Introduction to the Head and Neck

Learning Objective
After completing this exercise, you will be able to identify major muscles of the head and neck as well as identify blood vessels and nerves.

1. **Start by setting the screen view:**
   - Select “Classic” from the “Views” drop down menu in the upper-left corner of the screen
   - Reset the dissection by clicking the “Reset” button in the upper-right corner of the screen

2. **Set the cross section through the area we want to explore:**
   - Drag the reference plane in the dissection area by its blue border to the middle of the neck (the cross sections are numbered in the lower left corner, you should be close to 249)
   - Explore the anatomy of the neck by moving your mouse over the cross section (structures are identified at the top of the cross section area)

3. **Skin the cadaver to reveal the anatomy below:**
   - Select the “Dissect” tool from the toolbar below the dissection area (turns blue when selected)
   - Click on the skin to remove it (now you see the fat and other subcutaneous tissue)
   - Remove the fat just like the skin

4. **Isolate the arteries that feed the brain by simplifying the dissection:**
   - Use the “Zoom” control, located in the toolbar below the dissection area, to enlarge the dissection
   - Select the “Move” tool and drag the dissection with your mouse to reposition it
   - Dissect the platysma
   - Dissect the veins of the anterior and posterior head and neck to clean up the dissection

5. **Identify the sternocleidomastoid muscle by highlighting it:**
   - Select the “Index” tab
   - Enter “sternocleidomastoid” into the search box
   - Select the “Sternocleidomastoid - Left” from the list
   - Click the “Add & Highlight” button (the cross sections are in standard radiologic orientation so the left sternocleidomastoid muscle is highlighted on the right side)

Name the three other muscles that form the superficial anterior neck:
1. ____________________________  2. ____________________________
   3. ____________________________

5. **Isolate the arteries that feed the brain by simplifying the dissection:**
   - Click the “Clear” button to clear the dissection area
   - Select the “Systems” tab
   - Select “Skeletal system” and click the “Add” button
   - From the “Regions” tab
   - Expand the “Neck” using the icon to the left
   - Expand “Arteries” section
   - Select the “Common carotid artery” and click “Add & Highlight”
6 Follow the common carotid artery as it branches:
   • Locate the common carotid arteries in the cross section
     (these are located just deep to the sternocleidomastoid muscles)
   • Use the “Zoom” control to enlarge the dissection
   • Follow the arteries superiorly by holding down the command (Mac) or ctrl (PC) key while pressing
     the up arrow key to move 1 mm at a time through the cross sections

   Move the cross section 1 mm at a time by holding the command (Mac) or ctrl (PC) key while pressing the up or down arrow keys

Name the two major branches of the Common carotid artery?
(Hint: follow the artery superiorly until it branches)

1. ____________________________  2. ____________________________

7 Visualize a more advanced anatomical concept, the Muscles of Mastication:
   • Click the “Clear” button to clear the dissection
   • In the “Systems” tab, add the “Skeletal system”
   • Add and highlight the Temporalis muscle (hint: use the index tab)
   • Select the “Rotate” tool located in the toolbar below the dissection area
   • Rotate to a left lateral view by clicking in the dissection area and dragging the mouse left or right.

   Rotate the dissection using the left or right arrow keys while holding the command (Mac) or ctrl (PC) key
   Alternately, use the rotation tool below the dissection area

   • Set the cross section through the Neck of the mandible (cross section 149)
   • Select the “Highlight” tool from the toolbar
   • Highlight the Masseter muscle by clicking on it in the cross section

   Highlight structures or de-highlight a structure with the highlight tool

   • Highlight the Medial and Lateral pterygoid muscles in the cross section
   • Bring the cross section down to the middle of the mouth to find another muscle that aids chewing
   • Highlight the buccinator muscle in the cross section

Which major structure passes through the Buccinator muscle?
(Hint: This structure originates from a prominent gland in the area)

1. ____________________________

8 The Parotid gland:
   • Locate the Parotid gland in the cross section and highlight it
   • Notice the structures buried within the gland

What artery and nerve lie within the Parotid gland?

1. ____________________________
2. ____________________________