**\*ANATOMY \* ANTERIOR TRIANGLE \* LEC.14**

* **Introduction:**- A wrongly lost content of submandibular triangle is “submandibular ganglion”.  
  - Names related to submandibular triangle : - glandular triangle  
   - digastrics triangle  
  - **submandibular gland:** 🡪 divided into 2 parts, because it wraps itself around the posterior free border of the mylohyoid muscle.  
   🡪page #2: notice the medial view of right half of the mandible , showing:   
   - hyoid  
   - mylohyoid  
   - submandibular wrapping around the posterior border of mylohyoid  
    
   🡪 submandibular gland lies within the floor of the oral cavity, so it’s duct will go to both side of the frenulum of the tongue  
    
   - **submandibular duct**:  
   🡪 page #3: medial view of right side of the mandible:  
   - the duct emerges from anterior aspect of the DEEP part  
   - continues at the floor of the mouth  
   - then opens at both sides of the frenulum of the tongue  
    
   - **Hyoglossus muscle:**  
    
   - page #5: notice : 🡪the “LIM” of the duct relations  
   🡪 lingual nerve  
   🡪 deep part of hyoglossus that is crossed by the **hypoglossal nerve**.  
   🡪 genoglossus is deep to hyoglossus   
   🡪 **note**: “glossus” is a suffix that related to the tongue  
    
   - page #6: notice: 🡪 hyoglossus  
   🡪 hyoid  
   🡪 tongue  
   🡪 deep lingual artery  
   🡪 hypoglossal nerve  
   🡪 lingual vein  
   🡪 lingual artery  
   - hyoglossus muscle inserts itself on the lateral side of the tongue  
   - hypoglossal nerve supplies ALL muscles of the tongue EXCEPT one coming from palate “palateglossus”  
   - Action: increase the space of floor of the tongue while eating, DEPRESS TONGUE  
    
   - which is lateral to hyoglossus: 1. Hypoglossal nerve  
   2. Submandibular gland  
   3. Lingual nerve  
   4. Deep part of submandibular gland  
    
   - which is deep to hyglossus: 1. Lingual artery  
   2. Lingul vein ,,, in the slide, it is divided into large superficial to it  
   and small deep part to it. "احنا بنعتمده deep"   
     
   🡪 **page #8**: cross section at the level of the first molar:  
   -- NOTICE:  
   - deep part of submandibular gland isn’t shown , only the duct  
   - body of the mandible: \*mandibular foramen  
   \* mandibular canal and it’s content   
   \* deep to it is the **deep part of submandibular gland**:  
   🡪 **relations**: 1. Facial vein 🡪 superficial  
   2. Facial artery 🡪 deep   
   - mylohyoid muscle, nerve, vessles  
   - **hyoglossus muscle**:   
   🡪 between the hyoglossus and mylohyoid “external to hyoglossus”/ “lateral relations”:  
   1. Deep part of submandibular gland “mainly”  
   2. Submandibular ganglion  
   3. Submandibular duct  
   4. Lingual nerve  
   5. Hypoglossal nerve  
    
   🡪 deep relations… add “lingual VEIN”  
   🡪 so the relations from deep to out: 1. Genioglossus  
   2. Hyoglossus  
   3. mylohyoid  
     
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   🡪 **Carotid Triangle**:  
   - also named “vascular triangle”: most of the structure are vascular.  
   - bonded posteriorly by **anterior** border of the sternocleidomastoid.  
   - page #10: notice: - boundaries  
   - contents   
   - the sternocleidomastoid is reflected to show the “accessory nerve”.  
   - cervical lymph nodes : **drains** : **1. Submental  
   2. Submandibular  
   3. Carotid  
     
    
   - anterior triangle of the neck: 🡪 skin🡪 superficial fascia🡪 deep fascia** **-** **made a slink called “carotid sheath”  
   - so carotid sheath is a tubular extention of deep cervical facia   
   - contents of the sheath:**

1. CCA🡪 common carotid artery “below the sheath/lower part of sheath”
2. ECA🡪 external carotid artery “in the upper part of the sheath”
3. ICA 🡪 internal carotid artery “in the upper part of the sheath”
4. Internal jugular vein “ found within MOST of the sheath/ most of the way”

**- NOTES:** 🡪 sternoclavicular joint is an important clinical landmark.  
 🡪 ECA passes deep to digastrics posterior and stylohyoid muscles, which will divide it according to branches (5 branches below and 3 branches above).  
  
🡪 ICA : - ascend vertical in the neck  
 - enters catotid OPENING that lead to carotid CANAL “within **petrous** bone”  
 - it will enters the floor of the middle cranial fossa through “foramen **lacerum**”  
 - then, it will pass on both sides of body of sphenoid within a cave called “**cavernous sinus**” **Where arterial blood is pathing inside venous blood .**

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**-**  then, at the **anterior clenoid process**, it will appear up as cerebral artery giving branches .  
 - before giving these 2 branches, it will give a branch that passes the optic canal, called “ophthalmic artery”  
 - left anterior + right anterior cerebral artery 🡪 anterior communicating artery  
 - middle + posterior cerebral artery 🡪 posterior communicating artery  
 - by these communication, we complete circle of WILLIS.  
 - ICA supplies the anterior part of the cerebrum “**frontal and parietal lobes**”   
 - **Branches :**   
 🡪 at cervical part : no branches  
 🡪 at cavernous part : no branches  
 🡪 at cerebral part : - 3 branches : 1. Ophthalmic anteriorly  
 2. Anterior cerebral   
 3. Middle cerebral  
  
 - “S”🡪 ???  
  
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* **Page #16**:  
  - Notice: - midline of the neck  
   - internal jugular vein  
   - omohyoid muscle  
    
  - Notes:  
   - internal jugular drains finally into the subclavian vein subclavicularly   
   - jugular vein united with sublavian vein to give “brachiocephalic vein”  
   - Right brachiocephalic + Left brachiocephalic veins 🡪 superior vena cava  
   - Internal jugular vein starts as a continuation of SIGMOID sinus, at the jugular foramen  
   - AT IT’S END: at the distal end of mr. internal jugular vein has a valve “bicuspid valve”,  
   forming a dilatation called “inferior bulb”. 🡪 this is the only and only and   
   only valve in heas and neck ☺  
   - internal and external jugular veins are clear while being nevous “a36eeha 6oo$eh :p”
* **Hypoglossal nerve:** - remember that branch from C1 descends from it “within anterior triangle”  
   - it changes it’s direction, entering the submandibular triangle  
  - so it pases below the bridge 2 times : - enter and exit  
  - **C1 IS MOTOR, IS FOUND ANTERIOR NOT POSTERIOR**
* **Ansa cervicalis**:  
   - hitchhiking the hypoglossal nerve  
   - it’s overriding internal jugular vein (wrapping itself)  
   - roots : 1. Superior 🡪 anteriorly  
   2. Inferior 🡪 posteriorly  
  - supplies All strap muscles of the neck EXCEPT one
* **Vagus nerve:**  
   - leaves the skull via jugular foramen with accessory nerve close to it  
  - has 2 ganglia : 1. Superior  
   2. Inferior  
  - at the right side, vagus nerve will give the right laryngeal nerve **AT** right subclavian artery.  
  - Right laryngeal nerve gives/ supplies muscles of the larynx and some of the pharynx.  
  - left laryngeal nerve loop below aortic arch and ascends between trachea and esophagus  
  - left laryngeal nerve will supply muscles of the larynx EXCEPT cricothyroid.  
  - so, laryngeal nerves are continuation of the cranial root of accessory nerve.  
    
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  # hope every thing is OK  
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