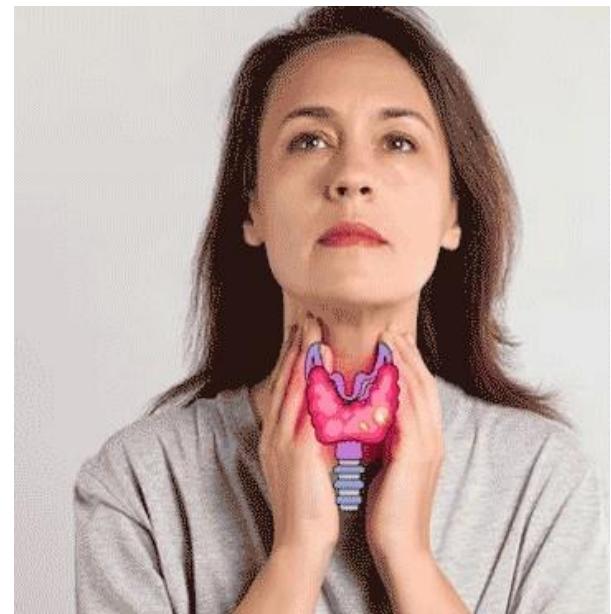


Anatomy of Thyroid Gland

By
Dr. Reda Samir taha
rtaha@zu.edu.jo

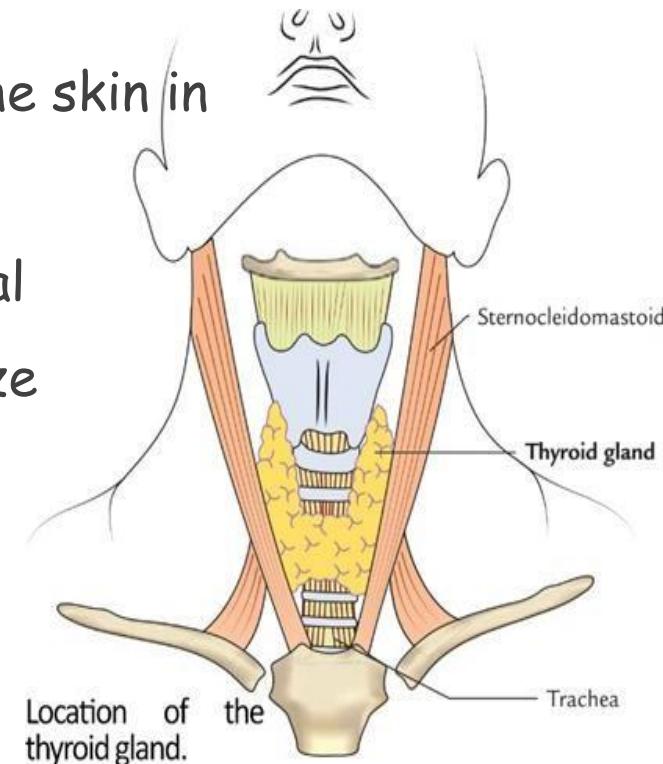


Definition the largest endocrine gland of the body. secretes thyroxine and calcitonin hormones.

تسمى الغدد الصم لأنها تفرز الهرمونات في الدم مباشرة وليس عن طريق قنوات .

Special Features

- The only endocrine gland, which is located near the skin in the body.
- The only endocrine gland that depends on external environment for raw material, iodine, to synthesize its hormones.
- The only endocrine gland, which does not pour its hormones into blood immediately after formation but stores them and then releases them in blood when required.
- It is one of the organs of the body having a very rich blood flow.

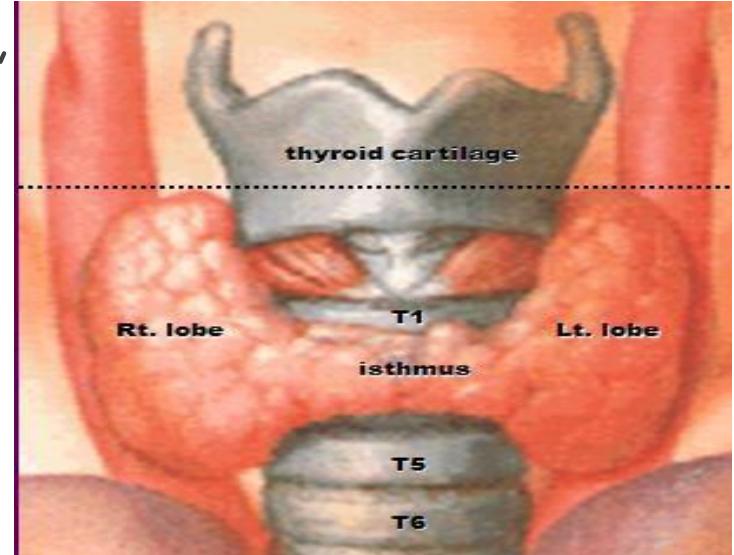


SITE: in muscular triangle. opposite to the C5, C6, C7 and T1 vertebrae

Shape : roughly (H) shaped (butterfly)

PARTS:

- Right and left lobes.
- Isthmus.
- **Pyramidal lobe:** Sometimes a small lobe projects upwards from the isthmus. May be connected to the body of the hyoid bone by a fibrous or fibromuscular band called levator glandulae thyroideae.



Extention:

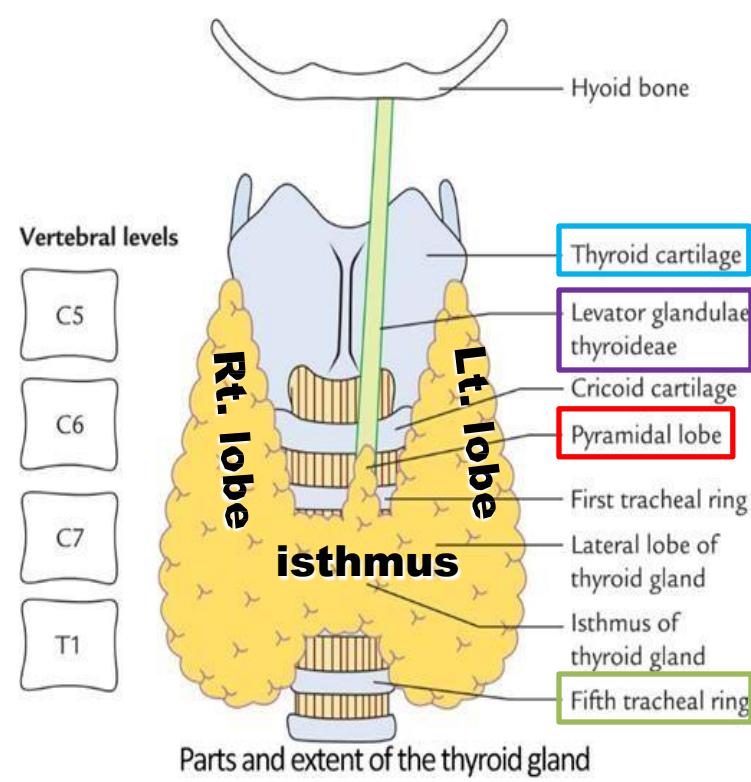
=Anterior level:

1. LOBES:

from the middle of the **thyroid cartilage** to **5th tracheal rings**.

2. ISTMUS: 2nd,3rd & 4th tracheal rings

=Posterior level: C5,6,7 and T1 vertebrae



Capsules

(1) True capsule :

=is the peripheral condensation of the connective tissue of the gland

(2) False capsule :

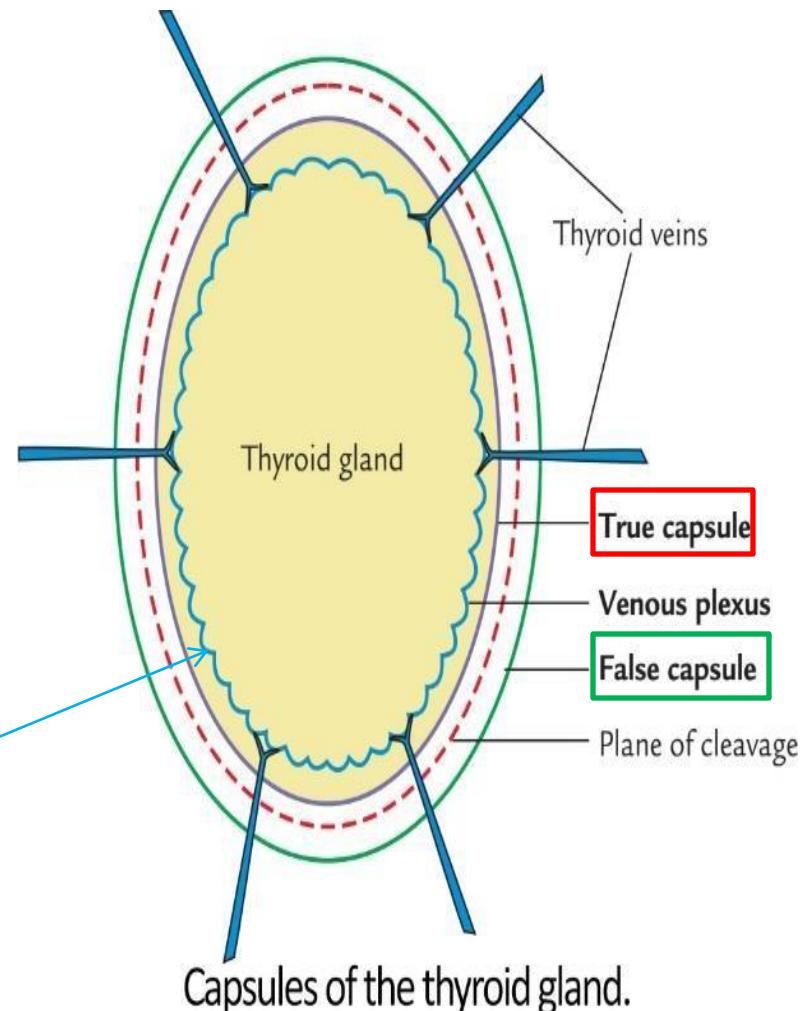
=lies outside the true capsule.

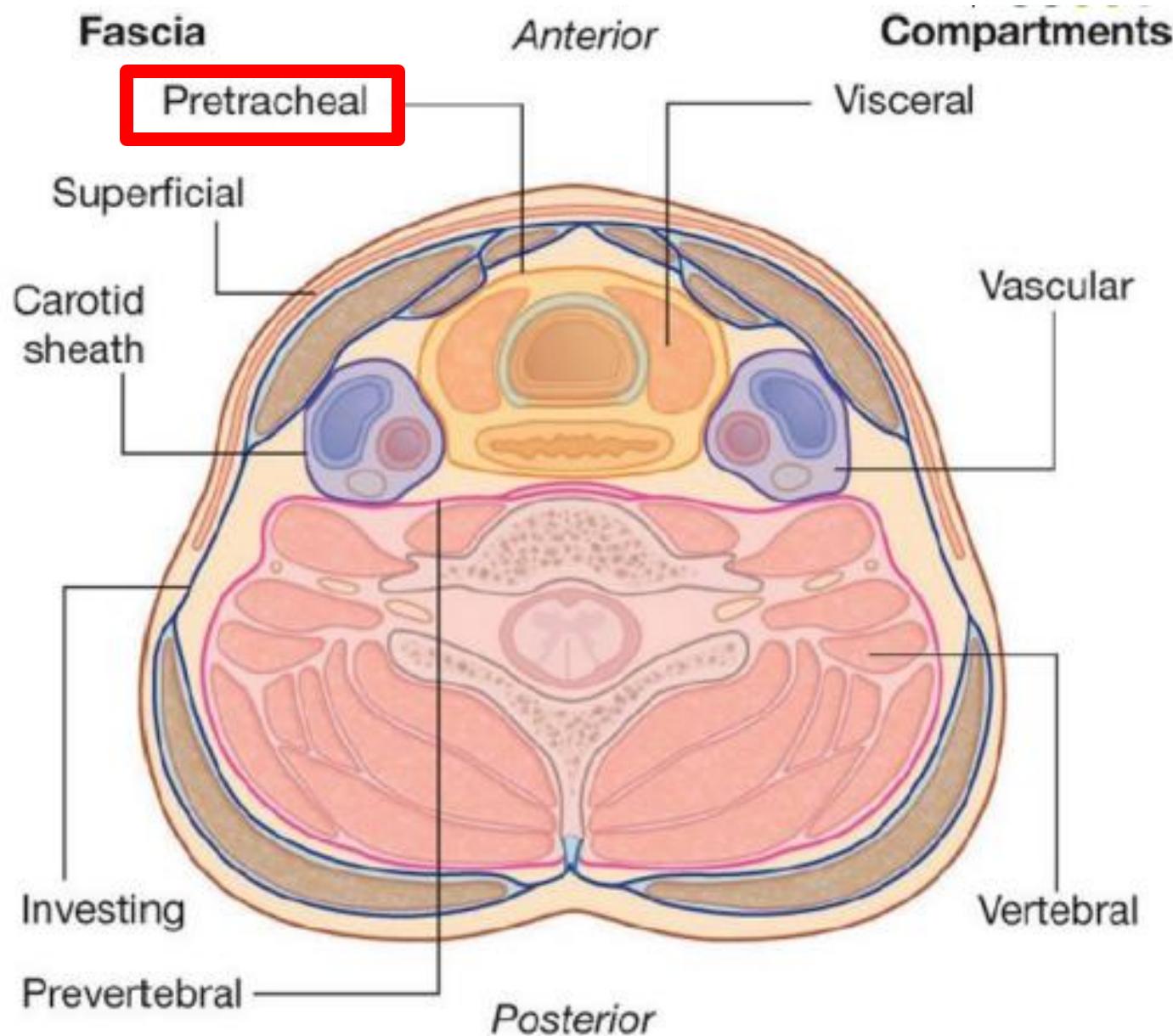
=a sheath of pretracheal layer of deep cervical fascia.

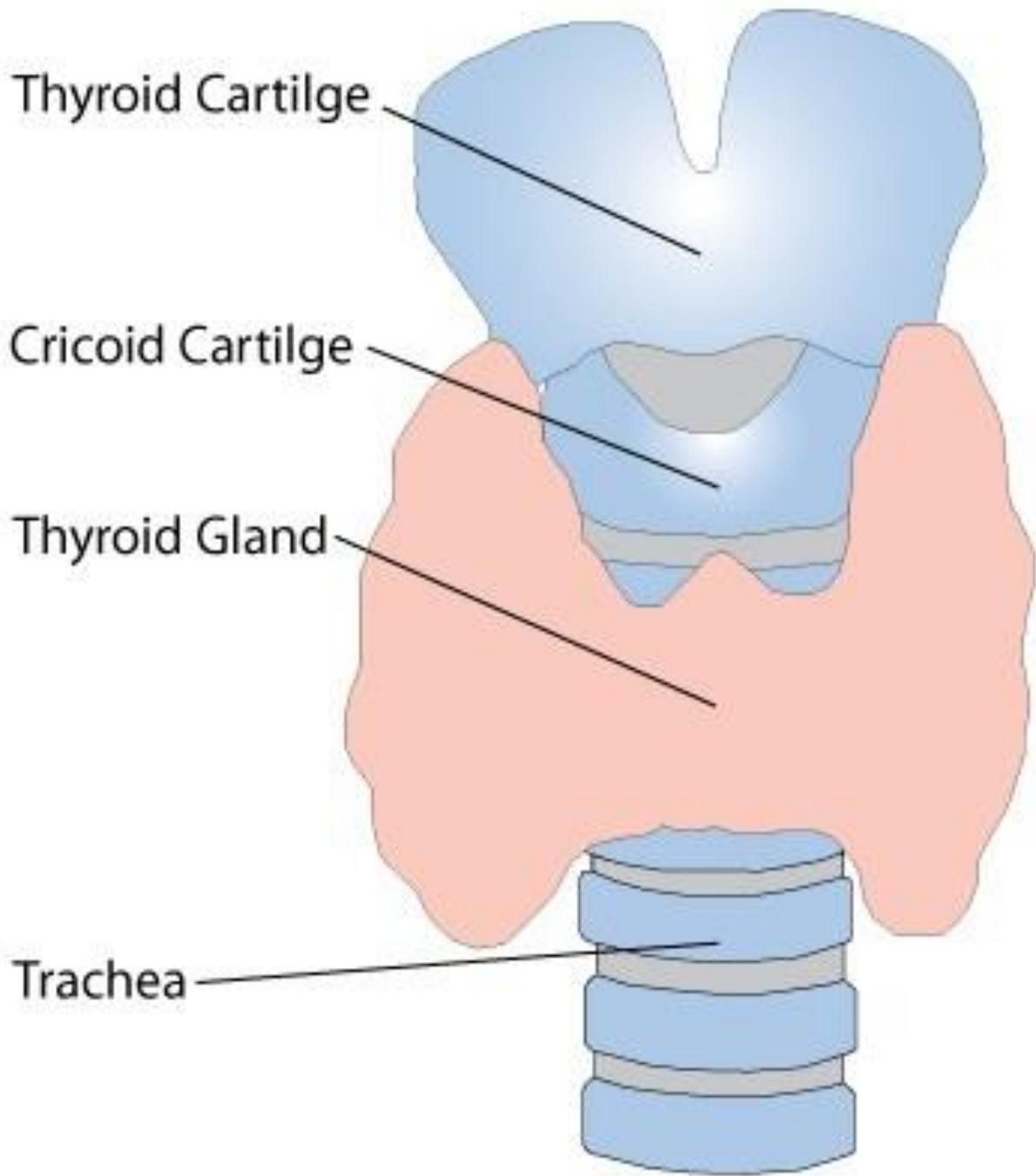
=fixes the gland to the thyroid and cricoid cartilage. So the gland moves with the larynx during deglutition.

(3) A dense venous plexus:-

=is present deep to the true capsule.







Relations:

A) **Lobes** : conical in shape & has apex and base - 3 surfaces - 2 borders.

1. **Apex**: upwards & Reach the oblique line of the thyroid cartilage.

2. **Base**: downwards & Reach the 5th tracheal ring.

3. **Surfaces**: 3

a. **Lateral (superficial)**

- Sternomastoid, Sternohyoid - Sternothyroid.
- superior belly of omohyoid.

b. **Medial**

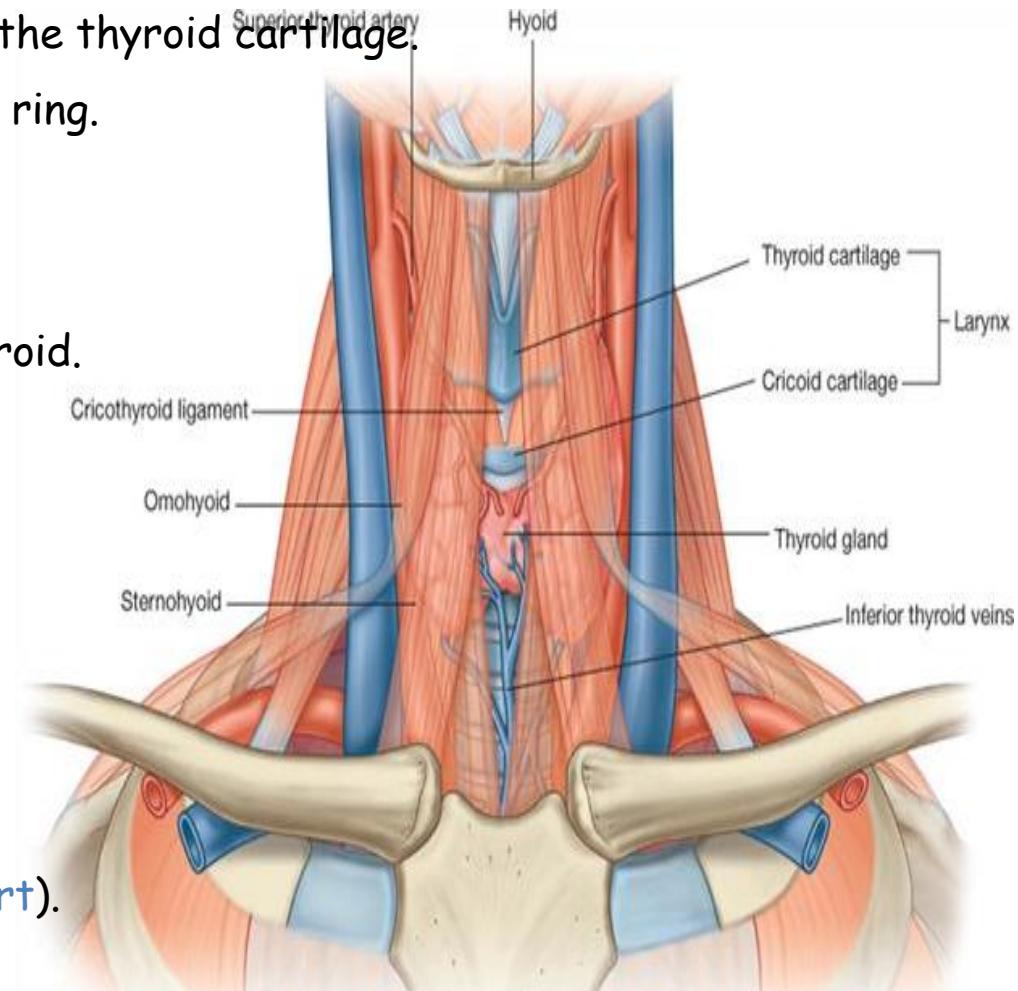
- Upper part: larynx, pharynx & external laryngeal N.
- Lower part: trachea, esophagus & recurrent laryngeal N.

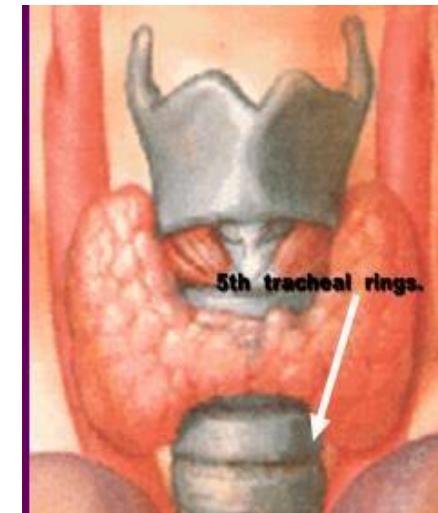
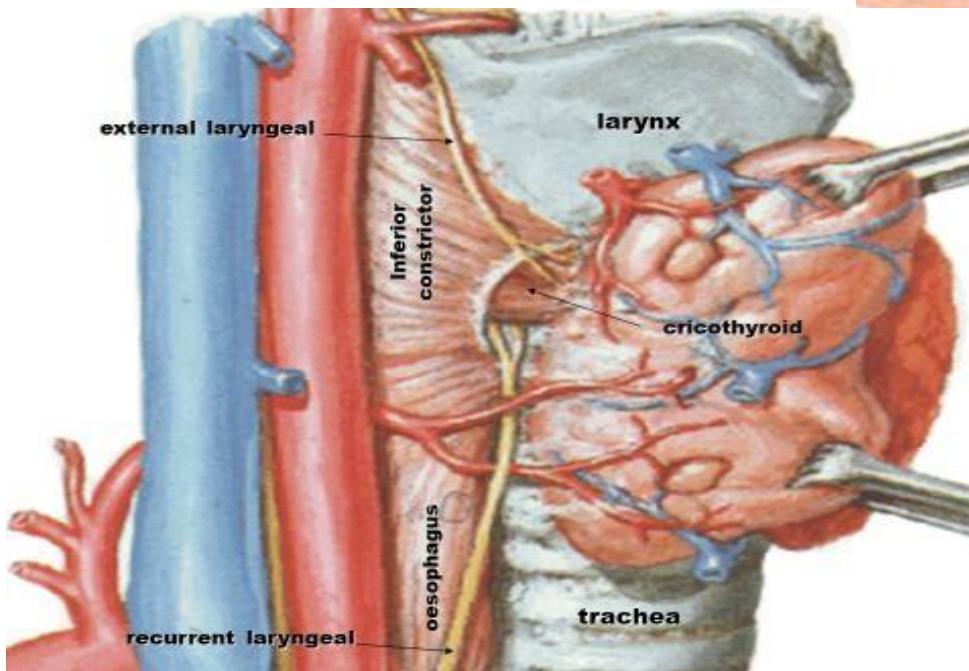
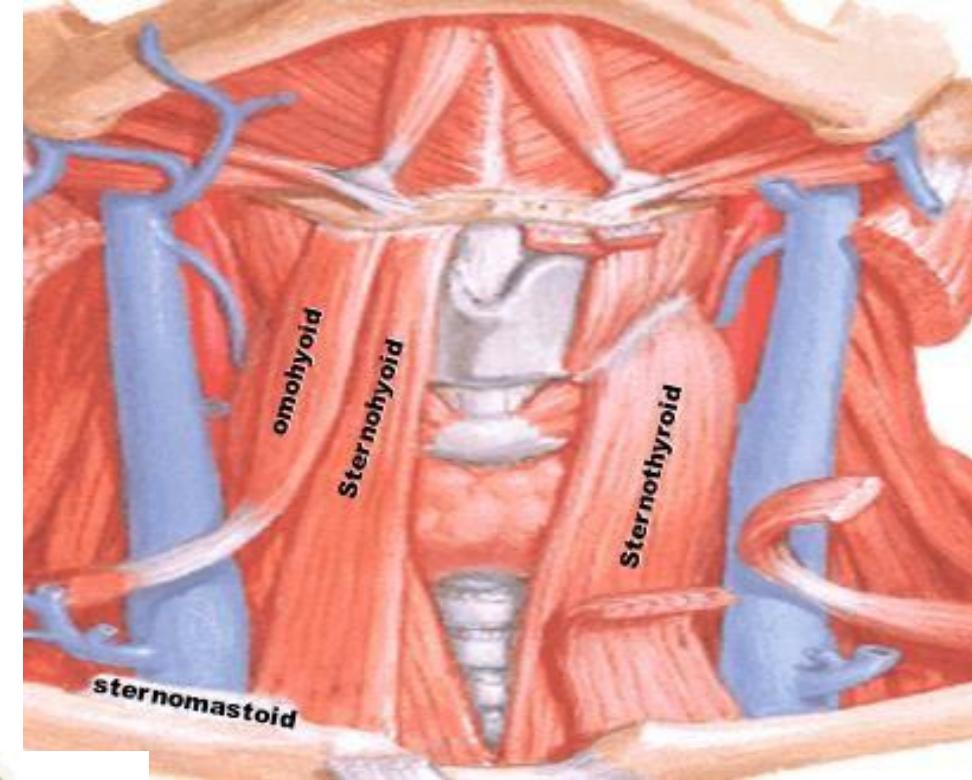
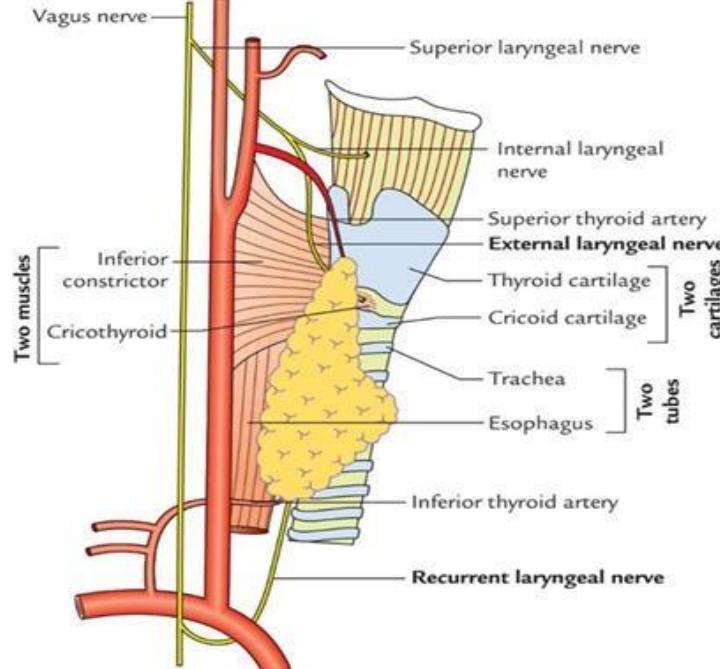
c. **Posterior**: Carotid sheath (CCA= lower part).

4. **Borders**

a. **Anterior**: Related to ant branch of superior thyroid artery.

b. **Posterior**: Related to anastomotic branches between superior and inferior thyroid arteries & parathyroid glands.

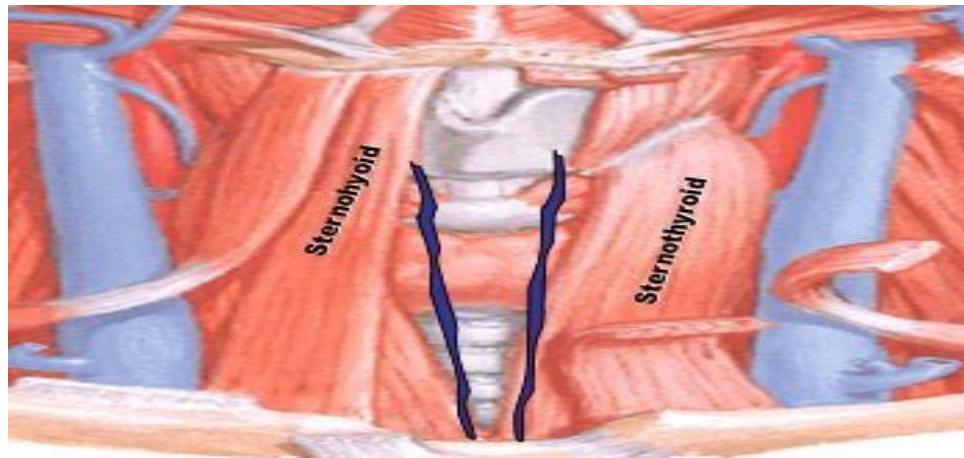
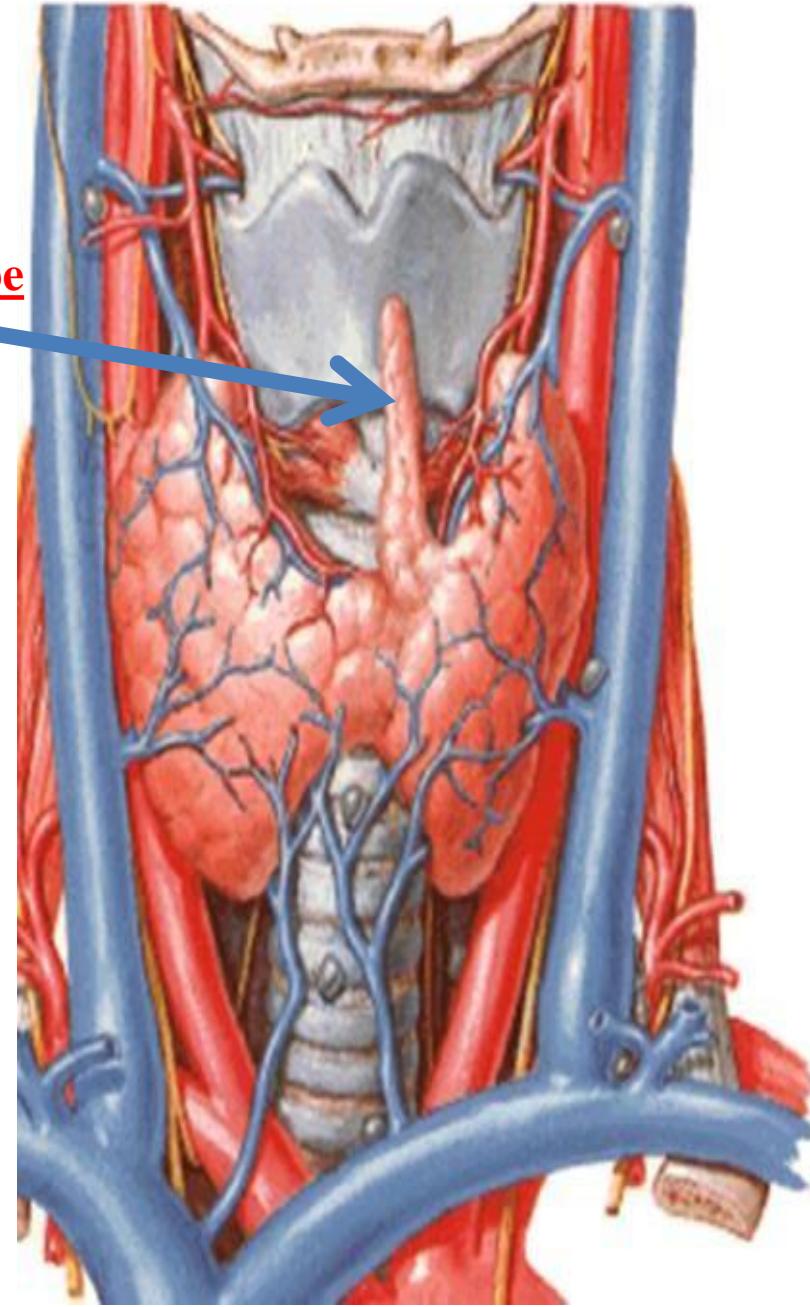




B)Isthmus

1. **Anterior surface:** is covered by :
 - a. sternothyroids & sternohyoids.
 - b. anterior jugular veins.
 - c. fascia and skin.
2. **Posterior surface:**
2nd, 3rd and 4th tracheal rings
3. **Upper border :** anastomosing branches between the two superior thyroid arteries.
4. **Lower border:** inferior thyroid veins

Pyramidal lobe



Arterial supply

1- Superior thyroid artery:

Very important

= branch of external carotid artery. accompanied by external laryngeal n.

= It divides into anterior and posterior branches.

= supplies the upper 1/3 of the lobe and upper 1/2 of the isthmus.

2 Inferior thyroid artery:

= branch from the thyrocervical trunk from the first part of the subclavian artery.

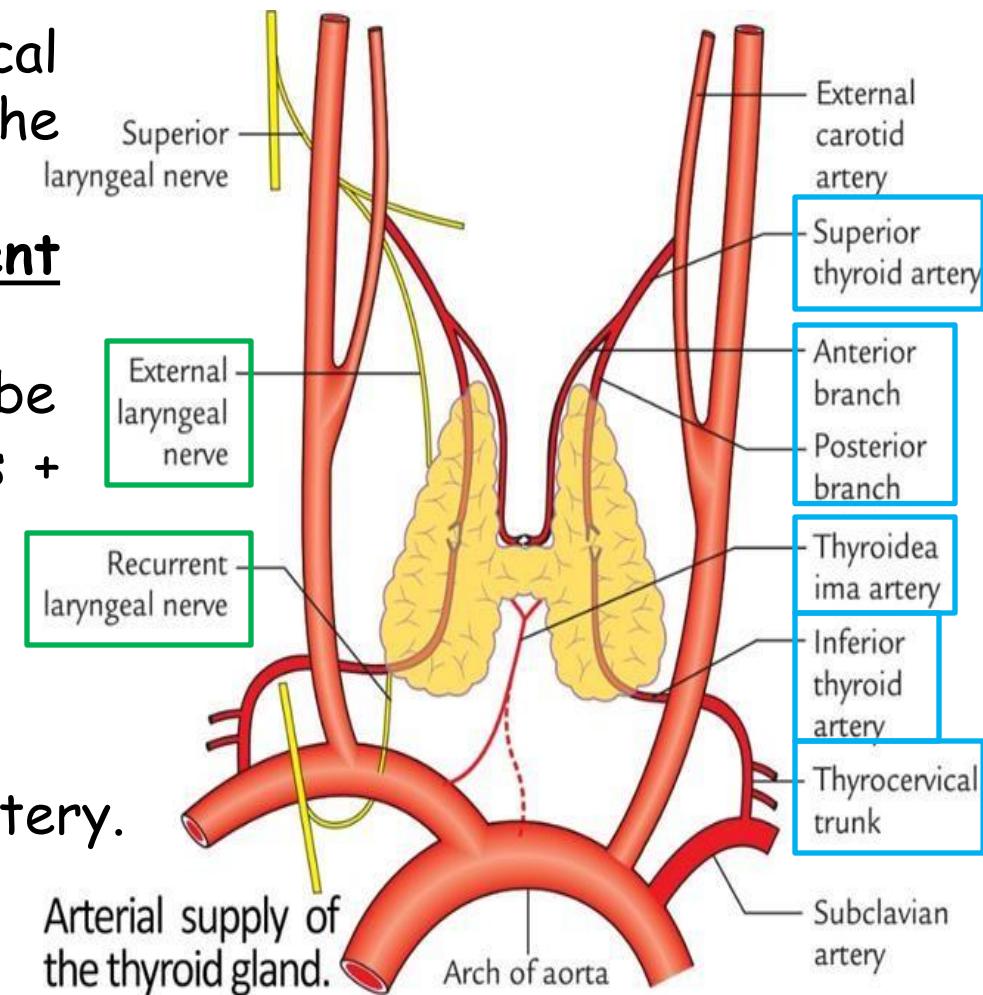
= accompanied by the recurrent laryngeal nerve.

= supplies the lower 2/3 of the lobe and the lower 1/2 of the isthmus + the parathyroid gland.

3 Thyroid ima artery

= (may be absent) arises from the arch of aorta or brachiocephalic artery.

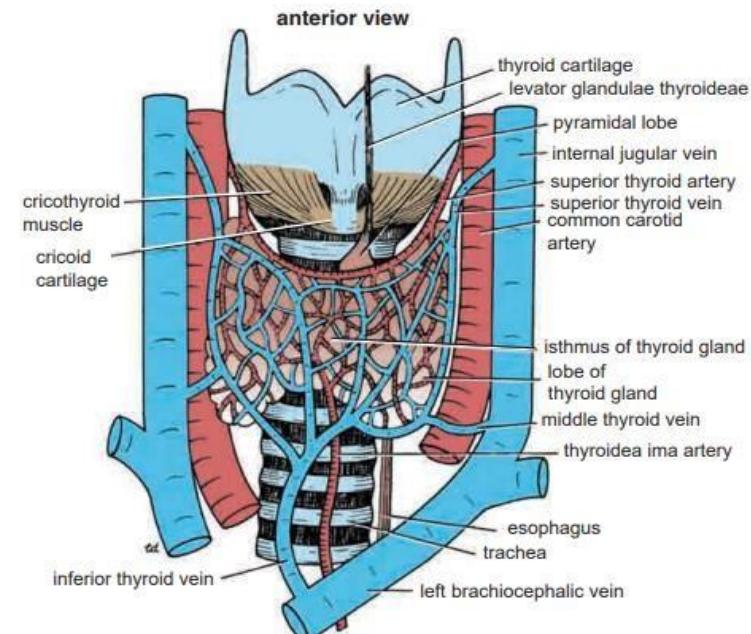
= It supplies the isthmus.



Venous drainage

1) Superior thyroid vein:

- * Emerges at the upper pole.
- Ends either in the **internal jugular vein** or the **common facial vein**.



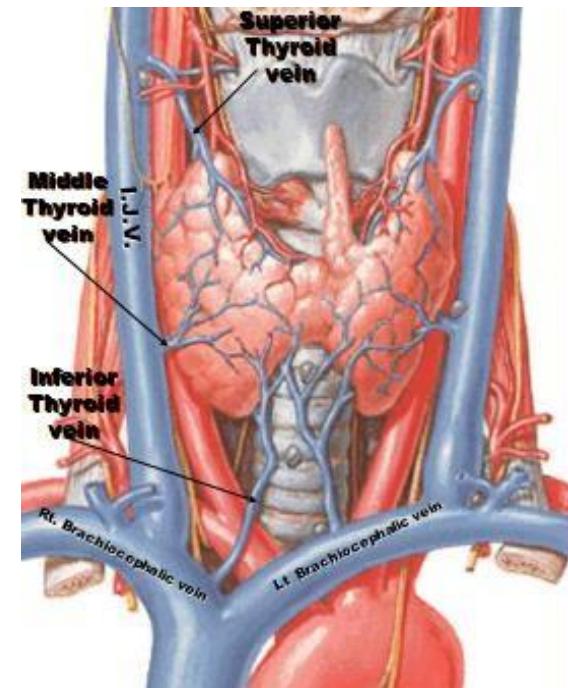
(2) Middle thyroid vein:

- * Emerges at the middle of the lobe.
- Ends in the **internal jugular vein**.

(3) Inferior thyroid veins:

- Emerge at lower border of the isthmus .
- drain into corresponding **brachiocephalic vein**

(or unit together to end in the left brachiocephalic vein)

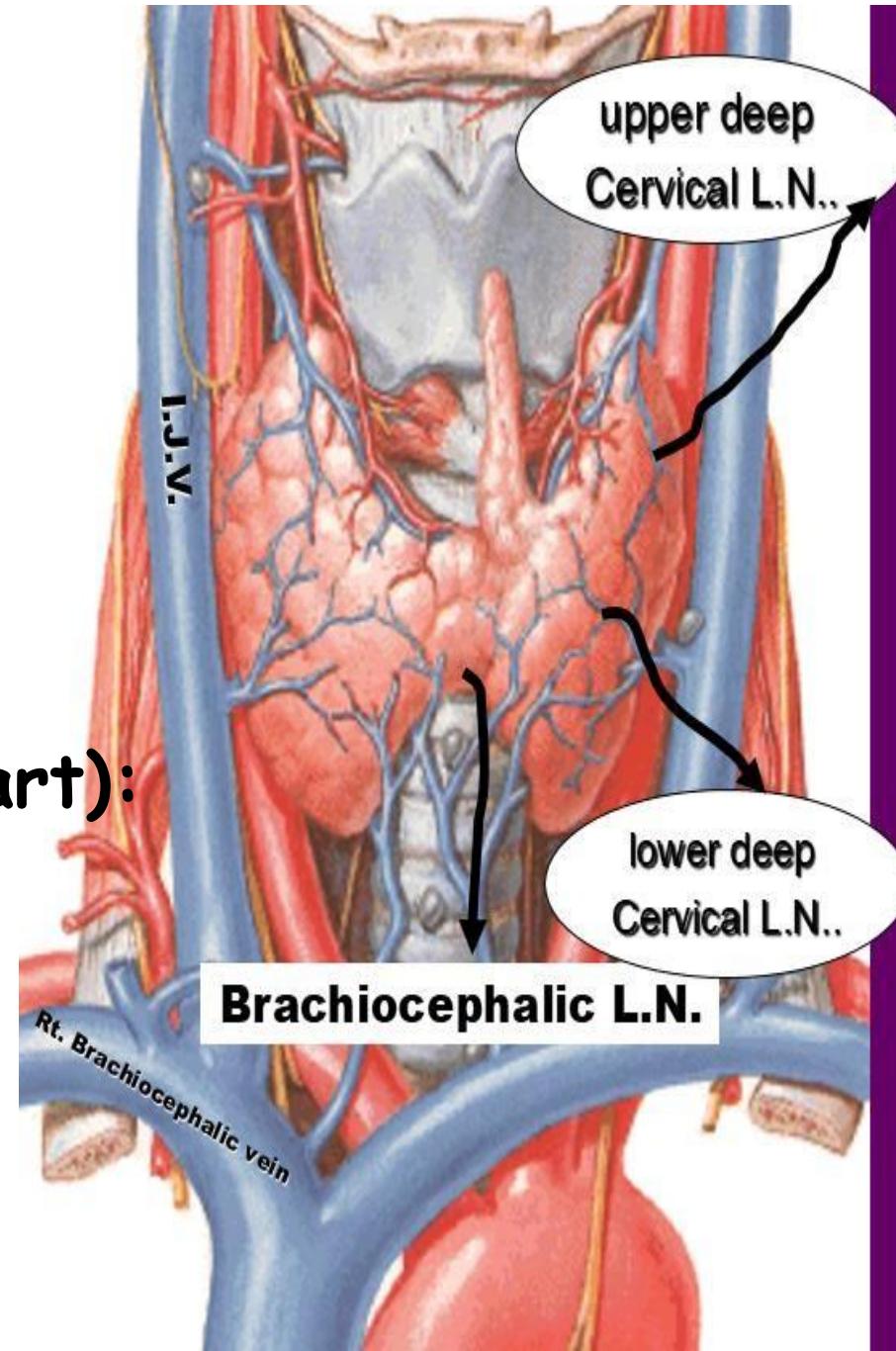


Lymphatic drainage

(1) The upper part:
drains into the upper deep cervical lymph nodes.

(2) The lower part:
drains into the lower deep cervical lymph nodes.

(3) The isthmus (middle part):
drains into the brachiocephalic lymph nodes.



Parathyroid Glands

There are 4 parathyroid glands

Two on each side

Site:

- They are adherent to the posterior border of the thyroid gland.

Size:

- They are small in size ($2 \times 4 \times 6$ mm)

Arterial supply:

- Inferior thyroid artery.
- Anastomotic branches between superior and inferior thyroid arteries.

Nerve supply:

- Sympathetic fibers arise from the superior and middle cervical ganglia.

