jugular vein:

(on each of the midline of the neck)

→ subclavian v. or EJV

Connected by a **jugular venous arch**



Triangles of the Neck

Posterior triangle :

boundary – SCM, trapezius & clavicle

Inferior belly of omohyoid muscle

occipital triangle (sup.)

subclavian triangle (inf.)

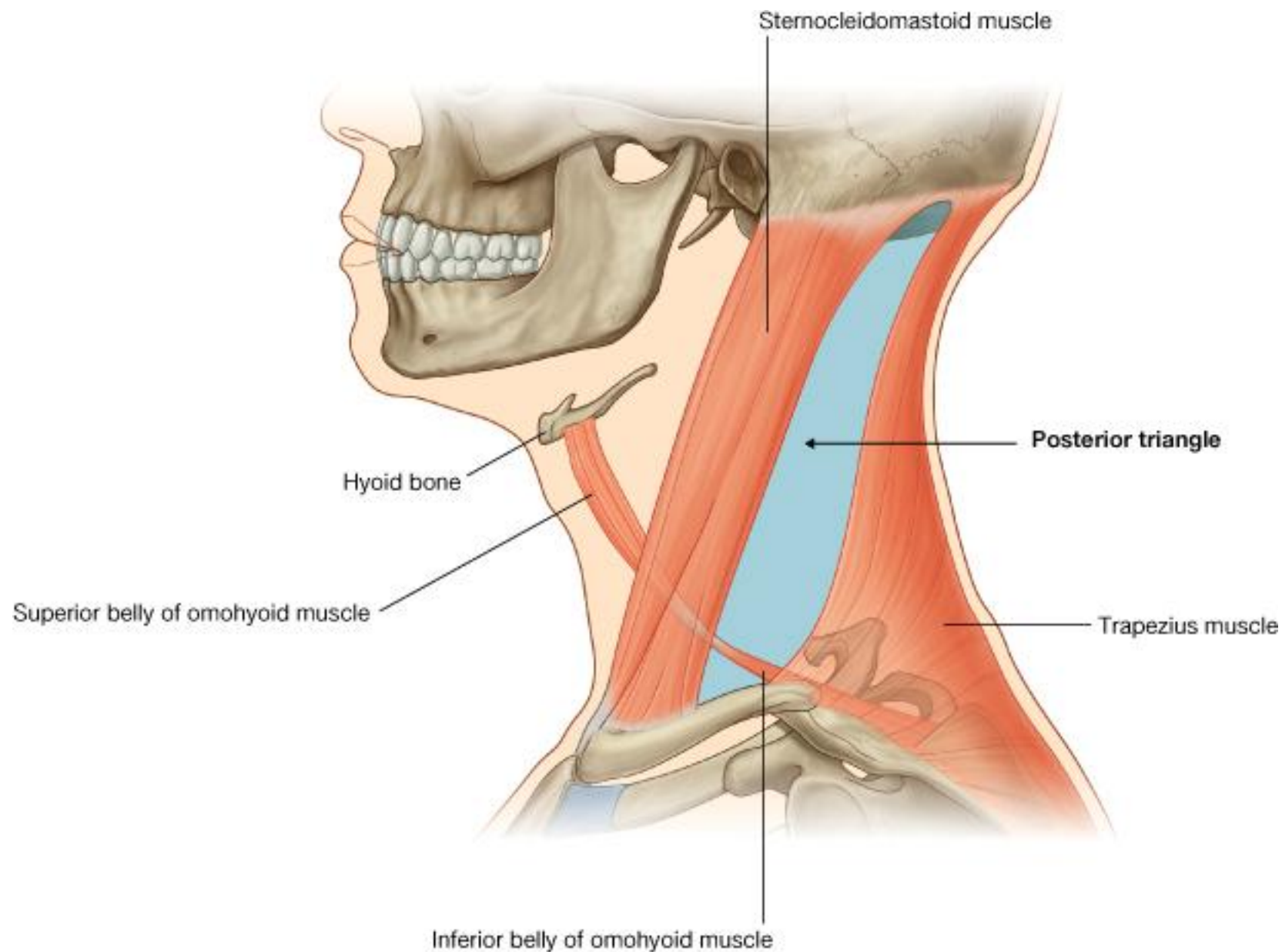
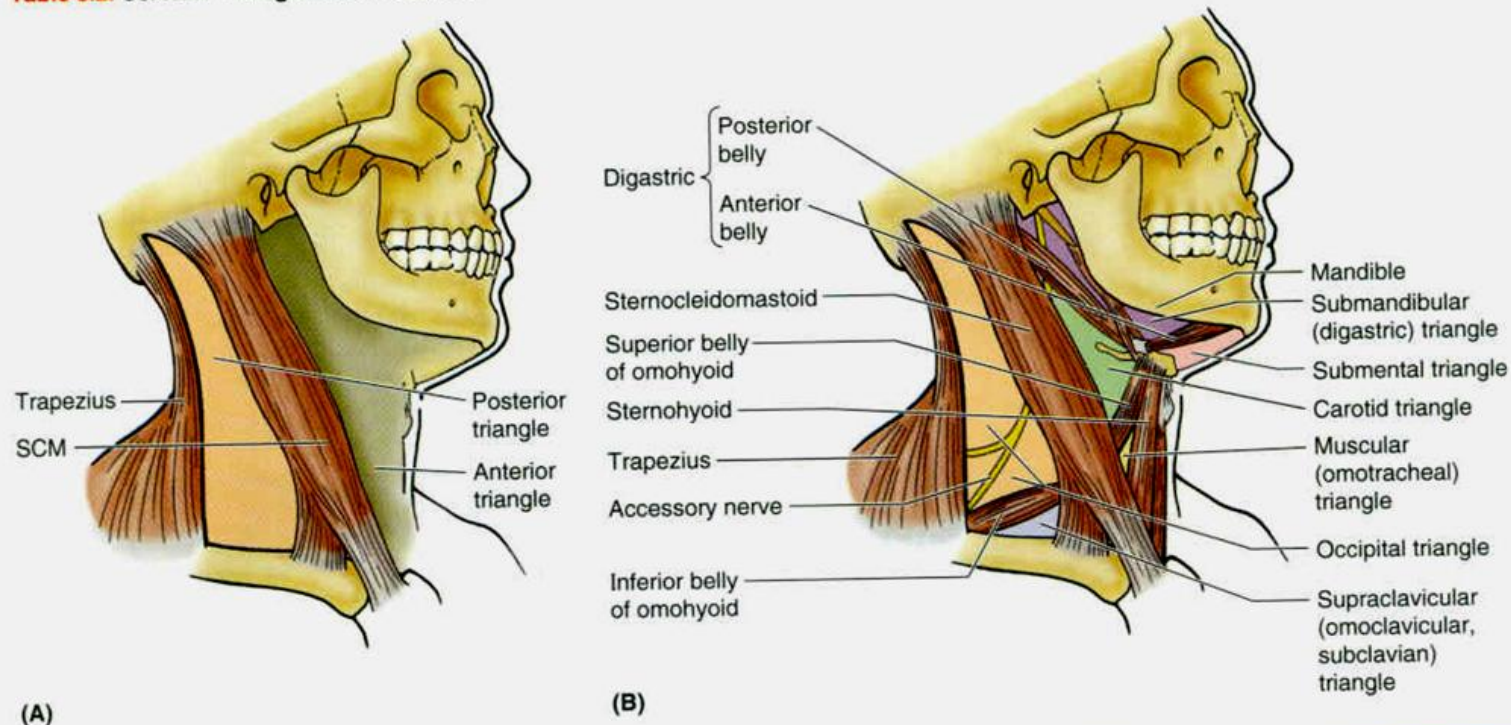


Table 8.2. Cervical Triangles and Contents



(A)

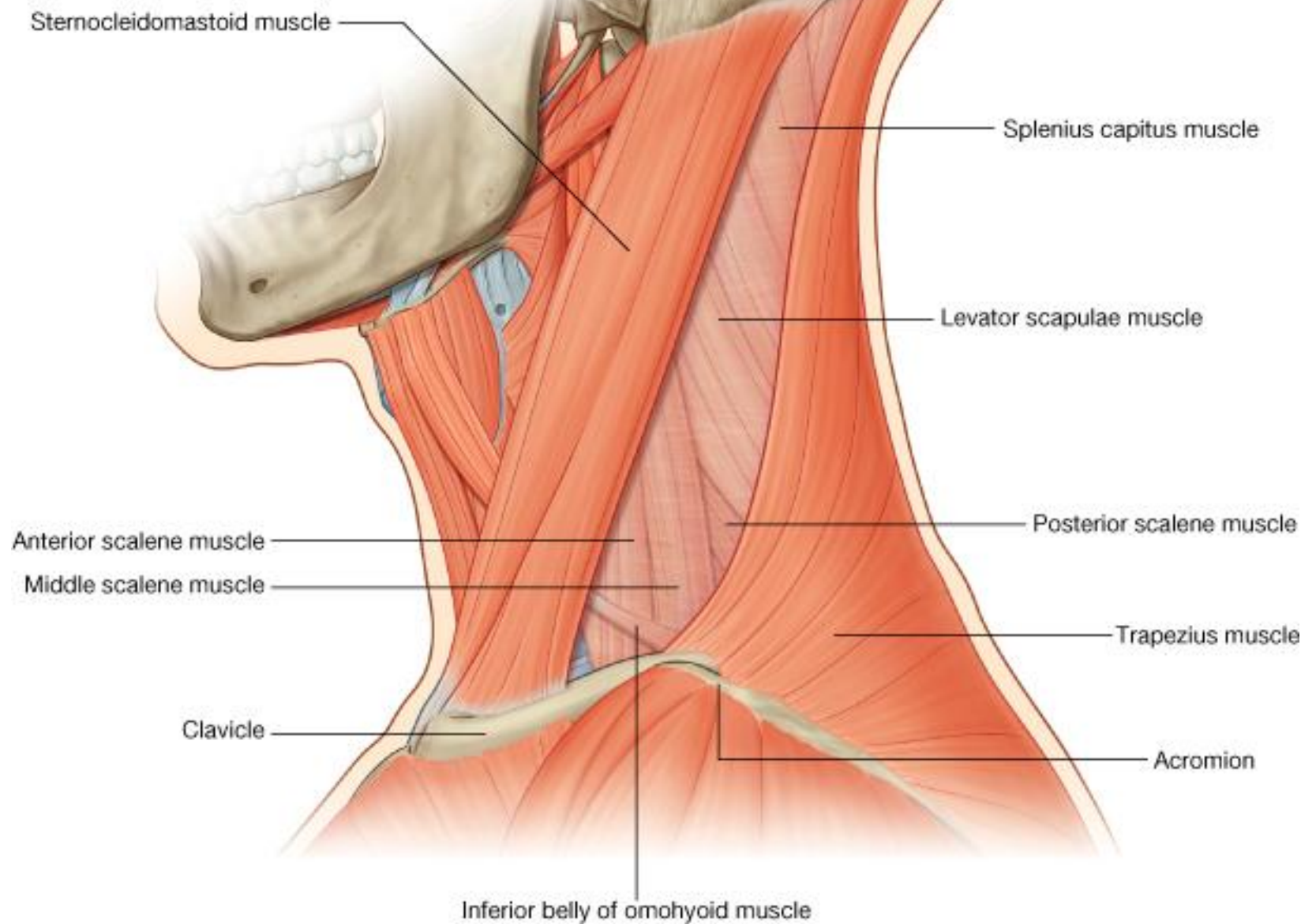
(B)

Posterior Triangle	Main Contents
Occipital triangle	Part of external jugular vein, posterior branches of cervical plexus of nerves, accessory nerve, trunks of brachial plexus, transverse cervical artery, cervical lymph nodes
Supraclavicular (omoclavicular, subclavian) triangle	Subclavian artery (3rd part), part of subclavian vein (sometimes), suprascapular artery, supraclavicular lymph nodes

Anterior Triangle	Main Contents
Submandibular (digastric) triangle	Submandibular gland almost fills triangle; submandibular lymph nodes, hypoglossal nerve, mylohyoid nerve, parts of facial artery and vein
Submental triangle	Submental lymph nodes, small veins that unite to form anterior jugular vein
Carotid triangle	Carotid sheath containing common carotid artery and its branches, internal jugular vein and its tributaries, and vagus nerve; external carotid artery and some of its branches; hypoglossal nerve and superior root of ansa cervicalis; accessory nerve; thyroid, larynx, and pharynx; deep cervical lymph nodes; branches of cervical plexus
Muscular (omotracheal) triangle	Sternothyroid and sternohyoid muscles, thyroid and parathyroid glands

Muscles in the posterior Δ

- splenius capitis
- levator scapulae
- **scalenus posterior**
- **scalenus medius**
- **scalenus anterior**
- omohyoid (inferior belly)



Vessels in the posterior Δ

Veins : **EJV** (*retromandibular v. + post.auricular v.*)

crosses SCM $\rightarrow$ posterior Δ

subclavian vein (+ *IJV $\rightarrow$ brachiocephalic vein*)

Arteries : **transverse cervical artery**

superficial branch + spinal root of CN XI

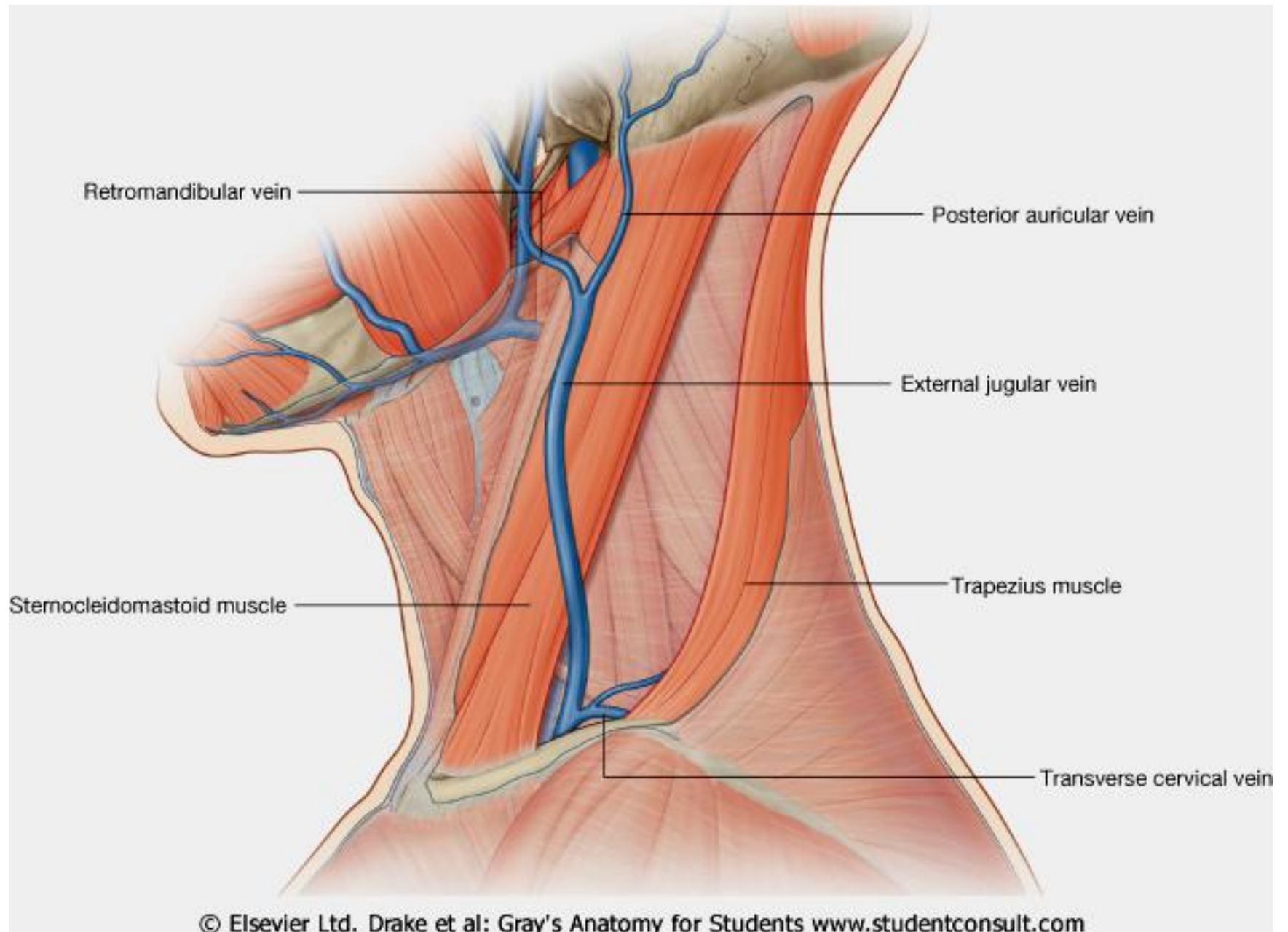
$\rightarrow$ **trapezius**

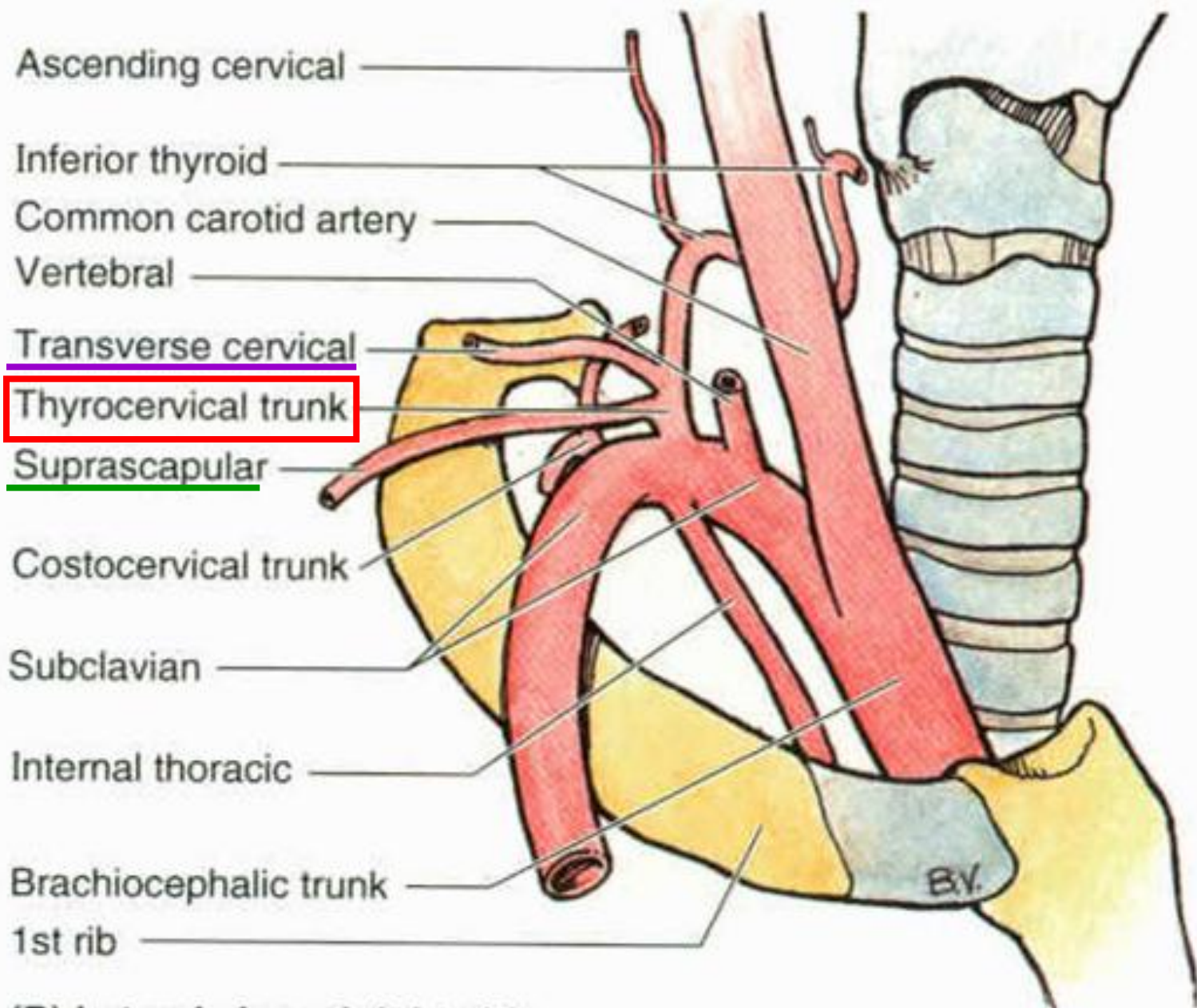
deep branch + dorsal scapular nerve

$\rightarrow$ **rhomboid muscles**

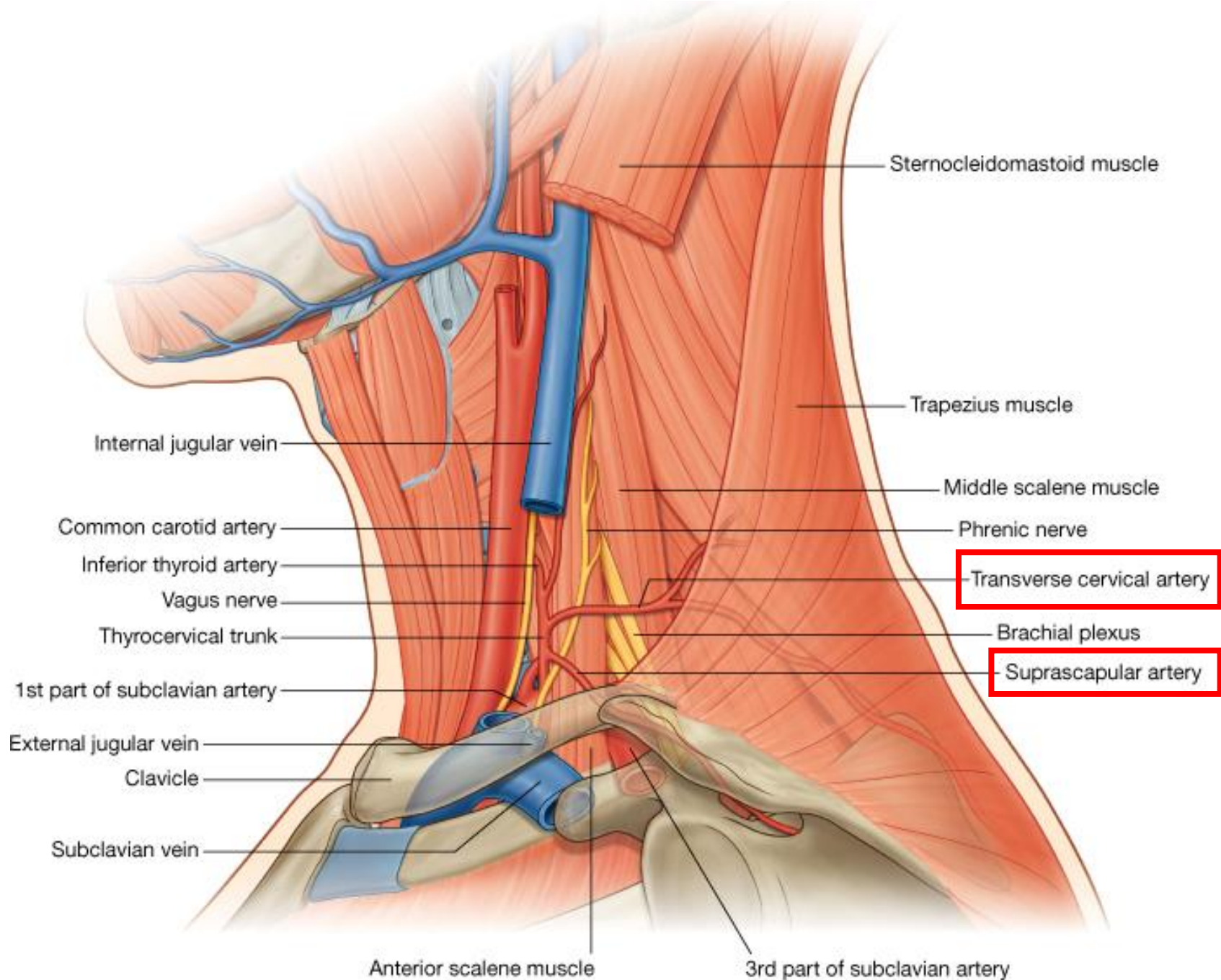
suprascapular artery

$\rightarrow$ supraspinatus & infraspinatus muscles





(B) Lateral view of right side



Nerves in the posterior Δ

Accessory nerve (*spinal root*): SCM & trapezius

Cervical plexus: anterior rami of C2 to C4

(*muscular branches – deep*)

phrenic nerve [C3 + C4 + C5]: ant. surface of ant. scalene
nerves to rectus capitis anterior & lateralis,
nerves to longus coli, longus capitis

(*cutaneous branches - superficial*) (**nerve point of the neck**)

lesser occipital nerve (C2)

great auricular nerve (C2 + C3)

transverse cervical nerve (C2 + C3)

supraclavicular nerve (C3 + C4)

Nerves in the posterior Δ

Brachial plexus: anterior rami of C5 to T1

dorsal scapular nerve → rhomboid ms

long thoracic nerve → serratus anterior m.

suprascapular nerve → supraspinatus & infraspinatus ms.

Transverse cervical nerve

Lesser occipital nerve

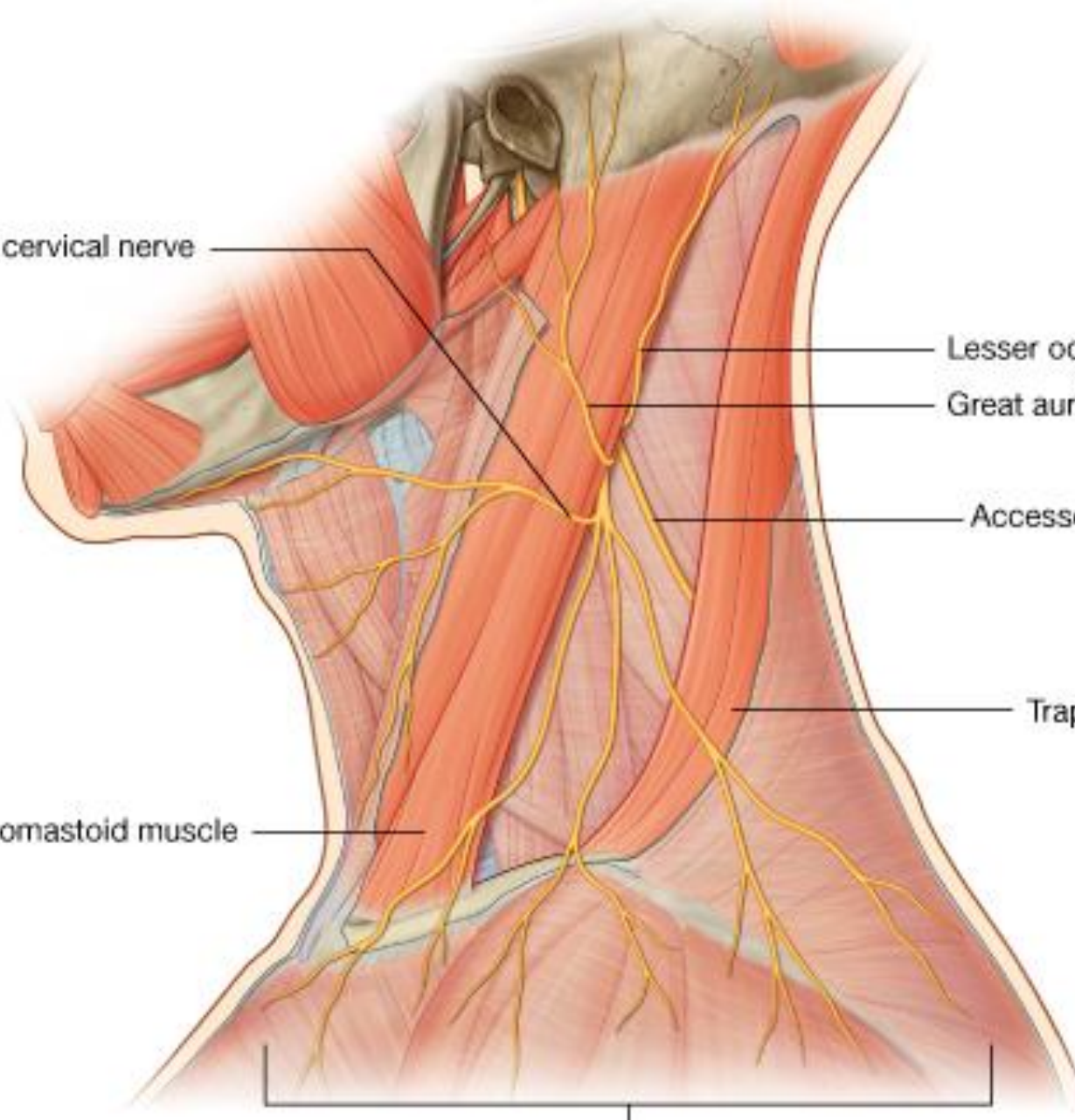
Great auricular nerve

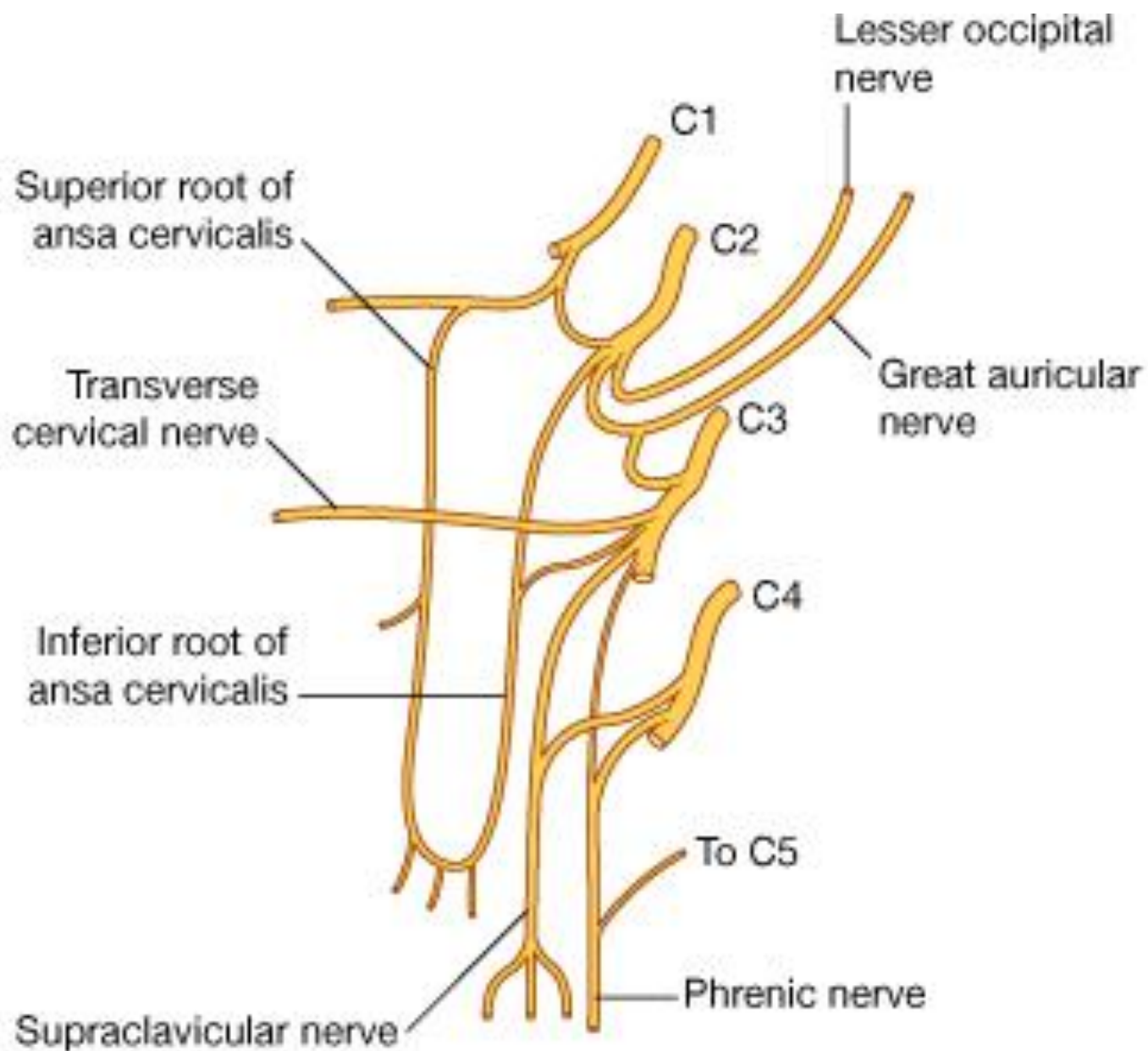
Accessory nerve [XI]

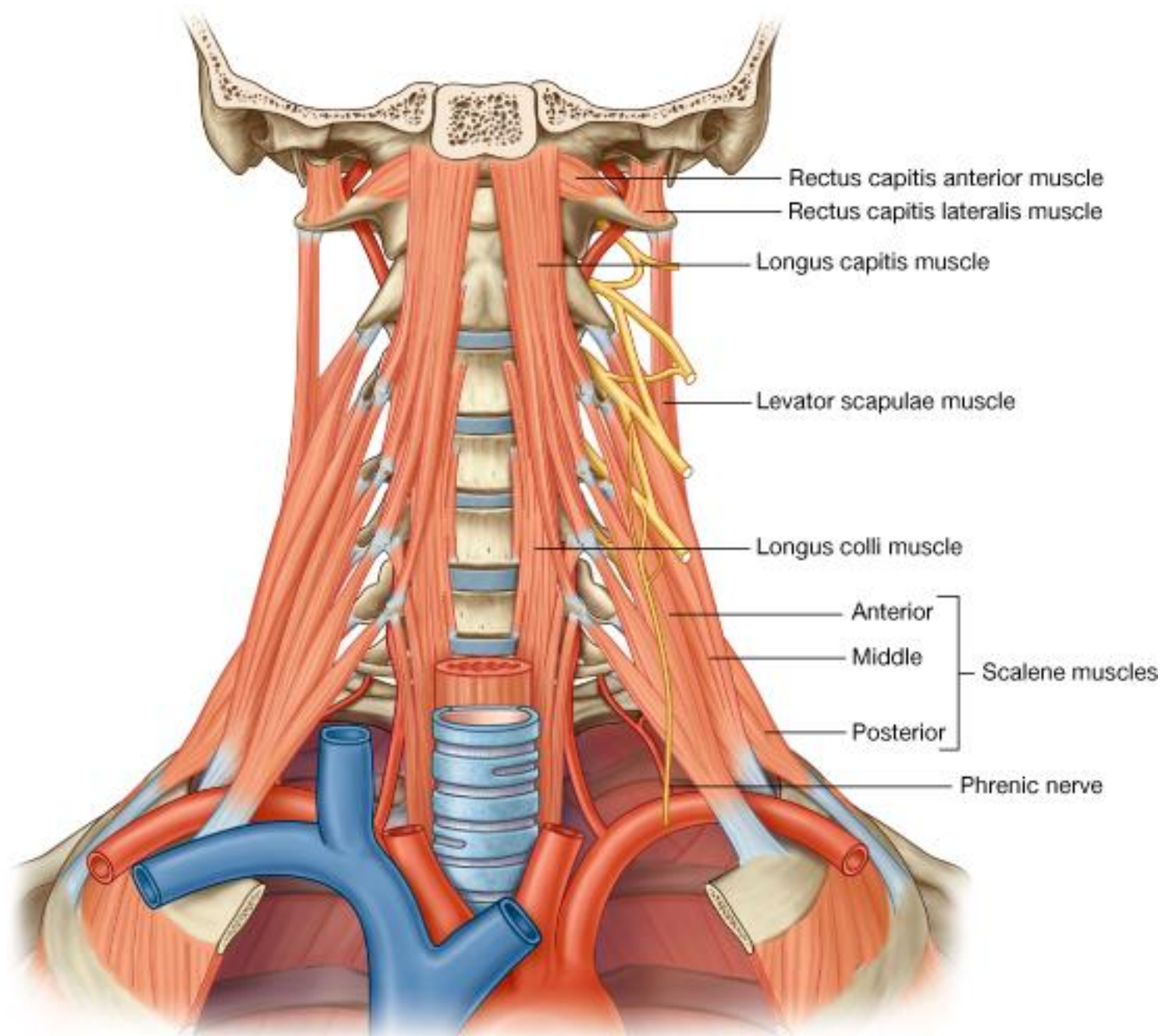
Trapezius muscle

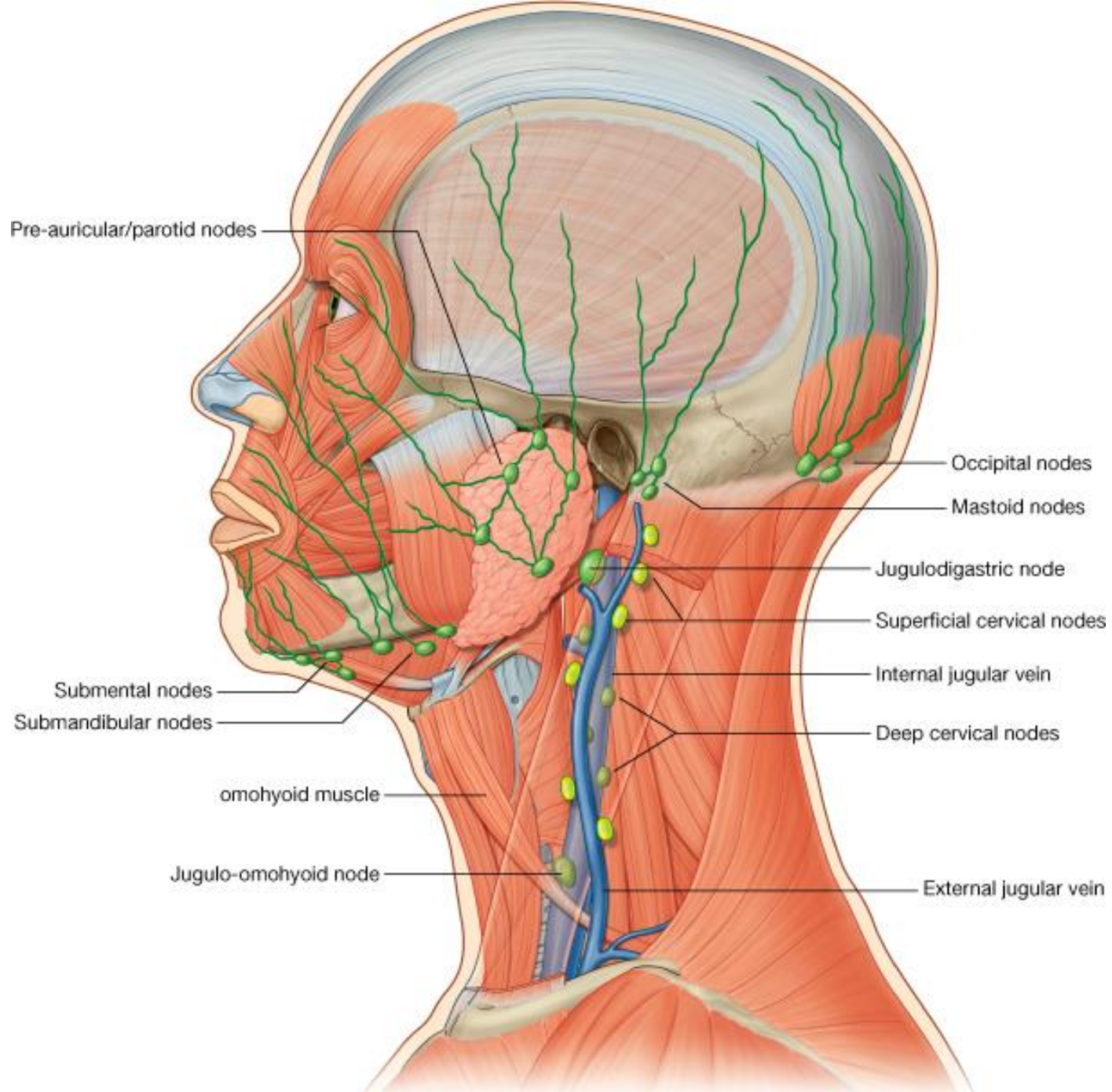
Sternocleidomastoid muscle

Supraclavicular nerves









Dissection of Neck

Posterior Triangle of Neck

1. reflection of skin
2. examine **platysma** and **supraclavicular nerves**,
reflect platysma *upward*
3. find the spinal root of **accessory nerve**
4. search for **lesser occipital nerve** – supply scalp;
occipital artery at apex of post. $\triangle$
5. **Greater auricular nerve, transverse cervical
nerves, supraclavicular nerves**
6. **external jugular vein** company with
greater auricular nerve

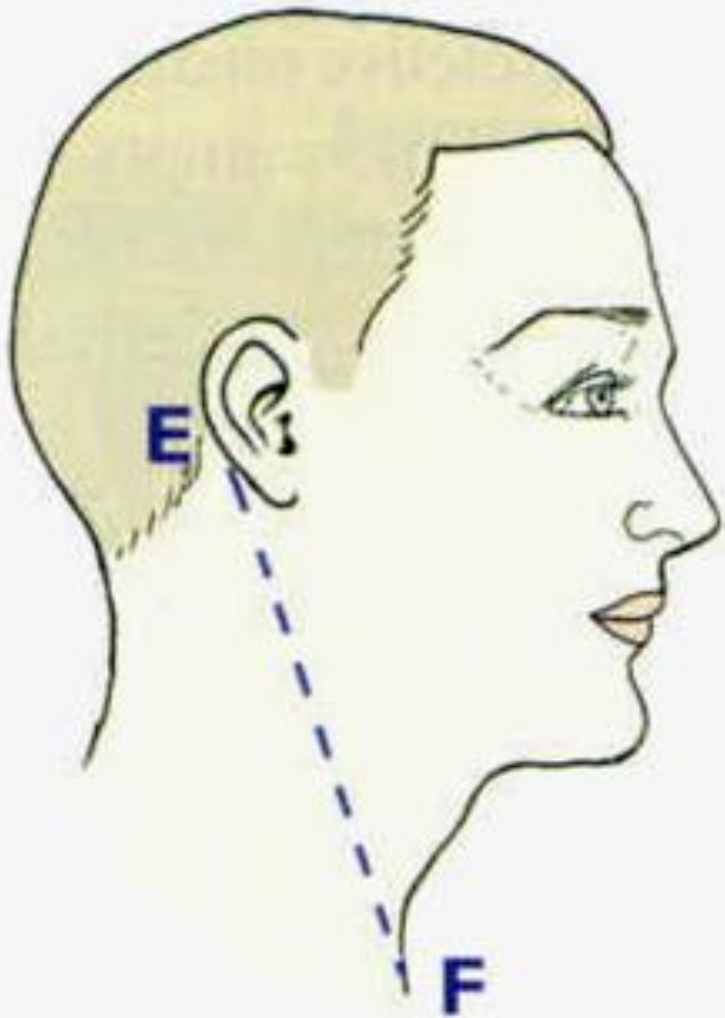


Figure 7.47. Skin incisions.

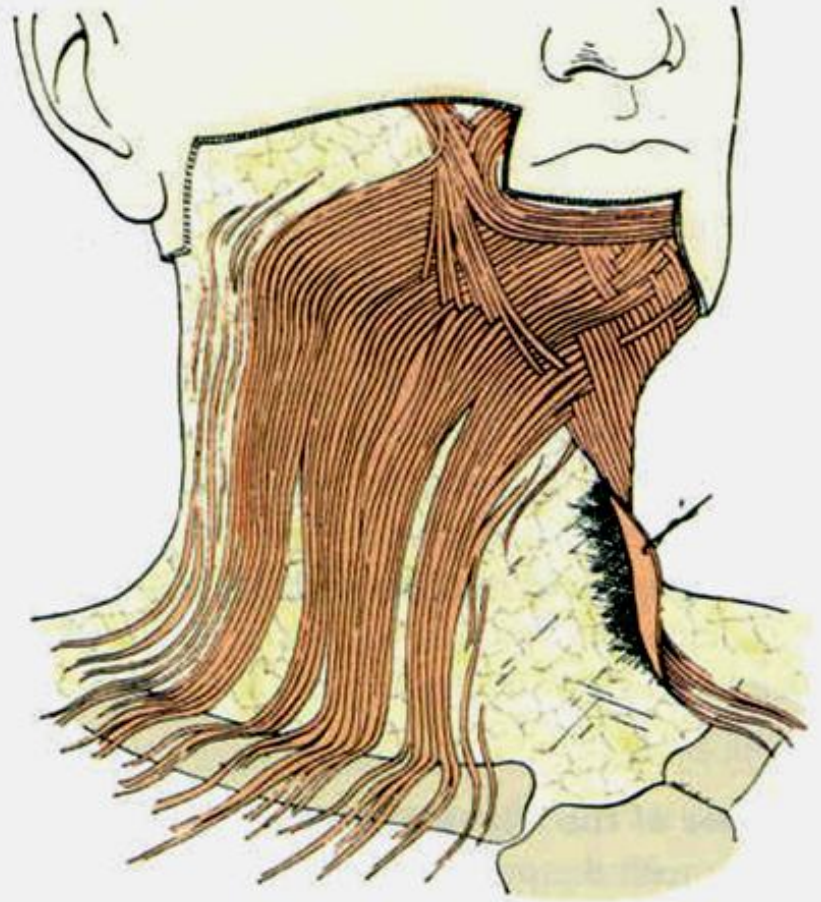
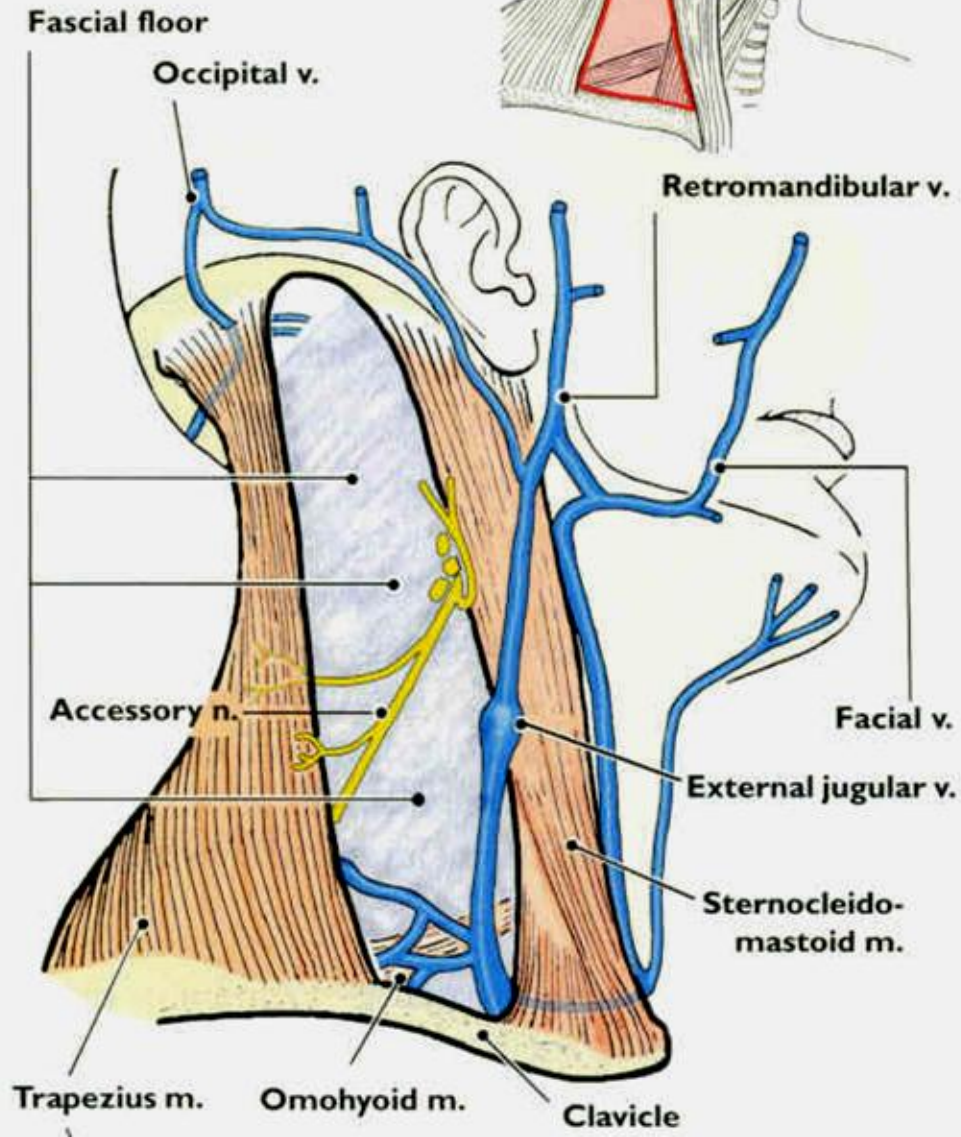


Figure 7.48. The platysma and its interdigitations with other muscles of facial expression.

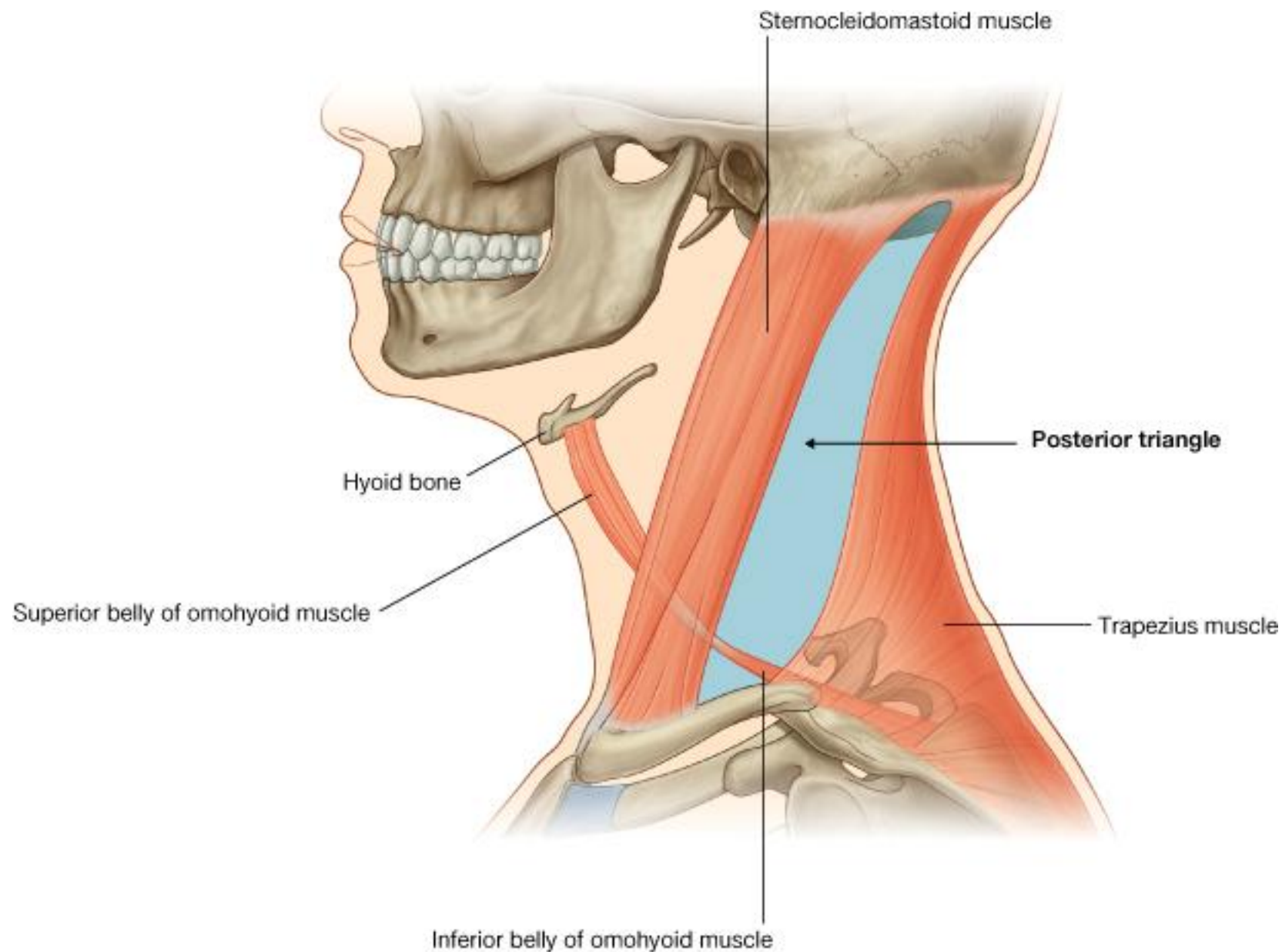
A

POSTERIOR TRIANGLE OF NECK



Resection of middle portion of clavicle

1. cut close to ant. attachment of **trapezius**
2. detach clavicular head of **SCM**;
and sever **subclavius muscle**
3. examine **omohyoid muscle** and its intertendon



Blood vessels

**Transverse cervical artery, suprascapular artery
(variations)**

Structures deep to floor of triangle

**Splenius capitis, levator scapulae,
three scalenus (ant. mid. post.)**

**Subclavian artery & brachial plexus
(between ant. and mid. scalenus)**

**Subclavian vein, phrenic nerve
(anterior to ant. scalenus)**

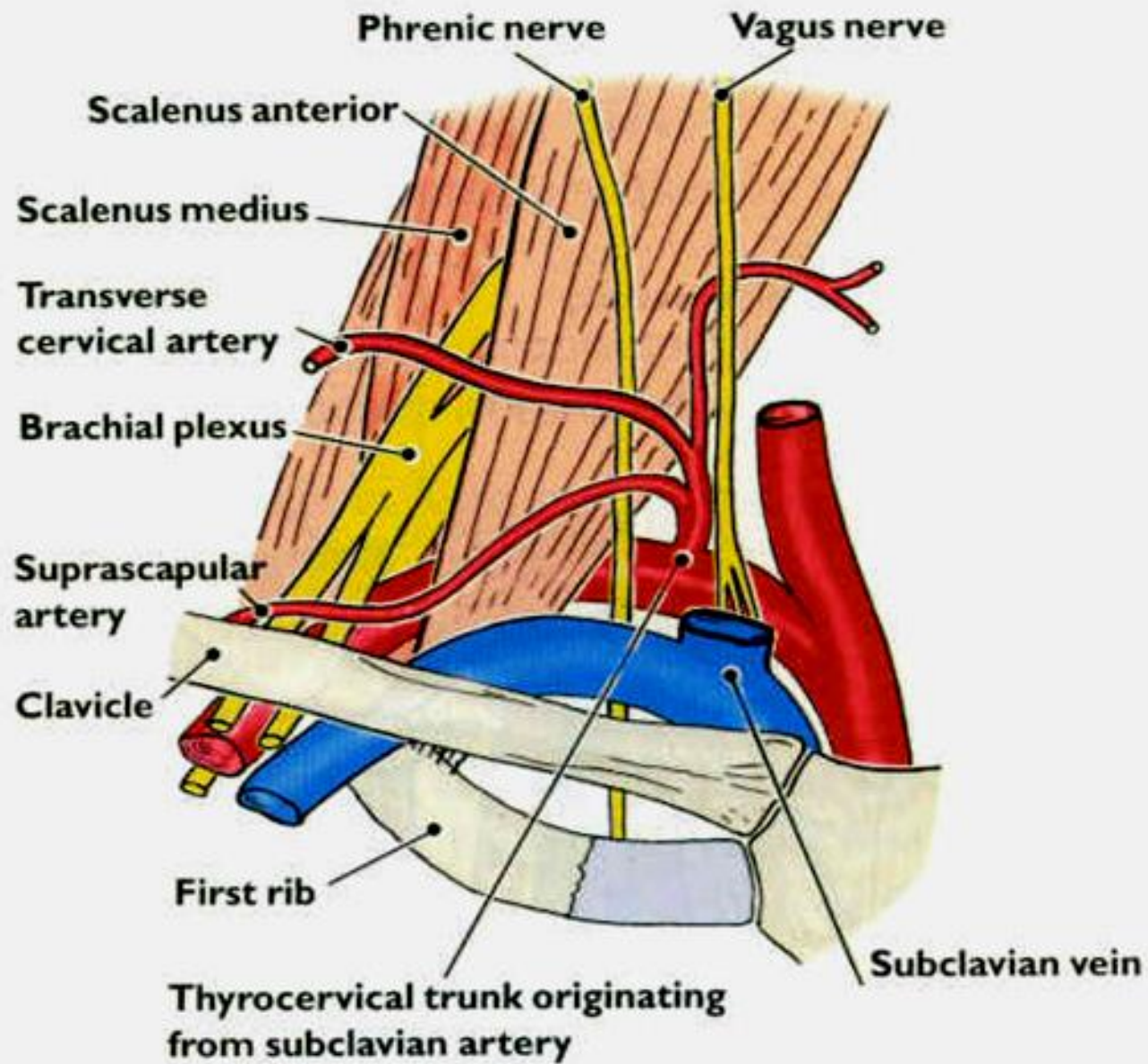


Figure 7.50. Relations of important nerves and vessels to the anterior and posterior scalenus muscles.