

CERVICAL FASCIA AND TRIANGLES OF THE NECK

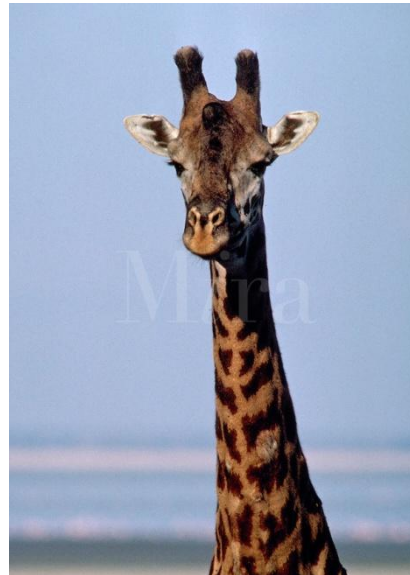
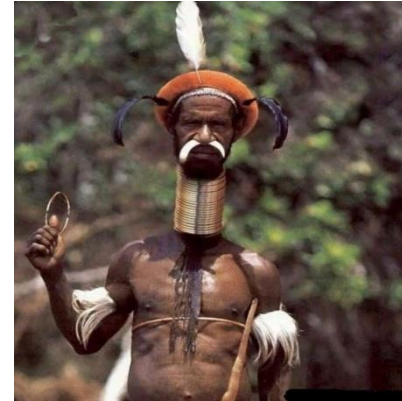
Mr. P Mazenganya

Lecture 1

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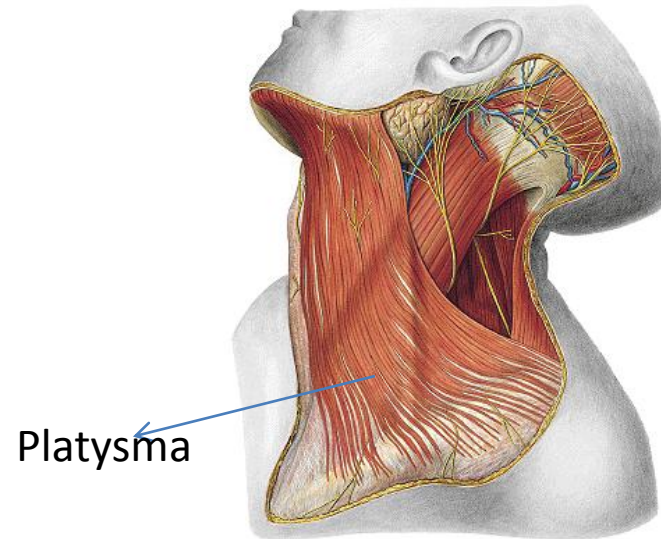
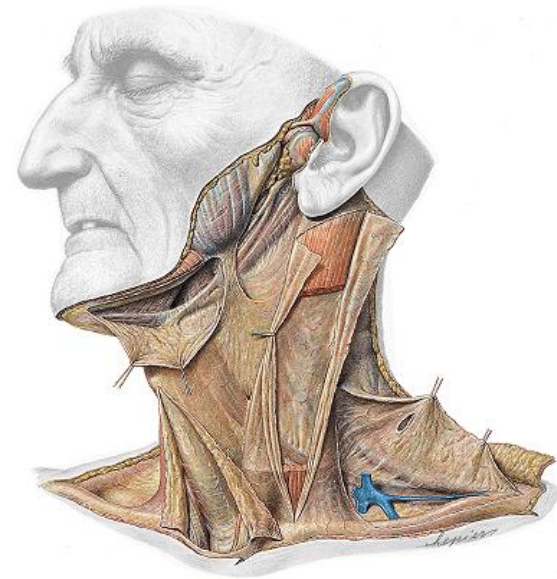
STUDY AIMS

- Describe the fascial layers of the neck
- Function & Contents of compartments the fascial layers
- Describe:
 - i. Anterior triangle
 - ii. Posterior triangles
- Boundaries and contents



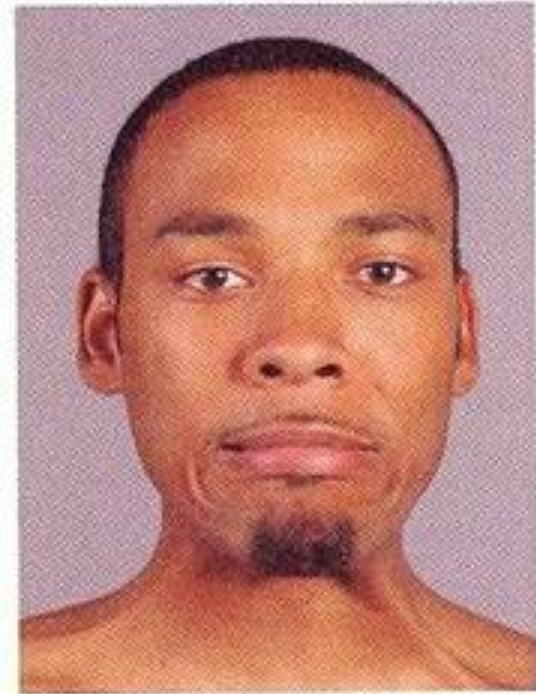
FASCIAL LAYERS OF THE NECK

- **Two main types:**
 - ✓ Superficial fascia
 - ✓ Deep fascia
- **Superficial fascia:**
 - Between dermis and deep fascia
 - **Contains:**
 - ✓ Cutaneous nerves and vessels
 - ✓ Lymphatics & Fat
 - ✓ Platysma muscle



FASCIAL LAYER OF THE NECK

- **Platysma muscle**
 - ✓ Action – tenses the skin of the neck
 - ✓ Supplied by cervical branch of the facial nerve
 - ❖ **Evolution:** Remains of the *cutaneous trunci muscle*



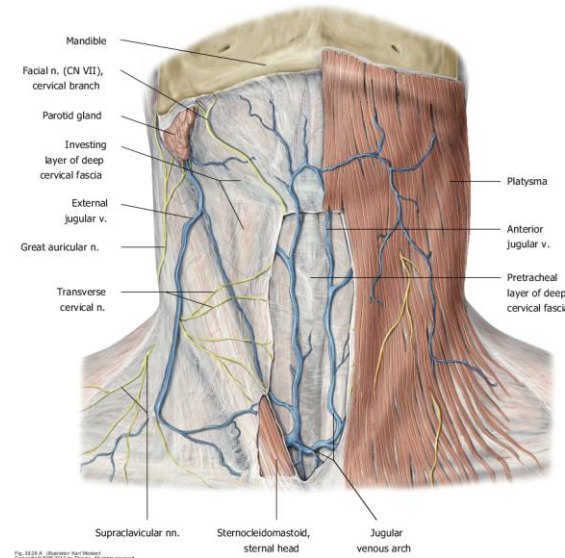
FASCIAL LAYER OF THE NECK

- **Deep fascia of the neck:**

- Consists of three layers
 - ✓ Investing
 - ✓ Pretracheal
 - ✓ Prevertebral

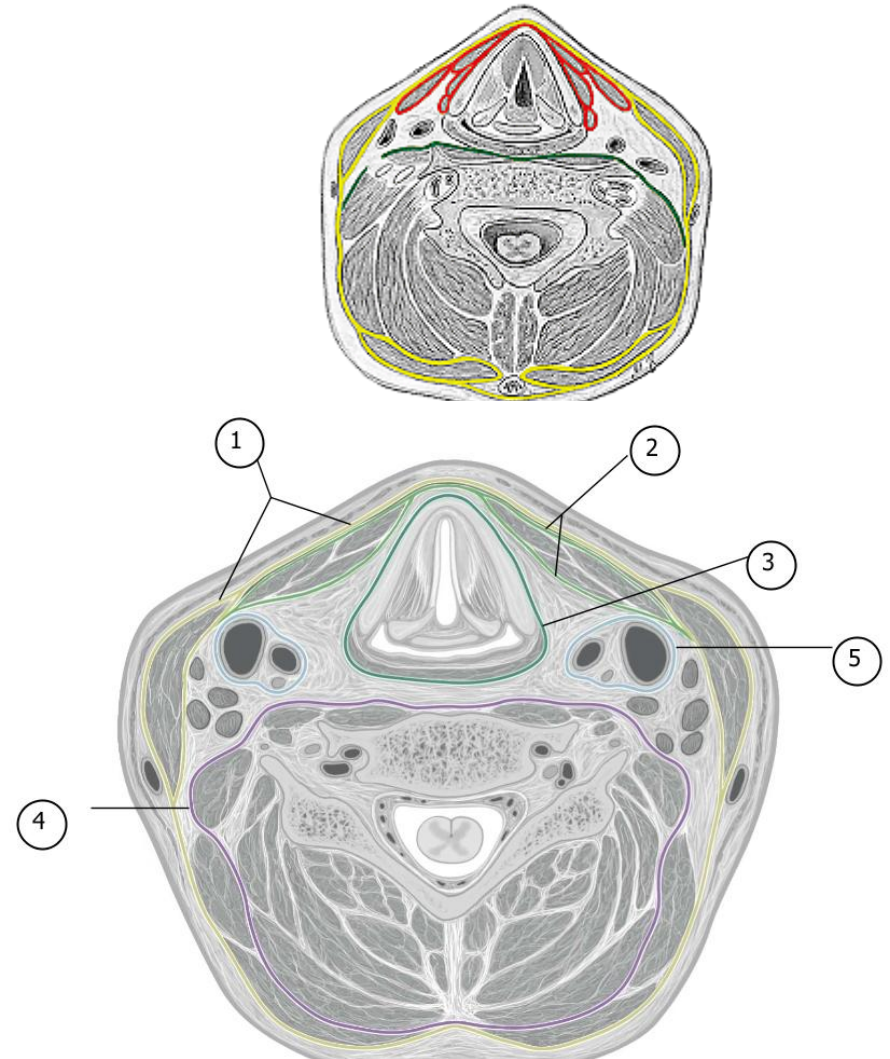
- **Investing layer:**

- ✓ Surrounds entire neck, beneath superficial fascia
- ✓ Slits to enclose trapezius and sternocleidomastoid muscles



FASCIAL LAYER OF THE NECK

- **Investing layer:**
 - ✓ Encloses parotid and submandibular glands
 - ✓ Forms roof of anterior and posterior triangles neck



FASCIAL LAYER OF THE NECK

- **Pretracheal fascia:**

- Found anterior neck, from hyoid bone -fibrous pericardium

- Has two portions:

- ✓ Muscular layer

- ✓ Visceral layer

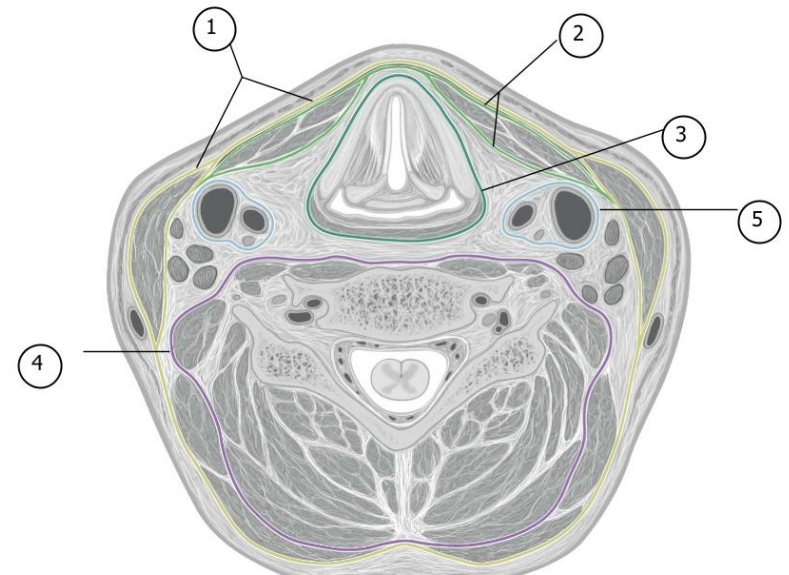
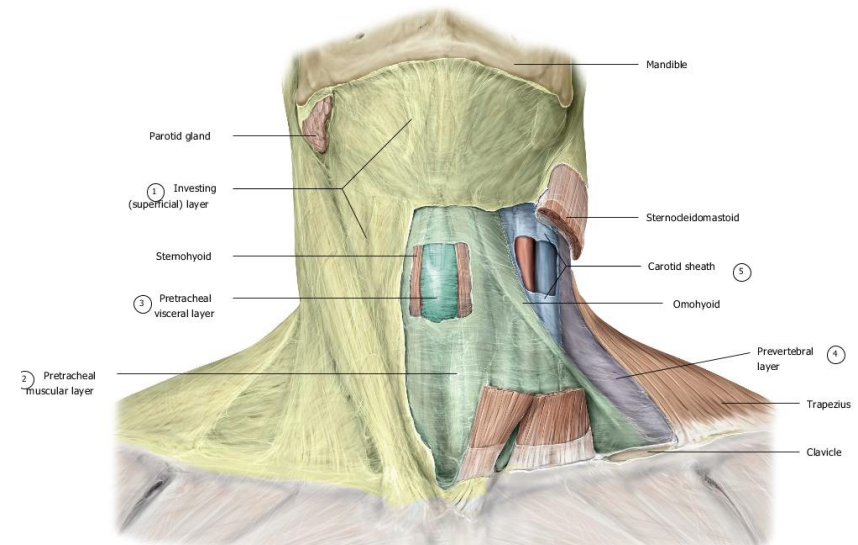
- **Muscular layer** -covers infrahyoid muscles

- **Visceral layer** invests

- ✓ Trachea

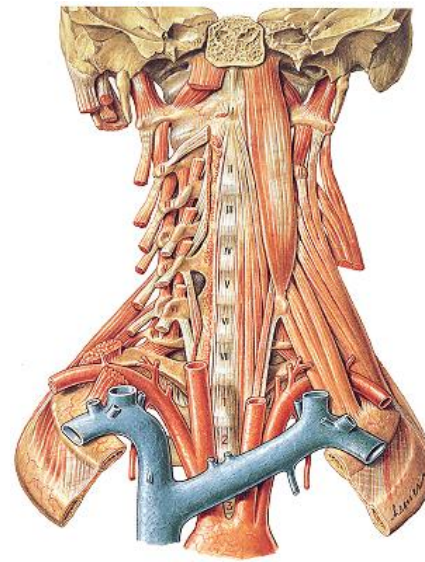
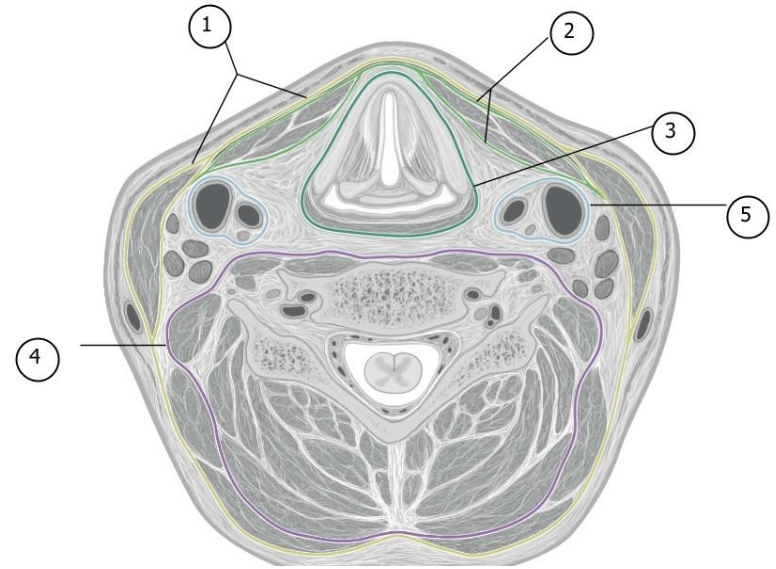
- ✓ Thyroid and parathyroid glands

- ✓ Oesophagus



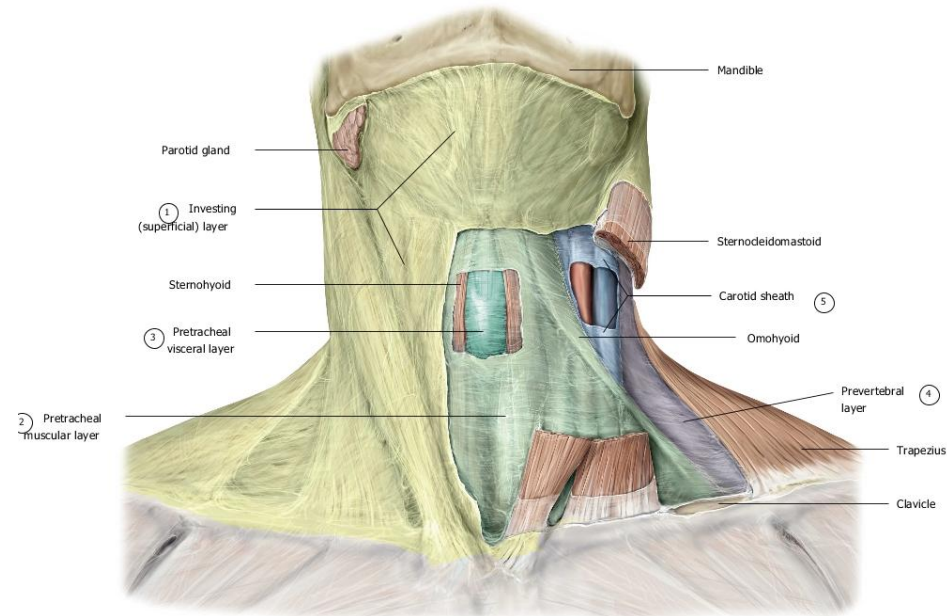
FASCIAL LAYER OF THE NECK

- **Prevertebral layer:**
 - ✓ Surrounds the vertebral column and associated muscles
 - Ant – longus colli and capitis
 - Post- deep cervical muscles
 - Lat- scalenes
- Fuses laterally with axillary sheath



FASCIAL LAYER OF THE NECK

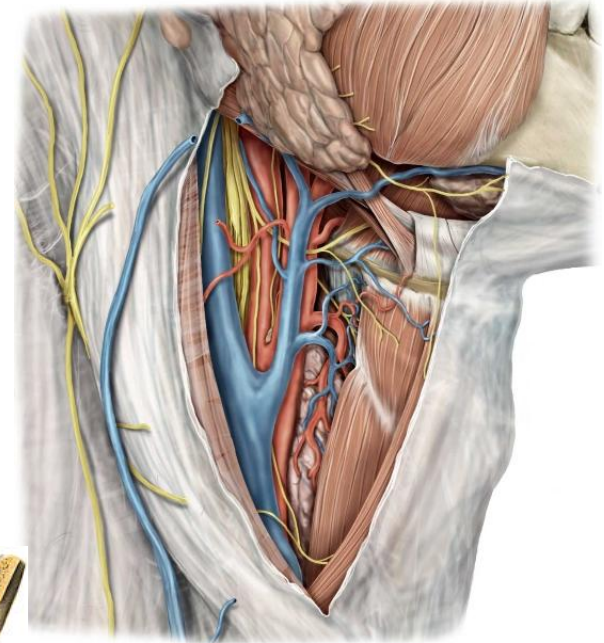
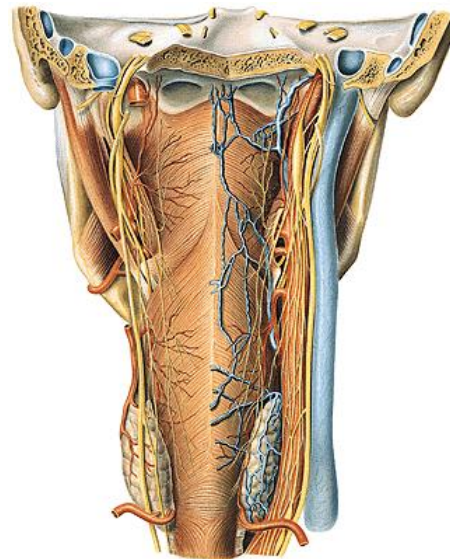
- **Carotid sheath:**
 - ✓ Condensation of fascia around great vessels
 - ✓ Extends from base of skull to root of neck
 - ✓ Blends medially with prevertebral and laterally with pretracheal layer of fascia
- *Communicates with mediastinum inferiorly*



FASCIAL LAYER OF THE NECK

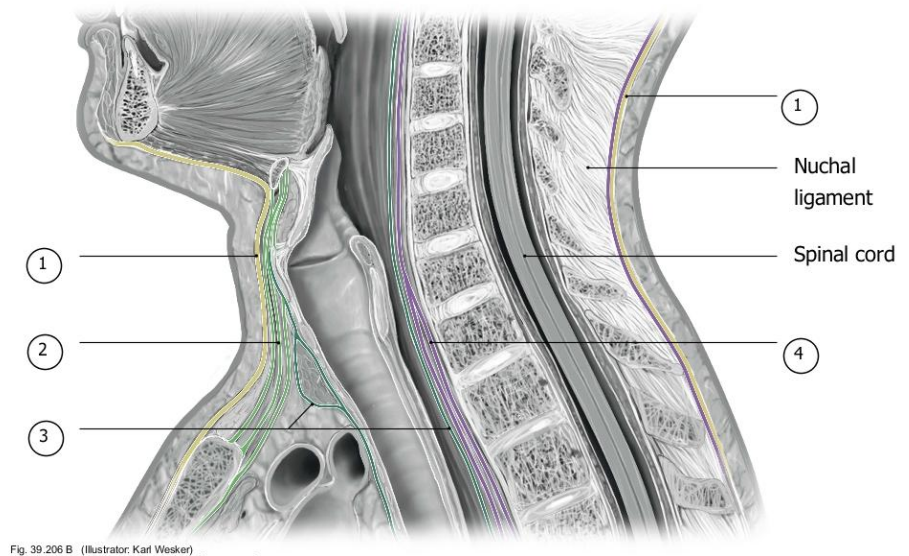
- **Contents of the carotid sheath:**

- Common carotid artery
- Internal carotid artery
- Internal jugular vein
- Vagus nerve (CN X)
- Deep cervical lymph nodes
- Sympathetic fibers
- Carotid body



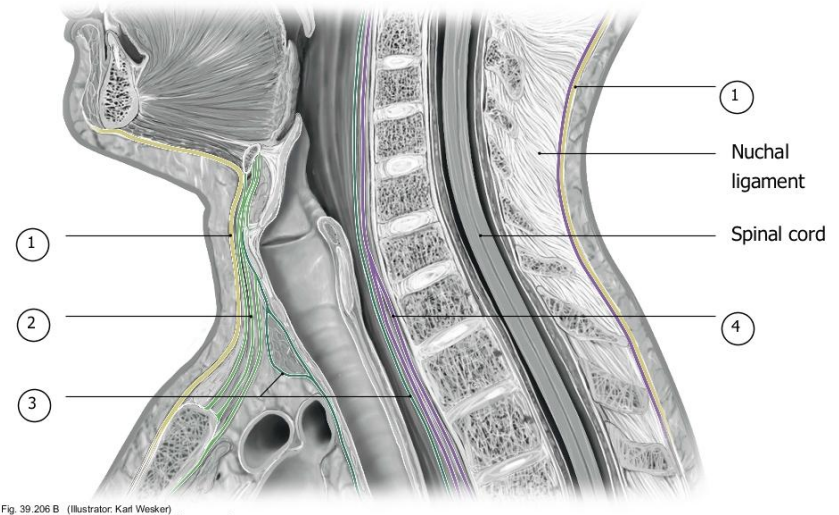
FASCIAL SPACES:

- **Retropharyngeal space:**
 - ✓ Space between prevertebral layer buccopharyngeal fascia
 - ✓ From base of skull to posterior mediastinum
 - ✓ Allows movement of viscera during swallowing
 - ✓ Spread of infections from aoesophagus superior mediastinum



FASCIAL SPACES:

- **Pretracheal space:**
 - ✓ Space between investing fascia and pretracheal fascia
 - ✓ Limited by attachments of fascia to thyroid cartilages superiorly
- ***Can spread into thorax anterior to pericardium***



FASCIAL SPACES:

- Space between two lamina of prevertebral fascia:
 - ✓ Critical space
 - ✓ Extends from base of skull and through thorax

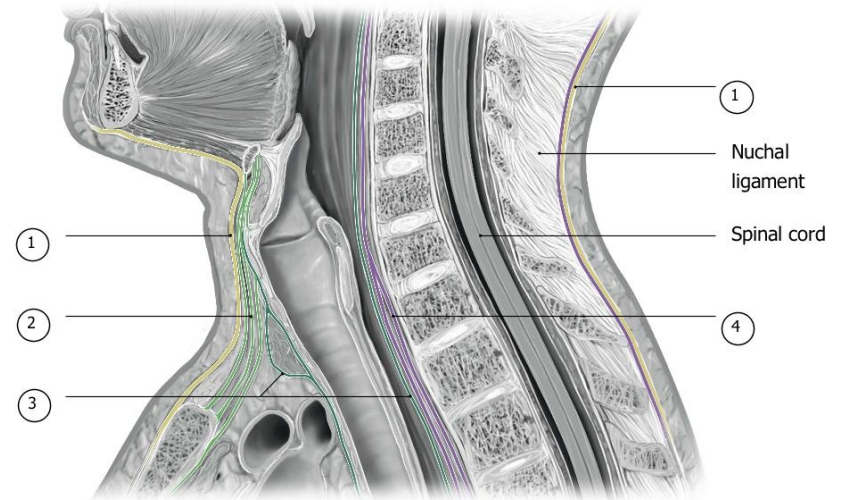
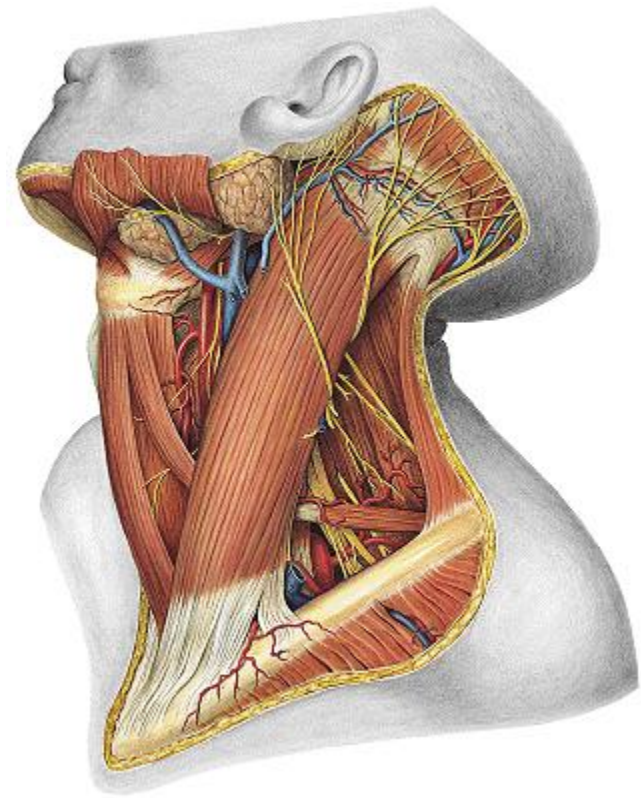


Fig. 39.206 B. (Illustrator: Karl Wesker)

TRIANGLES OF THE NECK

- *A plain joining the two sternocleidomastoid muscles divides the neck into anterior and posterior triangles*
- *NB: anterior region, lateral region, posterior regions of the neck!!!!!!*



Triangles of the neck

- **Posterior triangle:**
 - Subdivided by inferior belly of omohyoid muscle:
 - ✓ Occipital triangle
 - ✓ Supraclavicular triangle

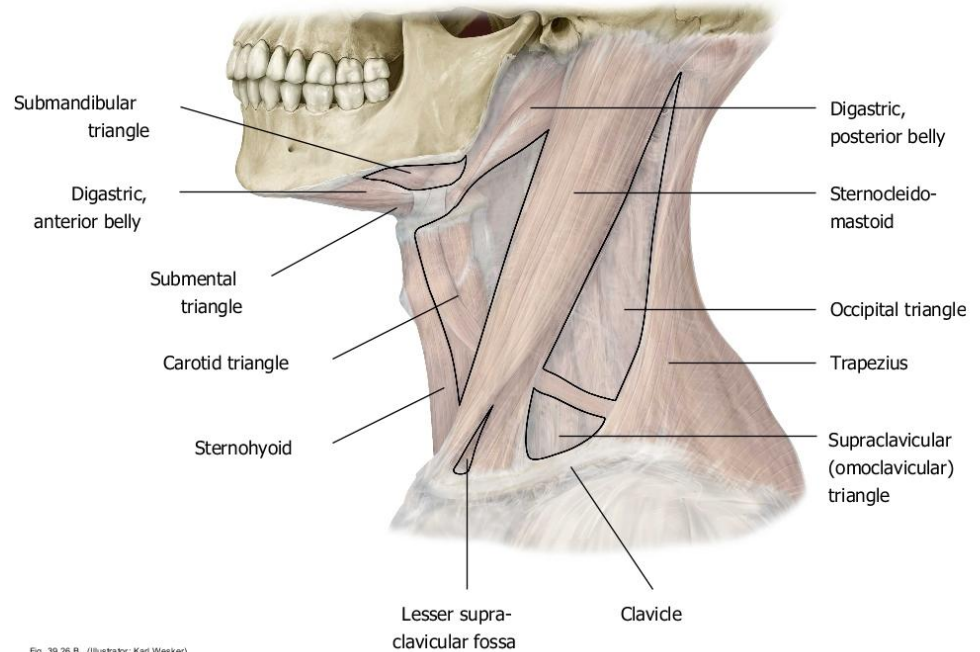
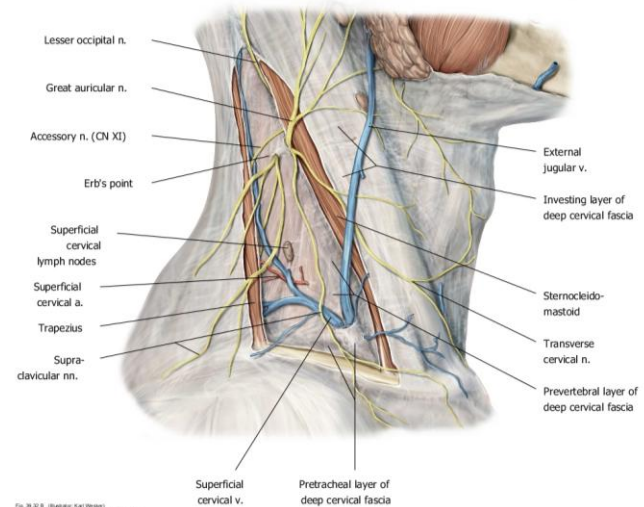
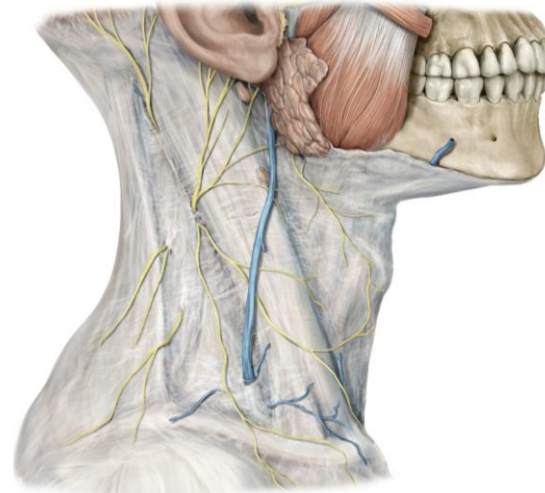


Fig. 39.26 B (Illustrator: Karl Wesker)
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Triangles of the neck

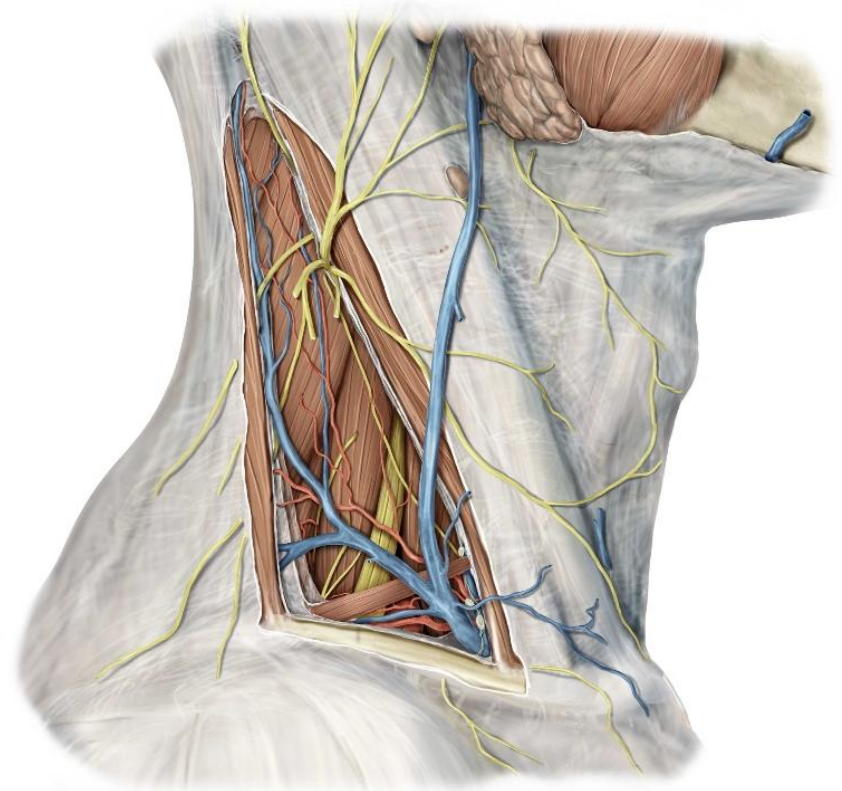
- **Posterior triangle:**
 - Boundaries
 - Posterior-anterior border of trapezius
 - Anterior-posterior border of SCM
 - Inferior-medial third clavicle
 - Roof-investing layer of deep cervical fascia
 - Floor-muscles covered by prevertebral layer



TRIANGLES OF THE NECK

- **Muscles of the floor:**

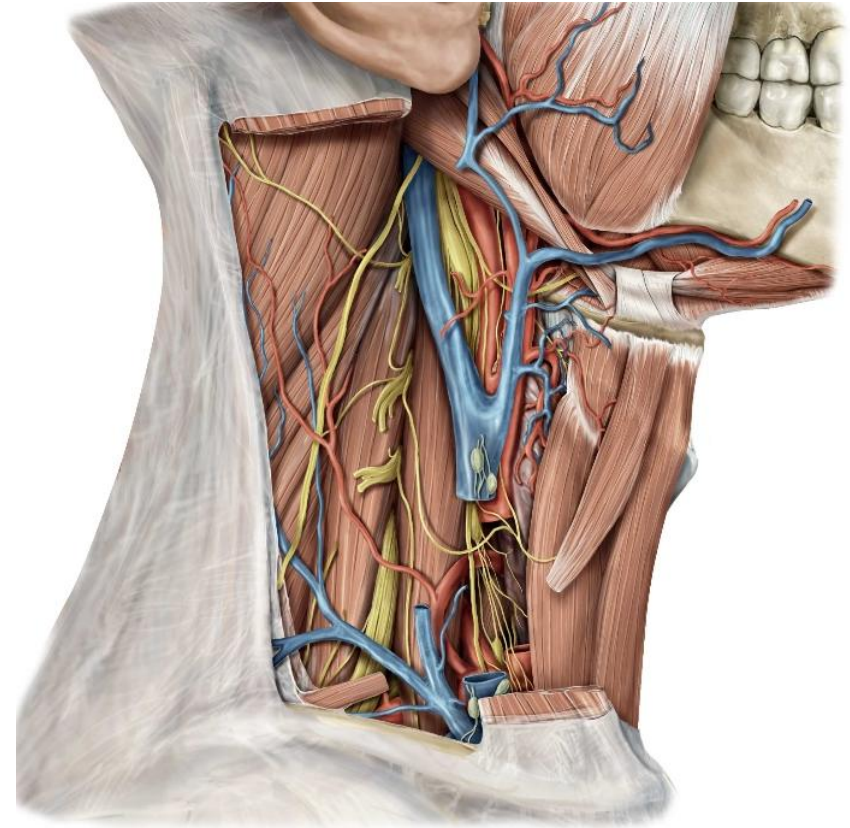
- Splenius capitis
- Levator scapulae
- Middle scalene
- Posterior scalene
- *Rarely anterior scalene*



TRIANGLES OF THE NECK

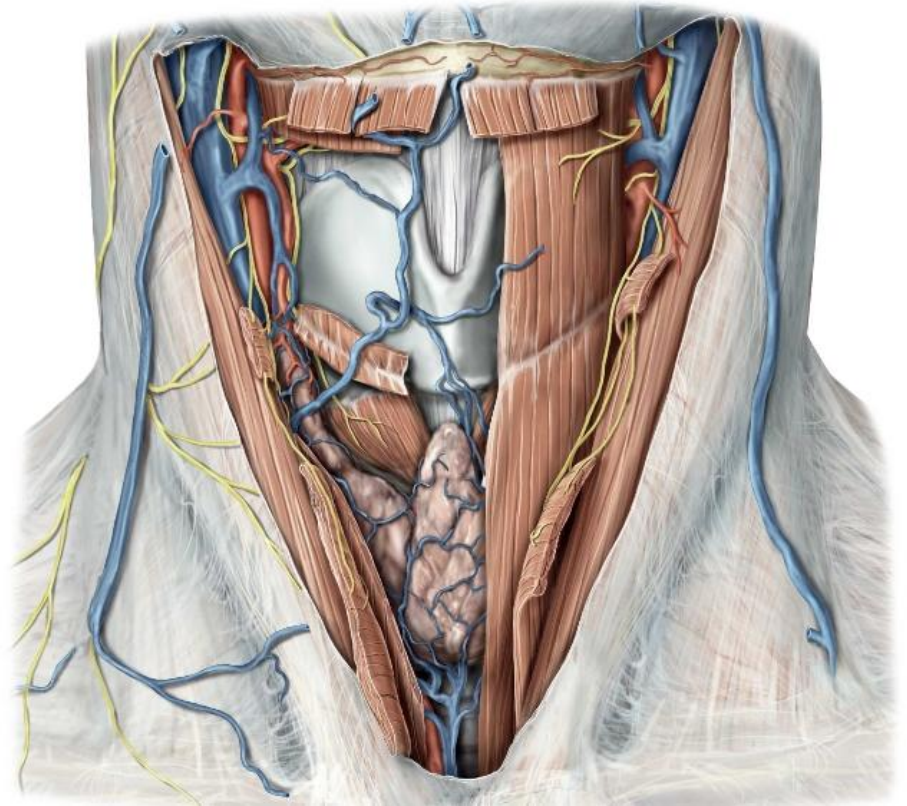
- **Contents are not limited to:**

- ✓ External jugular vein
- ✓ Cervical plexus (posterior branches)
- ✓ Accessory nerve
- ✓ Brachial plexus –trunks
- ✓ Transverse cervical artery
- ✓ Suprascapular artery
- ✓ Third part of subclavian artery
- ✓ Suprascapular nerve
- ✓ Cervical lymph nodes
- ✓ Phrenic nerve



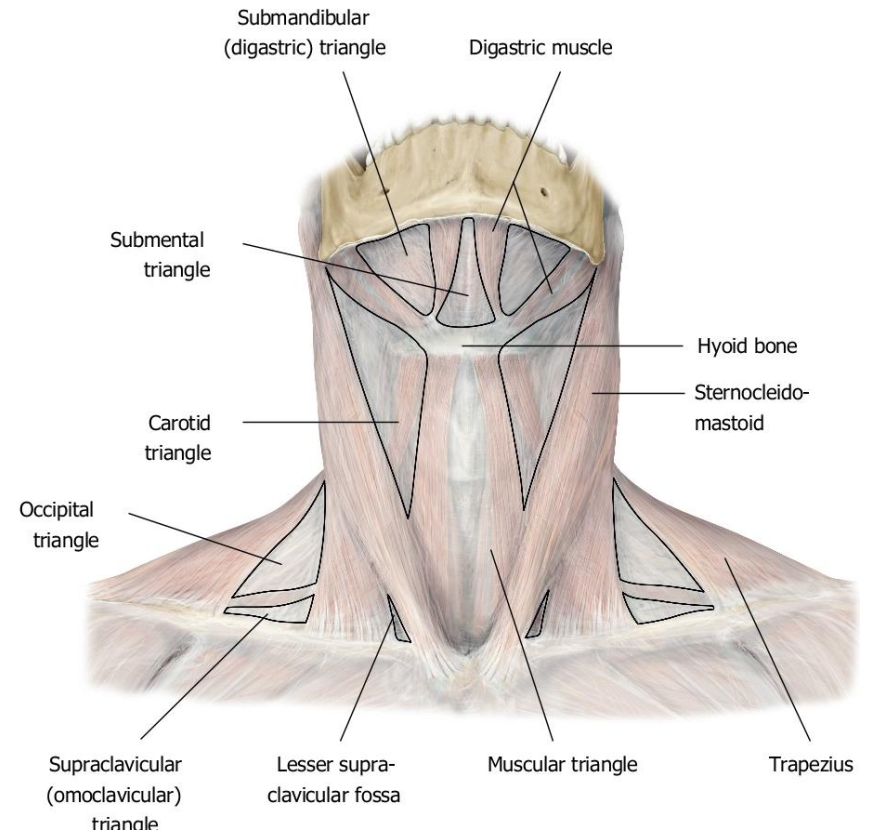
TRIANGLES OF THE NECK

- **Anterior triangle:**
 - Boundaries
 - ✓ Lateral-anterior border of SCM
 - ✓ Anterior-anterior midline of neck
 - ✓ Superior-inferior mandible
 - Divided into four smaller triangles for descriptive purposes



TRIANGLES OF THE NECK

- The four triangles include:



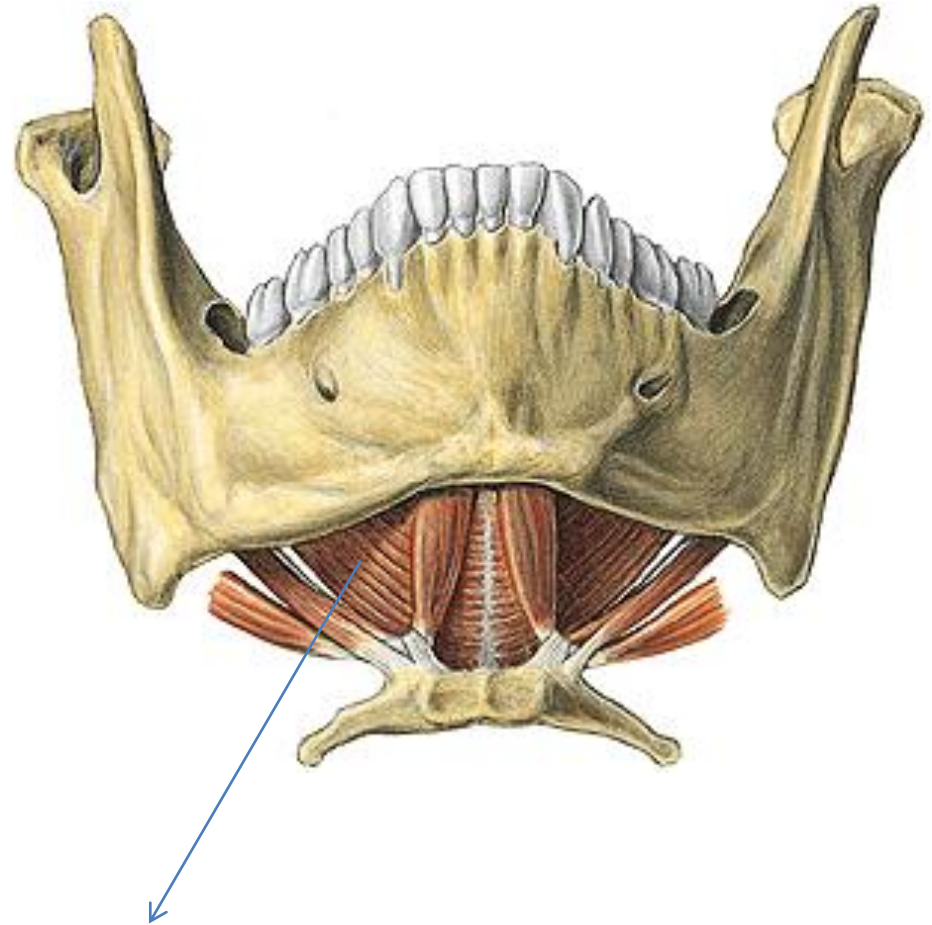
TRIANGLES OF THE NECK

- **Submandibular triangle**

- Between inferior mandible and anterior and posterior bellies of the digastric muscle

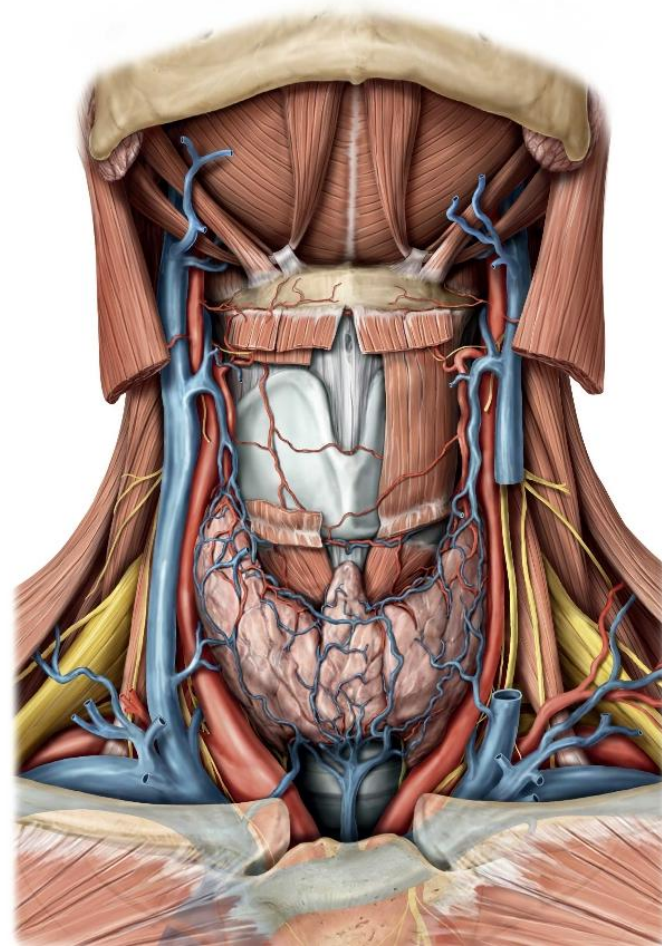
- **Contains :**

- ✓ submandibular gland
- ✓ Submandibular duct
- ✓ Submandibular lymph nodes



TRIANGLES OF THE NECK

- **Submental triangle:**
 - Between body of hyoid bone and right and left anterior bellies of the digastric muscles
 - Apex is mandibular symphysis
 - **Contains:**
 - ✓ submental lymph nodes



- **Carotid triangle:**

- Bounded by superior belly of omohyoid, posterior belly of digastric, and anterior border of SCM

- **Contains:**

- ✓ carotid sheath, with common carotid artery, internal jugular vein, and vagus nerve
- ✓ Bifurcation of common carotid to internal and external carotid arteries
- ✓ Carotid sinus
- ✓ Carotid body

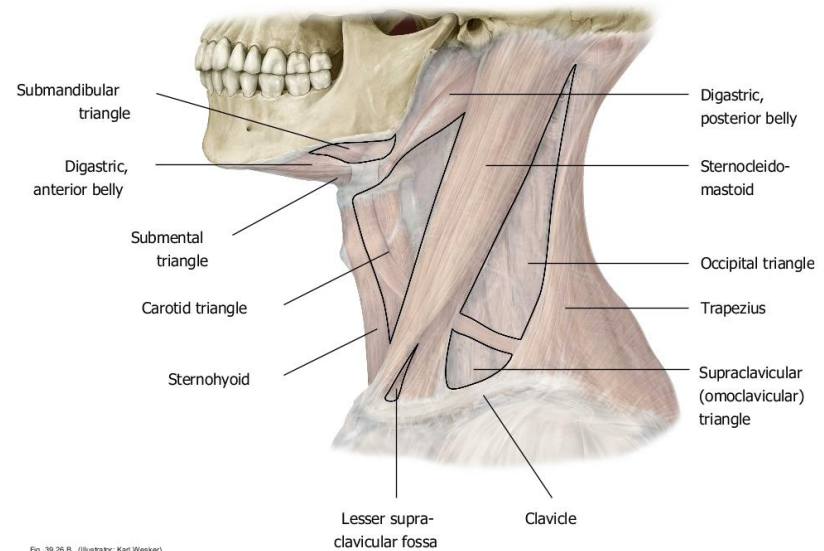


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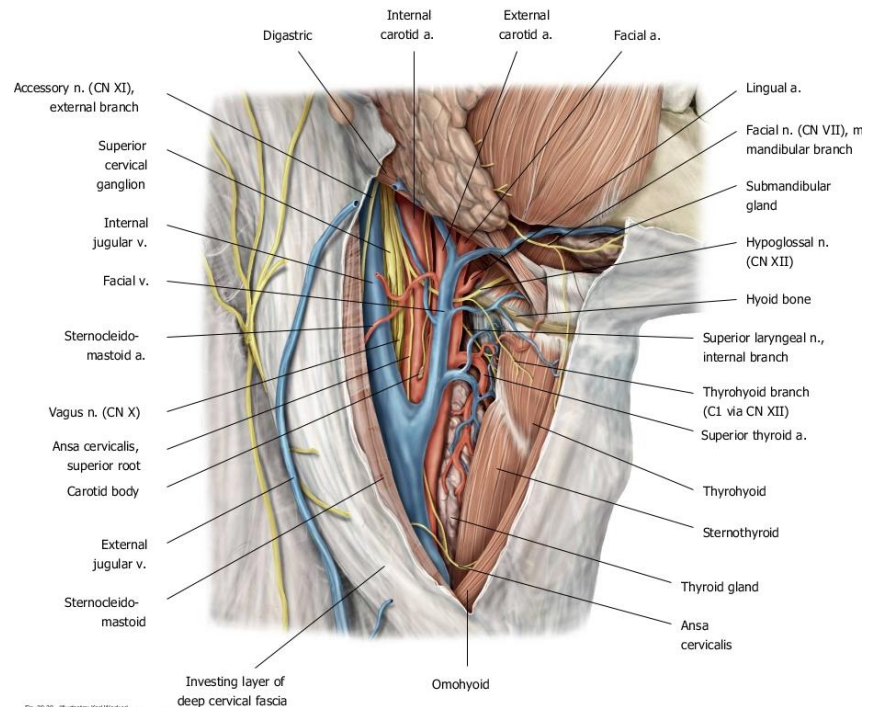
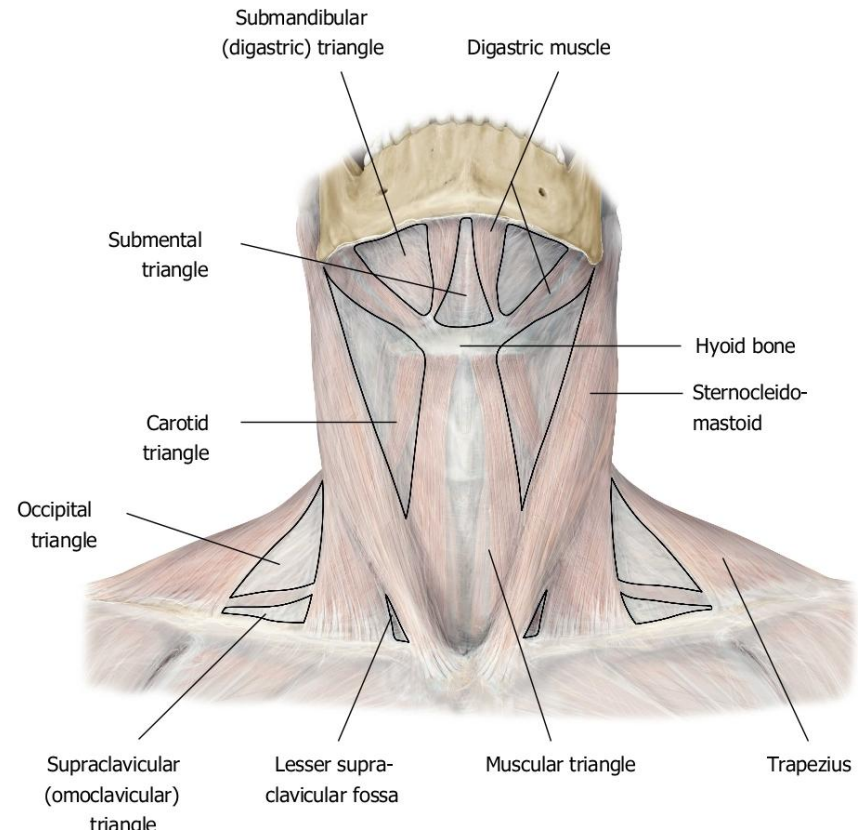


Fig. 39.30. (Illustrator: Karl Wesker)
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TRIANGLES OF THE NECK

- **Muscular triangle:**
- Bounded by:
 - anterior border of SCM, superior belly of omohyoid,
 - midline of neck
- **Contains:**
 - ✓ infrahyoid muscles,
 - ✓ thyroid,
 - ✓ parathyroid



SUMMARY

- Fascial layers and space prevent spread of infections and surgery :
- Understand the fascial spaces and direction of flow of blood, pus
- Triangles of the neck:
- Boundaries and contents
- Demonstrate fxn of sternocleidomastoid muscles
- Explain *torticollis*

Thank you

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