



معكم خطوة بخطوة

Anatomy
Passion



Lecture:

16

Done By:

Elaf Sameer



General Anatomy

Lecture 16: Gastrointestinal System (1)

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The Digestive System

from mouth - anus

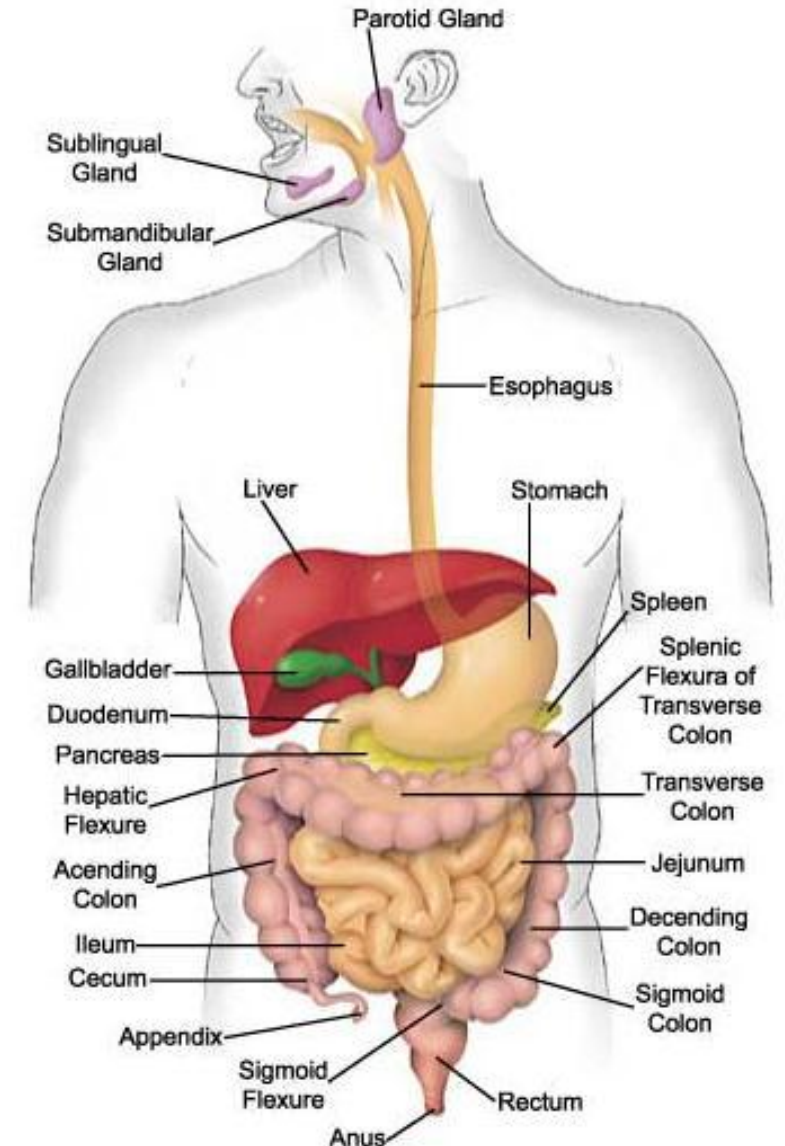
* It includes the following:

A. The gastrointestinal tract or alimentary canal:

* This is a continuous tube that extends from mouth to anus.

* It includes mouth, pharynx, esophagus, stomach, small intestine & large intestine.

B. Accessory Glands: such as liver, pancreas & salivary glands.



A. Mouth (Oral Cavity)

* Extends from lips to oropharyngeal isthmus.

* It is divided into:

A. The Vestibule:

بين teeth و الخد

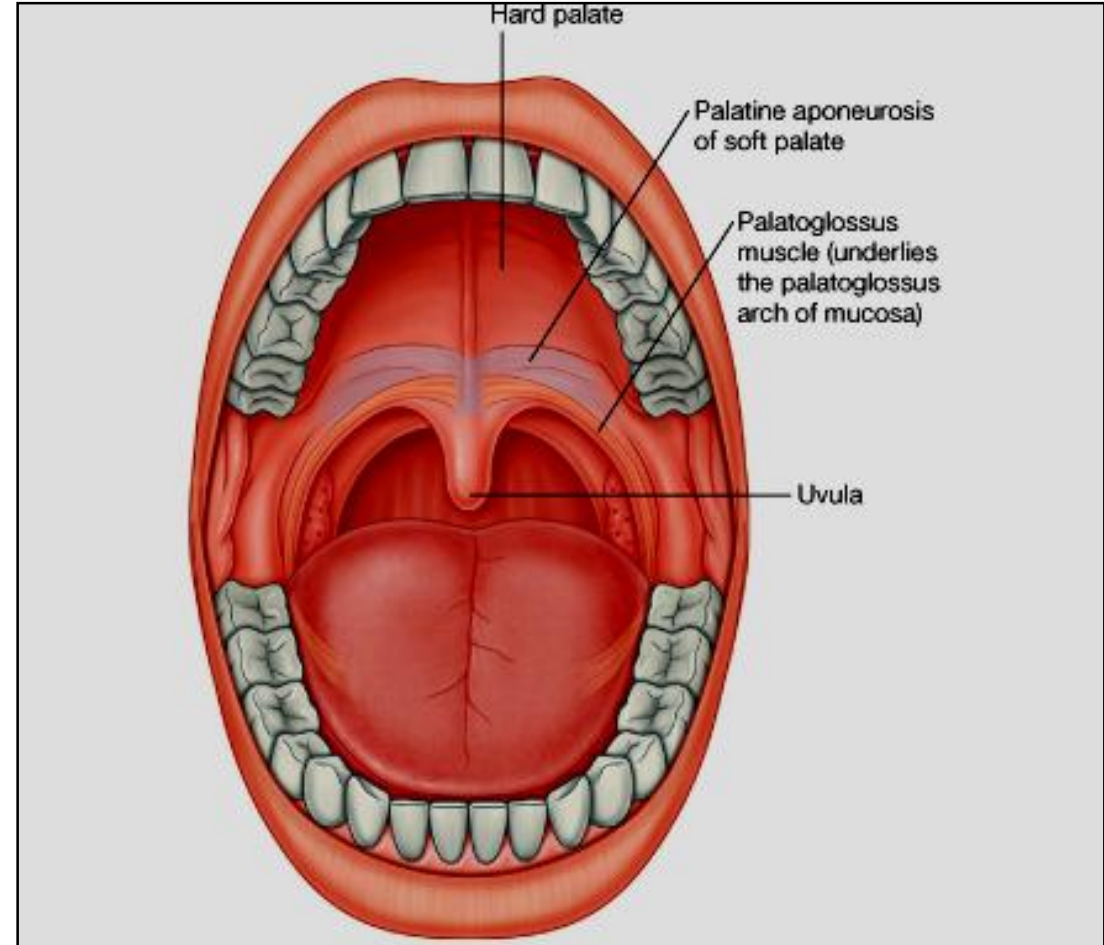
* This is the space bounded externally by the lips and cheeks and internally by the gums and teeth.

* It communicates posteriorly behind the teeth with the mouth cavity proper.

B. The Mouth Cavity Proper:

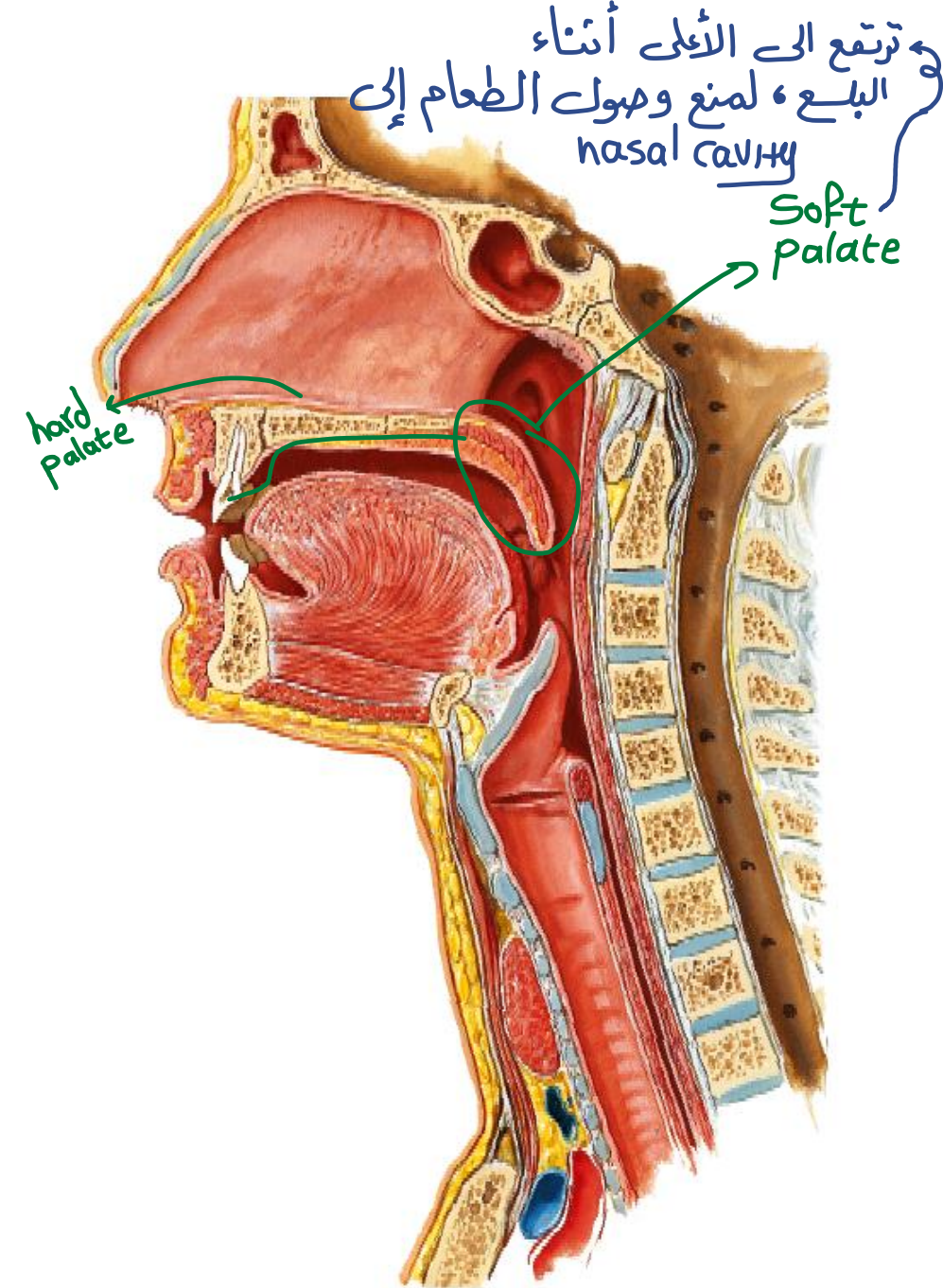
* Extends from teeth to oropharyngeal isthmus through which it communicates with the oral part of the pharynx.

* It has a roof and a floor.



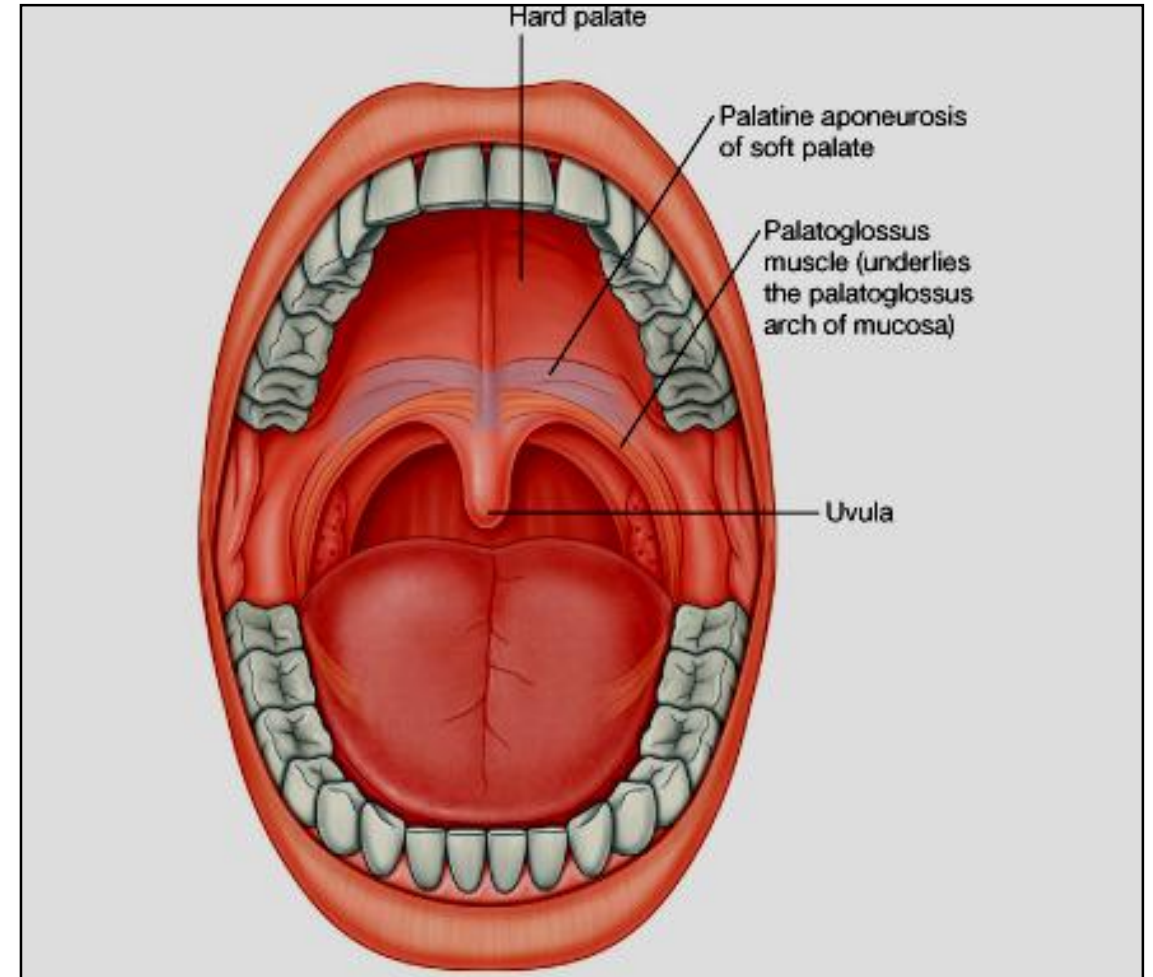
A. The Roof:

- * Is formed anteriorly by the hard palate & posteriorly by the soft palate.
- * The **soft palate** is a mobile fold attached to the posterior border of the hard palate.
- * Its free posterior border presents in the **midline a conical projection** called the **uvula**. ←
- * **During swallowing**, the soft palate is drawn upwards to close off the nasal part of pharynx and preventing swallowed food and liquid from entering nasal cavity.



B. The Floor:

* Is formed **largely by the anterior two third of the tongue** and by the reflection of the mucous membrane from sides of tongue to gum.



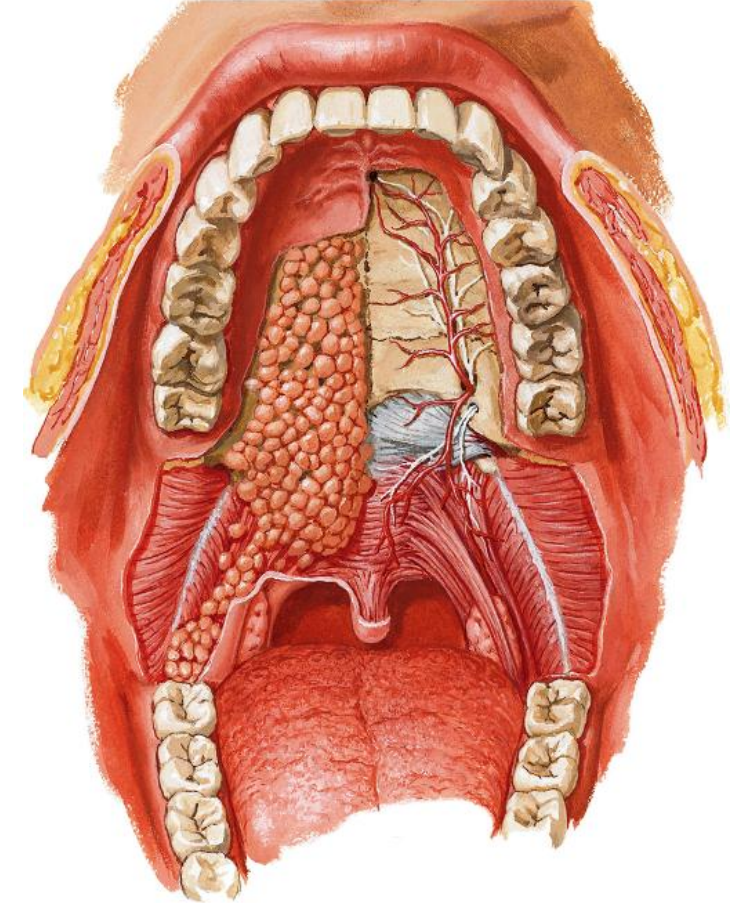
Teeth

مش مطلوب
حفظها

- * Are located in sockets of the maxillae and mandible.
- * The two sets of teeth make their appearance at different time of life.
- * The first set, called the deciduous teeth, is temporary. The second set is called the permanent teeth.

I. Deciduous Teeth

- * Are 20 in number: 4 incisors, 2 canines, and 4 molars in each jaw.
- * The approximate times of eruption are as follows:
 - Central incisors 6 – 8 months
 - Lateral incisors 8 – 10 months
 - First molar 1 year
 - Canines 18 months
 - Second molar 2 years

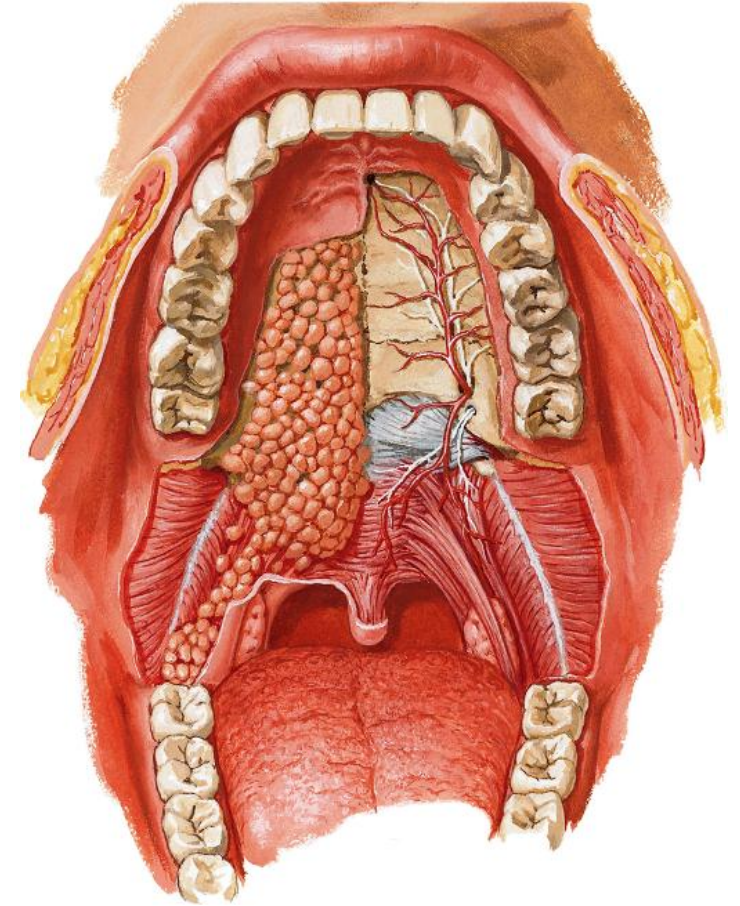


II. Permanent Teeth:

* Are 32 in number: 4 incisors, 2 canines, 4 premolars, and 6 molars in each jaw.

* The approximate times of eruption are as follows:

- First molars 6 years
- Central incisors 7 years
- Lateral incisors 8 years
- First premolars 9 years
- Second premolars 10 years
- Canines 11 years
- Second molars 12 years
- Third molars (wisdom teeth) 17 – 30 years



Tongue

* It is a muscular structure covered with mucous membrane.

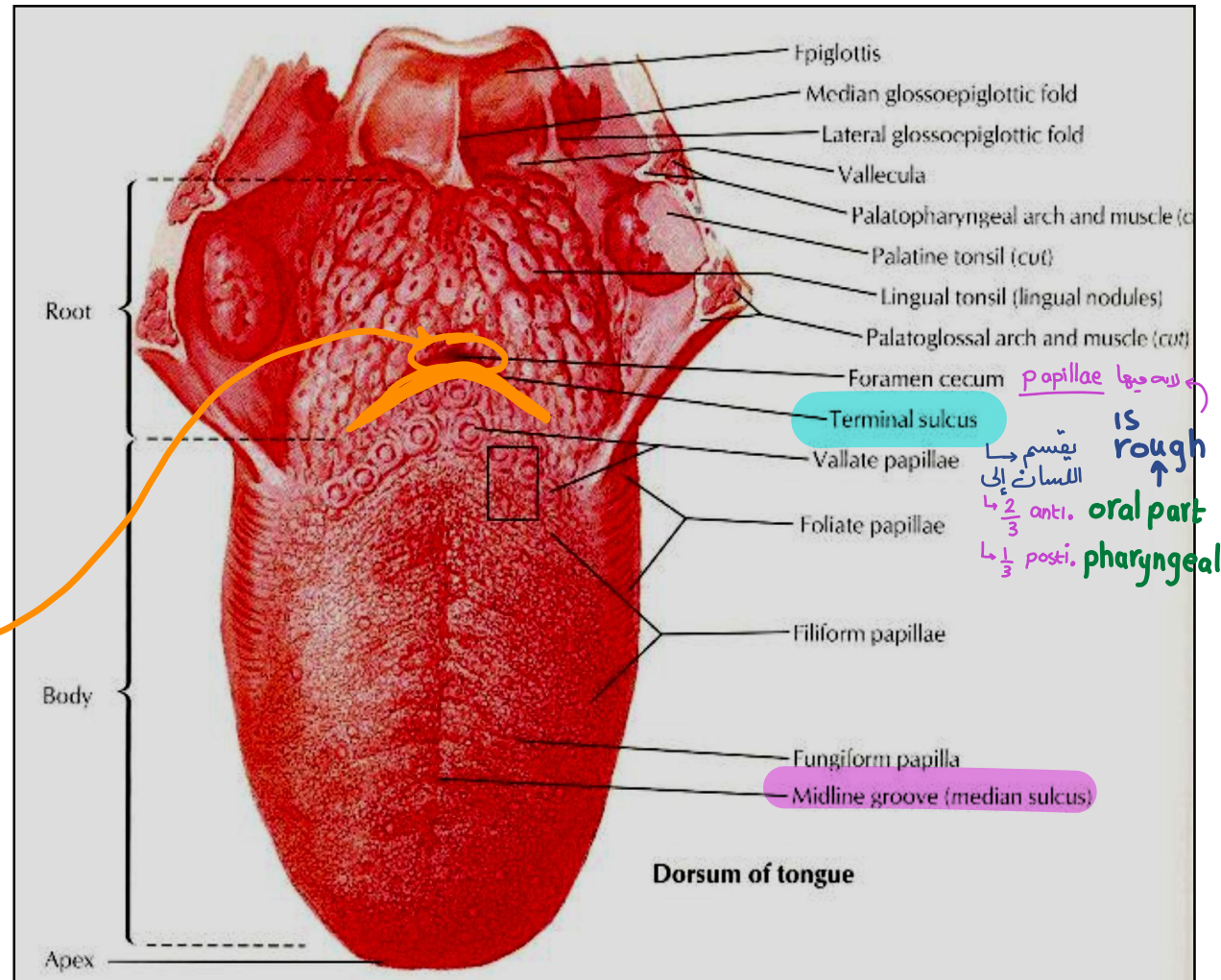
* Its dorsal surface is divided by a V-shaped sulcus, the sulcus terminalis, into an anterior two-third (oral part), and a posterior one-third (pharyngeal part).

* The apex of the sulcus projects backward and is marked by a small pit termed the **foramen cecum**.

* The mucous membrane covering dorsal surface of anterior two-third of tongue is rough due to the presence of papillae.

mucose
membran

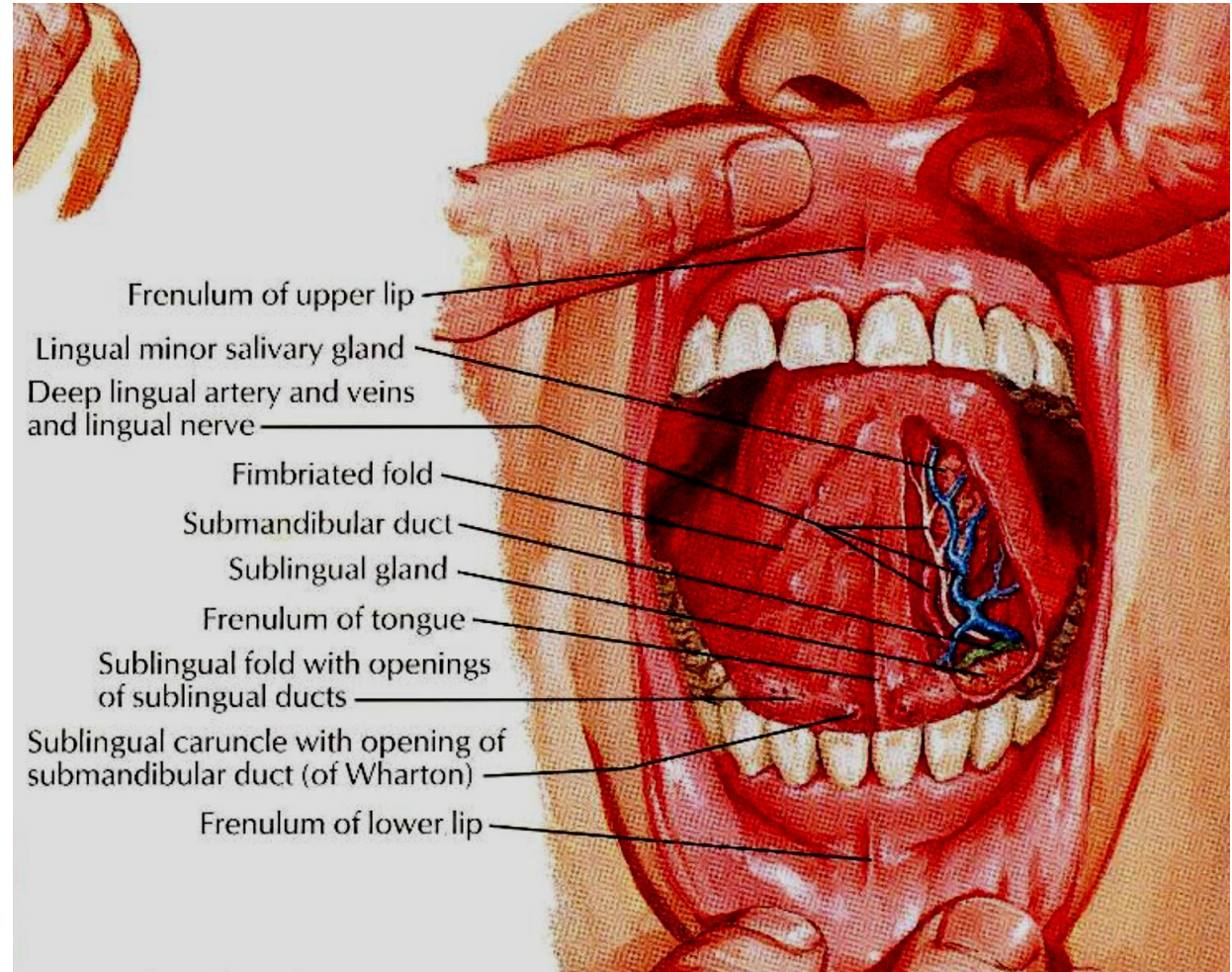
ولكن يغطيها



* The mucous membrane covering dorsal surface of posterior one-third of tongue is smooth and has no papillae, but appears nodular due to underlying lymph nodules, the lingual tonsil.

* The mucous membrane covering the inferior surface of tongue is smooth and is reflected from tongue to floor of the mouth .

* At midline, the mucous membrane gives rise to a fold called the **frenulum of the tongue**, which connects the inferior surface of tongue to floor of mouth.



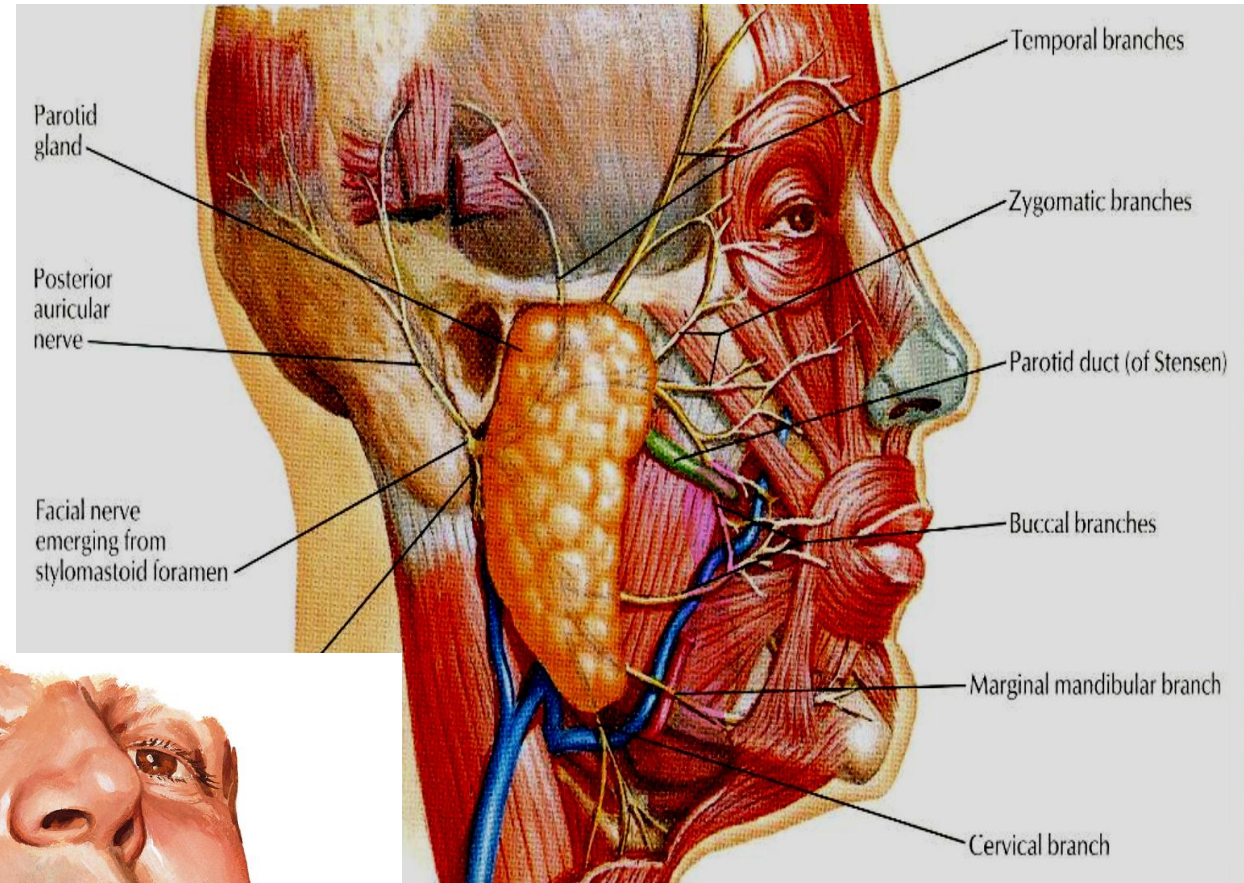
Salivary Glands

* These glands release the saliva into the mouth cavity.

A. Parotid Gland:

* This is **the largest** of the salivary glands, situated below and in front of external auditory meatus and lies in a deep hollow behind ramus of mandible.

* The **parotid duct** runs forward and **opens into vestibule** of mouth **opposite the upper 2nd molar tooth**.



* The duct :-

important

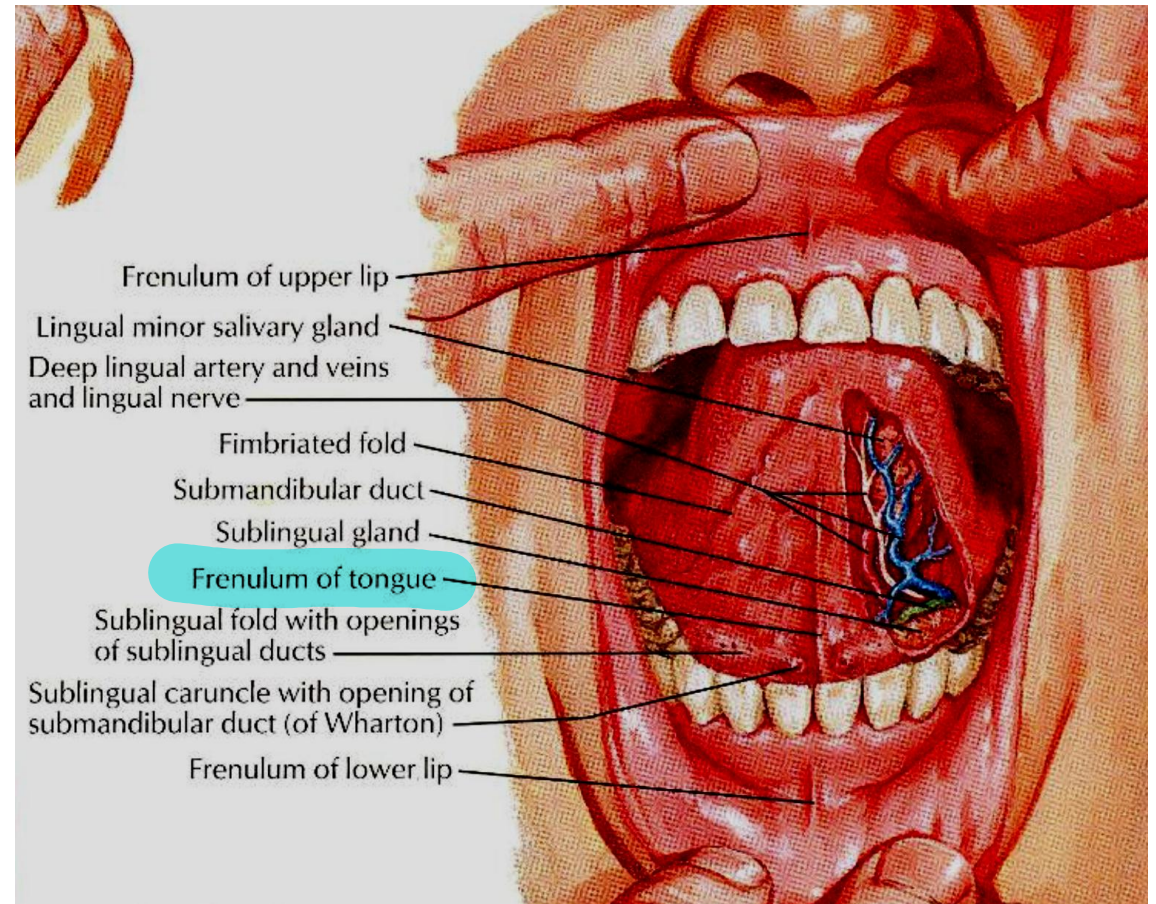
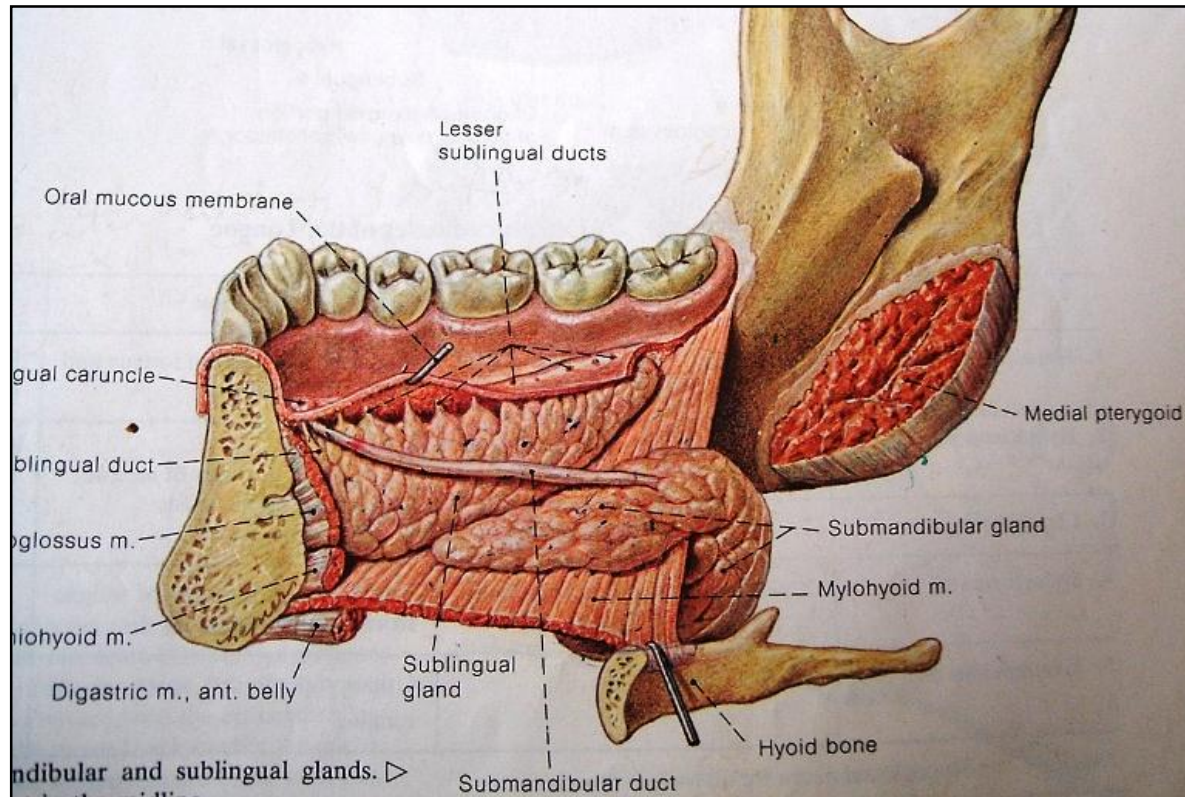
From → masseter muscle to buccinator muscle $\xrightarrow[\text{in}]{\text{open}}$ Vestibule of mouth

↓ to
opposit the upper
2^{ed} molar tooth

B. Submandibular Gland:

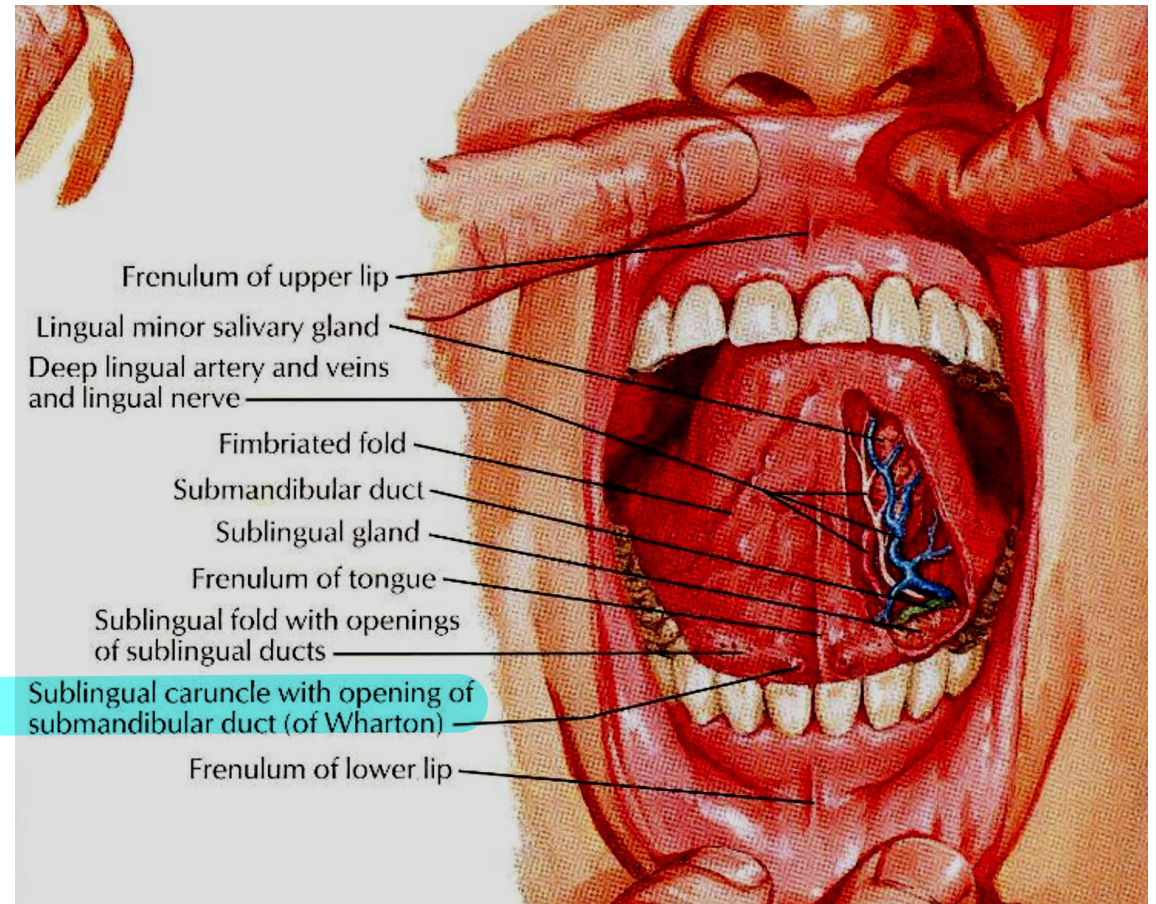
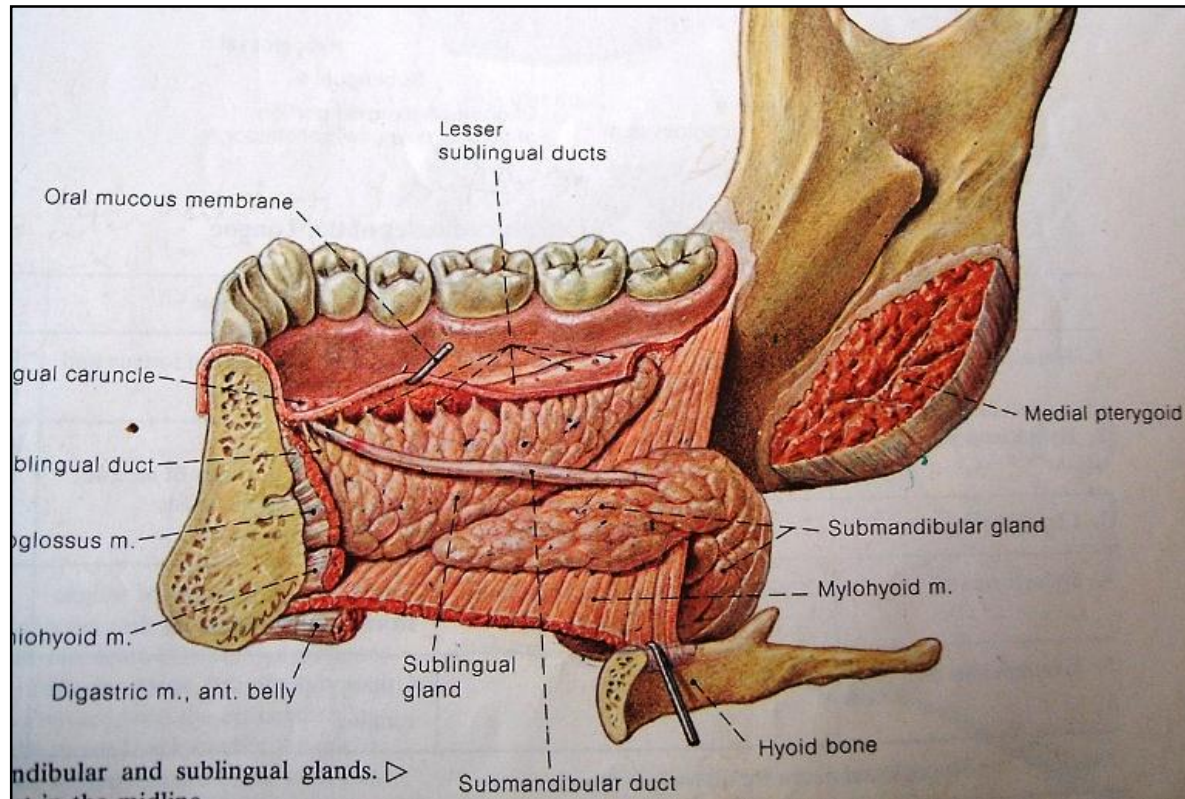
* Lies beneath the base of tongue in the posterior part of the floor of mouth.

* The submandibular duct opens into the floor of the mouth on a small papilla situated at the side of frenulum of tongue.



C. Sublingual Gland:

- * Is the **smallest** of the three main salivary glands.
- * Lies beneath the mucous membrane of the floor of the mouth, close to the midline.
- * The sublingual **ducts are 8 – 20 in number**, open **into the floor of the mouth cavity proper.**



B. Pharynx

* Details of Pharynx are discussed before in Respiratory System.

* The wall of the pharynx has three **circular muscles** (superior, middle and inferior constrictors) and three **longitudinal muscles** (stylopharyngeus, palatopharyngeus, and salpingopharyngeus muscles).

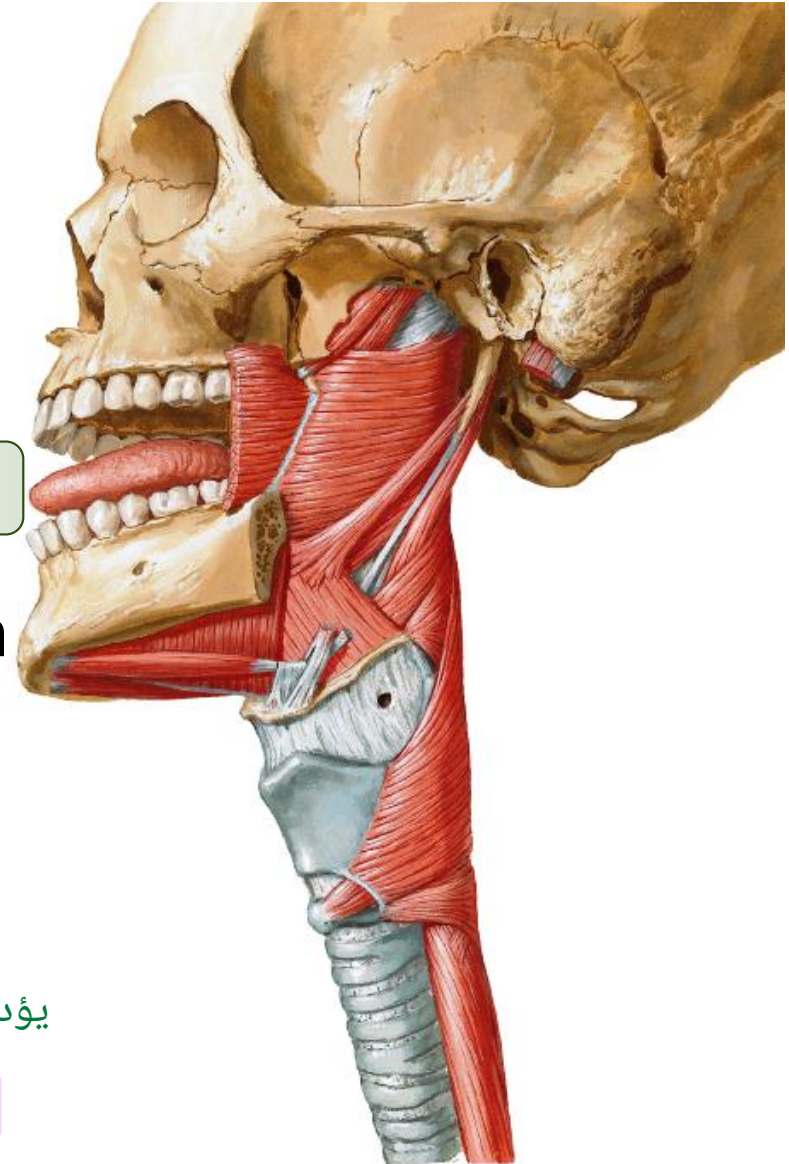
Important

* All these muscles are supplied by the **pharyngeal plexus of nerves** except the **stylopharyngeus**, which is supplied by the **glossopharyngeal nerve (9th cranial nerve)**.

* The **successive contraction of the constrictor muscles propels the bolus of food down into the esophagus.**

يؤدي الانقباض المتتالي للعضلات القابضة إلى دفع بلعة الطعام إلى أسفل إلى المريء

* **The longitudinal muscles elevate the pharynx and larynx during swallowing.**



C. The Gut

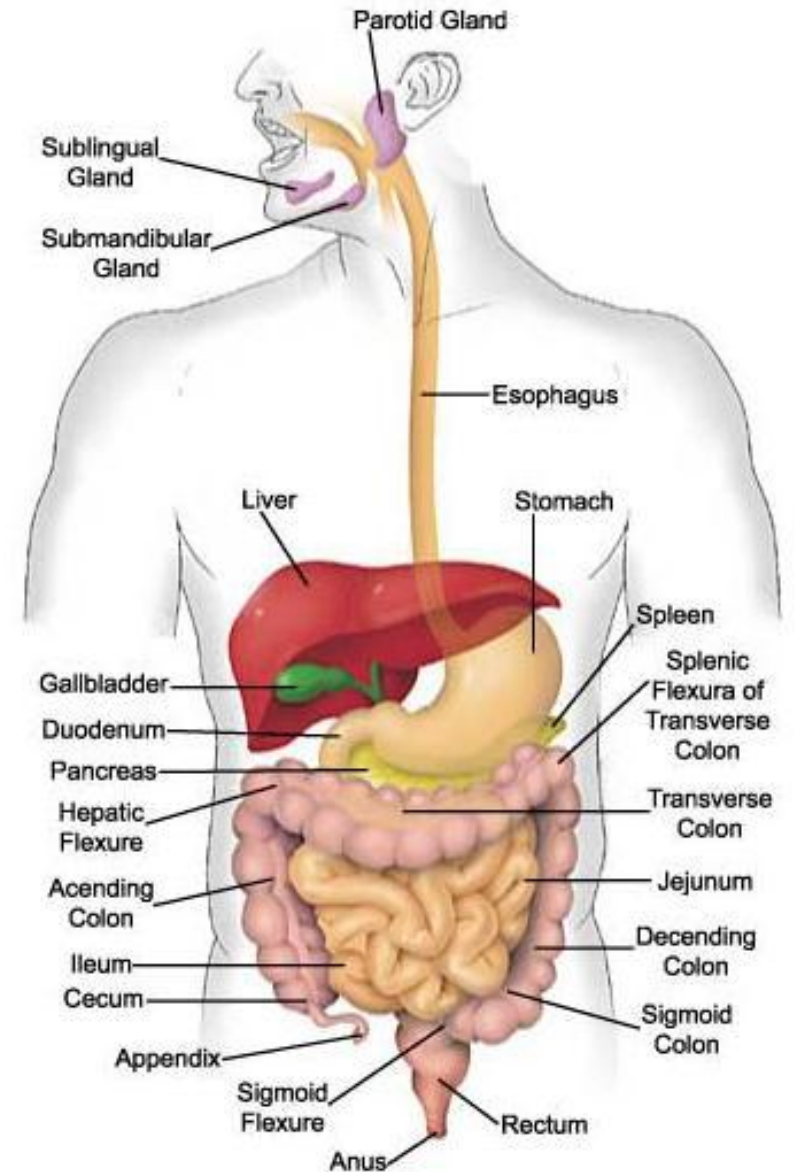
* The alimentary tract is divided into:

1. **Foregut**: it includes ^{from} oesophagus, ^{to} stomach, first part of duodenum and upper part of second part of duodenum.

* The foregut is **supplied by the celiac trunk.**

2. **Midgut**: it includes the ^{from} rest of duodenum, jejunum, ileum, ascending colon and the right 2/3 of transverse colon. ^{to}

* The midgut **is supplied by the superior mesenteric artery.**

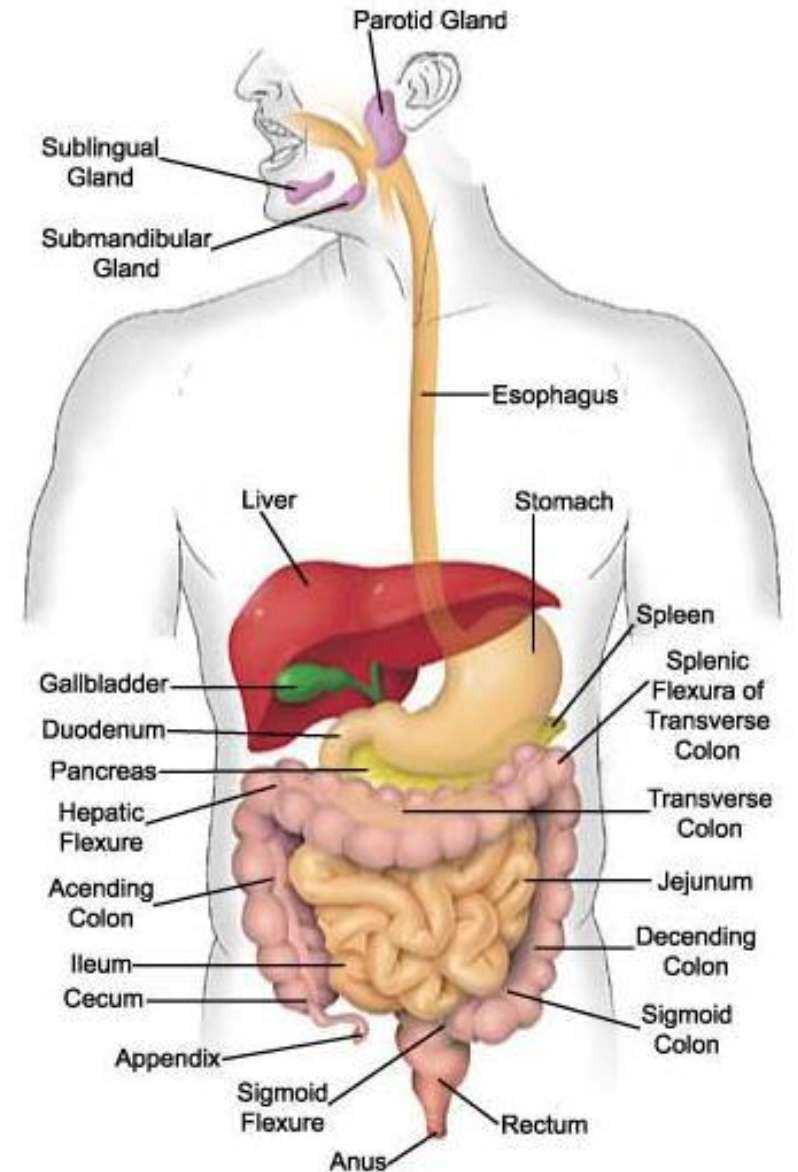


C. The Gut (Contd)

3. Hindgut: it includes the **left 1/3** of transverse colon, descending colon, sigmoid colon, rectum and anal canal.

* The hindgut is **supplied by the inferior mesenteric artery**.

* The **venous blood** of the gut is **drained by the portal vein**.



دكتور محمد: تعالوا نحل أسئلة:-

الطلاب: 😊😊😊

**The blood supply of stomach:

celiac

**The blood supply of the other parts of duodenum:

celiac

**The blood supply of the esophagus:

celiac

**The blood supply of the right side of the transverse colon:

the superior mesenteric artery.

**The blood supply of the left side of the transverse colon:

the inferior mesenteric artery.

Peritoneum

* It is a **serous sac** which lines the abdominal wall and covers the abdominal and pelvic organs

* It is formed of 2 layers; parietal and visceral layers:

1. **The parietal layer** → lines the abdominal wall.

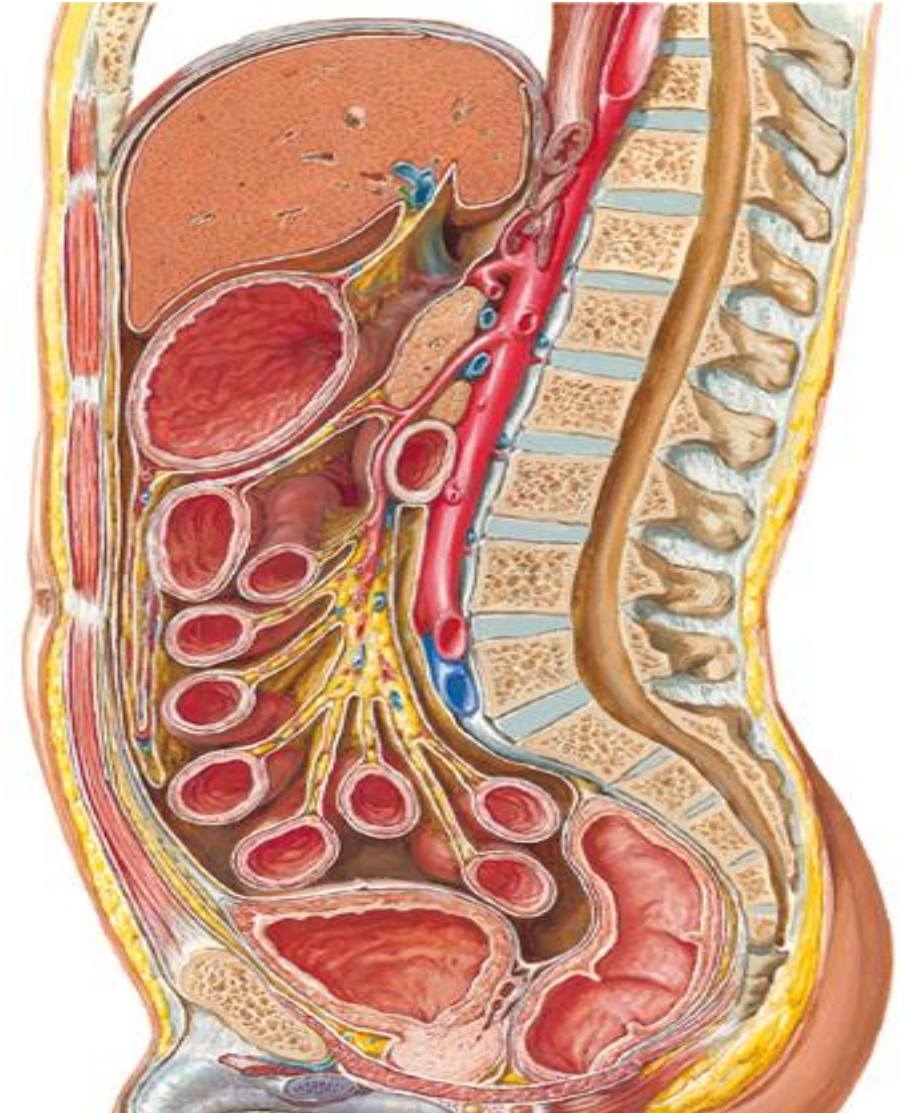
2. **The visceral layer** → covers the abdominal organs. ↪ As Liver, stomach

* Between the 2 layers, there is a potential space called the **peritoneal cavity** which contains a little amount of **peritoneal fluid**.

* **Ascites** = accumulation of fluid inside the peritoneal cavity.

peritum is the most important cause of liver cirrhosis →

أهم سبب
لتليف الكبد



** Relations of abdominal viscera to the peritoneum:

1. Some organs lie behind the peritoneum and are called retroperitoneal organs. They are covered by parietal peritoneum from the front (as pancreas, kidney, ureter and most of duodenum). *not mobile*

2. Some organs are covered by peritoneum from the front and sides (as ascending and descending colon).

3. Some organs are completely covered with peritoneum and they are mobile organs. These mobile organs are suspended by peritoneal folds and ligaments; (as stomach which is suspended by lesser and greater omentum, small intestine which is suspended by mesentery, transverse colon which is suspended by transverse mesocolon, and sigmoid colon which is suspended by sigmoid mesocolon).





هناك

دائماً تعويض رباني

مخبأ عند الله

فلا تحزن