**DENT 111: ORAL ANATOMY**

**STUDY GUIDE FOR BLOOD VESSELS AND LYMPHATIC DRAINAGE**

**Let’s begin**

The blood supply of the oral cavity comes from branches of the common carotid artery. In this module you will learn about the branches of this artery and the blood vessels that directly supply the structures in the oral cavity. Also, in this module, you will learn about the veins that drain blood and lymph nodes that drain lymph, from structures in the oral cavity. We will revisit the circulatory system, focusing on the oral cavity.

**Read/Watch**

**Read**

Chapter 14 “Structures that Form the Foundation for Tooth Function, Section V. Vessels Associated with the Oral Cavity” Woelfel’s Dental Anatomy 8th ed by Scheid & Weiss pp. 427-439. Answer the review questions at the end.

**View**

Powerpoint presentation of Dr. M. Segarra “Blood Supply, Venous and Lymphatic Drainage of the Oral Cavity”

**Attend** the online synchronous discussion with Dr. M. Segarra.

**Think**

Guide questions:

We will discuss the answers during the online synchronous discussion.

1. Explain briefly the circulatory system, how the structures of the body are supplied with oxygenated blood and how the deoxygenated blood is drained from the organs and reoxygenated and brought back to the organs.
2. Give the 8 branches of the external carotid artery (ECA).
3. Name the facial branches of the External Maxillary Artery or Facial Artery and the structures they supply blood to.
4. Name the cervical branches of the External Maxillary Artery or Facial Artery and the structures they supply blood to.
5. Give the three main parts or portions of the Internal Maxillary Artery and the structures they supply blood to.
6. Name the five veins that drain blood from the oral cavity and the structures they drain.
7. Name the two lymph nodes that drain lymph from the oral cavity and the structures they drain lymph from.

**Dig Deeper**

By now, you should have noticed that the arteries and veins follow the same branching and route as the nerves. This means that nerves, arteries and veins come in bundles. In anatomy atlases and books, the arteries are colored red, the veins blue and the nerves yellow. In the living, the nerves appear as yellow fibrous structures. Sometimes, when the mandibular molars are too deep into the mandible, such as in cases of impacted teeth, the inferior alveolar nerve can be seen in the socket as a yellow fibrous structure which can be mistaken as a granulation tissue or something else. Be careful not to cut it. Veins are more superficial than arteries. They are colored blue in atlases to denote that the blood inside is deoxygenated. Since the blood vessels are usually bundled or very close with the nerves, be careful when administering local anesthesia as you might inject the anesthetic solution into the blood vessels instead of near the nerve (you should not hit the nerve).

With this module and the three previous ones, I hope you have realized that dentistry is not just about teeth. Teeth are interconnected with other structures of the body and therefore can be pathways to infection thru the spaces in the face which you learned in the Oral Cavity module and thru the blood vessels which was discussed in this module.

This is the last lesson in Oral Anatomy. There is a Bible phrase that goes “fearfully and wonderfully made” describing the human body. A book of the same title by Phillip Yancy, expounds how the human body was designed by our Creator such that all of the parts fit perfectly and that each minutest part serves a purpose and is created to be able to perform its function most efficiently. After going through this course, you must have appreciated by now how each cusp, each groove, each bone, even the smallest lingual papilla, is formed so that it can perform its function well. Another example of this marvelous architecture is the TMJ and the arrangement of the teeth, how the anatomy of the TMJ complements the form of the teeth allowing us to masticate well, talk properly and look good (the functions of mastication, speech and esthetics). Likewise, the physiologic forms of the teeth reflect how meticulous and thoughtful our Creator was, designing our teeth so that the supporting structures are naturally protected. Indeed, we are “fearfully and wonderfully made”.

Good job! You made it till the end. We hope the faculty of Oral Anatomy had prepared you for the higher courses in dentistry. It has been a pleasure teaching and learning from you. Good luck!