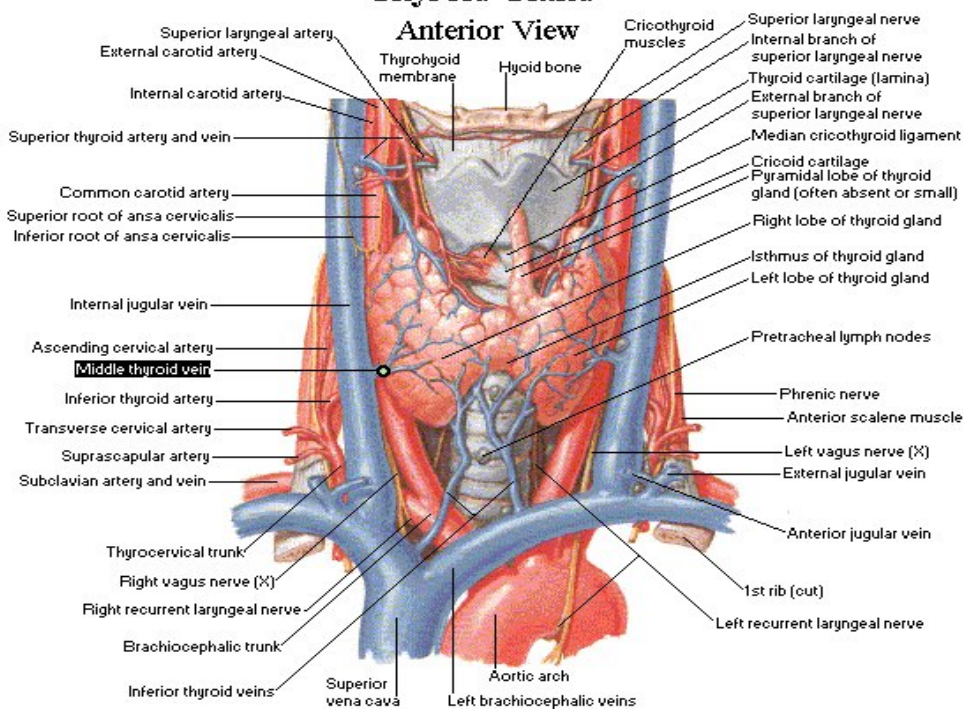


Thyroid gland

Arterial blood supply

	Superior thyroid artery	Inferior thyroid artery
Origin	external carotid artery	thyrocervical trunk which arise from the Subclavian artery
Course	along the inferior constrictor muscle	along the anterior scalene muscle crossing beneath the long axis of the common carotid artery behind the cricothyroid joint inferior to the inferior constrictor
Relation to the nerve	posteriolateral to the superior laryngeal nerve	Lies in 70% anterior to the recurrent laryngeal nerve Then The nerve will cross deep to the inferior thyroid artery at the inferior pole approximately 70% of the time and often branches above the level of the inferior thyroid artery before entry into the larynx
Relation to the thyroid pole	Enter the upper pole anteriorly	Enter the lower pole Posteriorly

Thyroid Gland



the primary blood supply of the superior & inferior parathyroid gland

Inferior thyroid artery is also

Venous drainage of the thyroid gland:

Superior and middle thyroid veins, drain into the anterior facial and internal jugular veins, inferior thyroid and thyroid ima veins which drain into the innominate veins brachiocephalic trunk

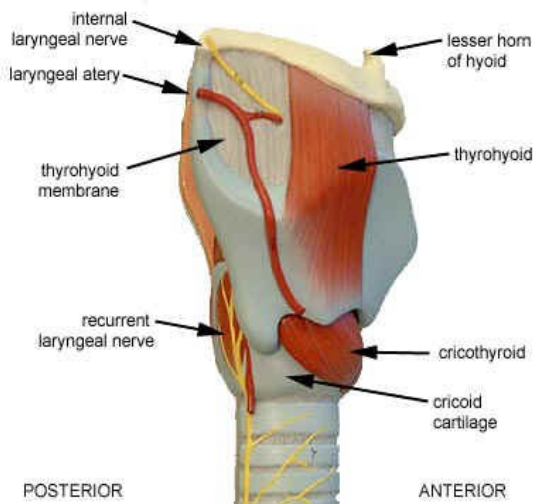
Lymphatic drainage of the thyroid gland:

1. Superior deep cervical
2. Inferior deep cervical
3. Paratracheal

4. Superior pretracheal L.N

Thyroid capsule:

The thyroid gland is enclosed by the **visceral** layer of the **middle** layer of the **deep** cervical fascia



The true thyroid capsule is tightly adherent to the thyroid gland and continues into the parenchyma to form fibrous septa separating the parenchyma into lobules.

The surgical capsule is a thin, film-like layer of tissue lying on the true thyroid capsule.

Posteriorly, the middle layer of the deep cervical fascia condenses to form the posterior suspensory ligament, or **Berry's ligament**, connecting the lobes of the thyroid to the **cricoid cartilage** and the **first two** tracheal rings.

Thyroid gland position:

Isthmus **2nd-4th** tracheal ring

The inferior lobe may extend into the **6th** tracheal ring

Pyramidal lobe:

Approximately **40%** of patients have a **pyramidal lobe** that arises from either lobe or the **midline** isthmus and extends **superiorly**

What is the embryologic origin of the thyroid gland?

The median downgrowth of the first and second pharyngeal pouches in the area of the foramen cecum.

From which pharyngeal pouches are the **inferior parathyroid glands** derived? **Third**.

What is the predominant glycoprotein found in colloid? Thyroglobulin.

What is the function of pendrin?

Mediates exchange of iodide from the thyrocyte to the colloid, which is one of the first steps of thyroid hormone synthesis.

What is the NIS?

A Na/I symporter that serves to concentrate I into cells. It is found in the thyroid gland, salivary glands, gastric mucosa, placenta, ciliary body of the eye, the choroids plexus, the mammary glands, and certain cancers. Except for the thyroid gland, the NIS in these tissues does not respond to TSH.

What are the three plasma proteins that bind thyroid hormone?

Albumin, transthyretin, and thyroxine-binding globulin (TBG).

What percent of the population has more than four parathyroid glands? 10%.

What percent of the population has only three parathyroid glands? 3%.

What percent of parathyroid glands are located in the mediastinum? 2%.

True/False: The inferior glands vary more in location than the superior glands. True.

Where are the **inferior parathyroids** typically located?

Inferior and anterior to the inferior thyroid artery.

Where are the **superior parathyroids** typically located?

Superior and posterior to the inferior thyroid artery and more likely to extend posteriorly and inferiorly or be found **retroesophageally**.

What is the primary blood supply of the parathyroid glands?

The superior and inferior parathyroid arteries, which are usually branches of the inferior thyroid artery.

What are the three types of cells comprising the parathyroid glands? Chief cells, clear cells, and oxyphil cells.

Which cells produce PTH? Chief cells.

What percent of a parathyroid gland is composed of fat? 20-30%.
Which terminal of PTH is active? N-terminal.