INSTRUCTIONS/ASSIGNMENT FOR ANATOMICAL DISSECTION:

Once you click on the link to open the dissection module, the first thing you need to do is to be sure you can see all the controls as follows. If you do not see these controls, maximize your browser. If you still do not see them, please stop and contact us for assistance by clicking on the ‘contact the instructor link’ above the quiz questions back on the course page.

Navigating the Dissection Programs – Read This! Very Important!

- **Select Starting Point**, in the tool bar appearing vertically on the left side of your screen, click on the first icon that looks like this: ![Select Starting Point Icon] and follow instructions provided.

- **Change Layer**, use the controls that are found on the left below the image: ![Change Layer Controls]. You can either use the up/down arrow to change layers, or click on the layer number to select a different layer from the dropdown box.

- **Change Frame** (which rotates the anatomical model) use the controls that are found centrally under the image. The frame number appears and you can use the arrows to advance one frame at a time or the curved arrows to jump multiple frame.

- **Identify Structures**: Click on any structure in the anatomical dissection and the structure will highlight in green and information pertaining to the structure will appear in the dialogue box on the right side of the screen. Read all information pertaining to the structure. If you are wrong, select another structure until you identify the correct one. Repeat for each structure we ask you to identify.

- **Having trouble finding a structure?** In case you are having a problem identifying a structure, all you need to do is to click on the box in the lower right corner that says Visible structures. A list of all structures visible in the dissection will show in the box. Simply click on the name of the structure, it will highlight and you can proceed with reading about that structure.

The above five instructions are all you need! Refer back to them if you need to.

Let’s get started!

**Dissection Starting Point**:

- **Select Starting Point**: Go to Trigger Points, select Head and neck from the sub menu, select Muscles of mastication from the sub menu, and click on Digastric.

- Change Layer to 1
- Change Frame to 27

**Identify Structures**:

- Digastric (trigger point indicated by the symbol #). Read the contents of dialogue box.
Study: The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

Identify Structures:

- Digastric (click on muscle) - Read the contents of dialogue box.
- Under Primary Actions, Depression of the mandible at the temporomandibular joint when acting bilaterally, click on the (Anim 1) link. Change Frame to 10 and play the video and watch the action of the digastric muscle. Now click on the (Anim 2) link and Change Frame to 1 and study the motion of the TMJ.
- Under Primary Actions, Retraction of the mandible at the temporomandibular joint when acting bilaterally click on the (Anim) link and play it to study the motion of the mandible.
- Under Secondary Actions, Elevation of the hyoid bone, click on the (Anim) link. Change Frame to 5 and play the video and NOTE the antagonistic function of the Omohyoid, Sternohyoid and the Sternothyroid muscles (via the Thyrohyoid).

Back on the left menu under 3D views, under Trigger Points, click on Medial pterygoid (may have to scroll down)

Change Frame to 27

Identify Structures:

- Medial pterygoid (click on trigger point indicated by the symbol #). Read the contents of dialogue box.

Study: The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the Medial pterygoid.

While reading the information in the dialogue box, click on the link for ‘middle of its belly’. This will show the medial pterygoid is an internal oral muscle, show its internal trigger point (the muscle is palpated using a gloved finger inside the mouth).

Back on the left menu under 3D views, under Trigger Points, click on Lateral pterygoid (may have to scroll down)

Change Frame to 27

Identify Structures:

- Lateral pterygoid (click on trigger point indicated by the symbol #). Read the contents of dialogue box.

Study: The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the Lateral pterygoid.

Change Layer to 2

Identify Structures:

- Lateral pterygoid: lower head and neck (muscle, not trigger point. It is located just below the upper #). Read the contents of dialogue box.
- Under Primary Actions, Protrusion of the mandible at the temporomandibular joint when acting bilaterally, click on the (Anim) link. Change Frame to 10. MOVE your cursor over the image and identify the Lateral pterygoid: upper head and neck and lower head and neck and the Medial pterygoid. Play the video and watch
the Medial pterygoid and Lateral pterygoid work synergistically to produce protrusion of the mandible. **Change Frame** to 1. **MOVE** your cursor over the image and identify the Masseter. Play the video and watch ipsilateral Masseter works agonistically with the Medial pterygoid and Lateral pterygoid to produce protrusion of the mandible.

- Under Contralateral lateral deviation of the mandible at the temporomandibular joint click on the (Anim) link. **Change Frame** to 10 and play the video.
- Under Secondary Actions, Depression of the mandible at the temporomandibular joint when acting bilaterally, click on the (Anim 2) link. **Change Frame** to 2. **MOVE** your cursor over the image and identify the Lateral and Medial pterygoid. Play the video and **NOTE** the tempromandibular joint glides inferior. **Change Frame** to 10. **MOVE** your cursor over the image and identify the Lateral and Medial pterygoid. Play the video and **NOTE** that intraorally the lateral pterygoid is covered by the medial pterygoid.

**Select Starting Point:** Go to **Muscle Atlas**, select **Muscles of the Head and neck** from the sub menu, select **Muscles of mastication** from the sub menu, and click on **Lateral pterygoid**.

- **Change Layer** to 1

**Identify Structures:**

- Lateral pterygoid: upper head and neck - **Read** the contents of dialogue box.
- Lateral pterygoid: lower head and neck - **Read** the contents of dialogue box.

**NOTE** the position of the two heads of the muscle. Both are positioned between the lateral surface of the sphenoid bone and the medial surface of the mandibular notch. The entire area is covered by the zygomatic arc and the masseter making direct palpation of the lateral pterygoid and its trigger points inaccessible externally.

The *lateral pterygoid* is an extremely important muscle involved with proper function of the tempromandibular joint. As stated in the text, the upper head and neck of the lateral pterygoid attaches distally to the capsule and articular disc of the tempromandibular joint. Excessive tension on this muscle can displace the articular disc producing pain as well as possibly causing the jaw to lock, preventing full opening or closing. Unfortunately, the lateral pterygoid cannot be palpated externally and is difficult to isolate intraorally. Proper assessment of this muscle and its possible trigger points requires the patient’s jaw be relaxed and as closed as is practical. Caution must be exercised to prevent stimulating the gag reflex.

**Select Starting Point:** Go to **Trigger Points**, select **Head and neck** from the sub menu, select **Muscles of mastication** from the sub menu, and click on **Masseter 1**.

**Change Frame** to 27

**Identify Structures:**

- Masseter 1 (trigger point indicated by the symbol #). **Read** the contents of dialogue box.

**Study:** The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

While reading the information in the dialogue box, click on the link for ‘upper molars’ for an additional view of this muscle and its trigger points.
Back on the left menu under 3D views, under Trigger Points, click on Masseter 2.

**Change Frame** to 27

**Identify Structures:**

- Masseter 2 (trigger point indicated by the symbol #). **Read** the contents of dialogue box.

**Study:** The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

While reading the information in the dialogue box, click on the link for ‘lower molars’ for an additional view of this muscle and its trigger points.

**Back on the left menu under 3D views, under Trigger Points, click on Masseter 3.**

**Change Frame** to 27

**Identify Structures:**

- Masseter 3 (trigger point indicated by the symbol #). **Read** the contents of dialogue box.

**Study:** The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

**Back on the left menu under 3D views, under Trigger Points, click on Masseter 4.**

**Change Frame** to 27

**Identify Structures:**

- Masseter 4 (trigger point indicated by the symbol #). **Read** the contents of dialogue box.

**Study:** The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

**Identify Structures:**

- Masseter (click on muscle) - **Read** the contents of dialogue box.
- Under Primary Actions, Elevation of the mandible at the temporomandibular joint when acting bilaterally, click on the (Anim 1) link. **MOVE** your cursor over the image and identify the Masseter. **Change Frame** to 10 and **MOVE** your cursor over the image and identify the Lateral and Medial pterygoid and the Masseter. Play the video and **NOTE:** The Masseter is aided by the Medial pterygoid in elevation of the temporomandibular joint while the Lateral pterygoid is antagonistic.

**Back on the left menu under 3D views, under Trigger Points, click on Temporalis 1.**

**Change Frame** to 30

**Identify Structures:**

- Temporalis 1 (trigger point indicated by the symbol #). **Read** the contents of dialogue box.
**Study:** The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

While reading the information in the dialogue box, click on the link for ‘upper central incisors’ for an additional view of this muscle and its trigger points.

**Back on the left menu under 3D views, under Trigger Points, click on Temporalis 2.**

**Change Frame** to 30

**Identify Structures:**

- Temporalis 2 (trigger point indicated by the symbol #). **Read** the contents of dialogue box.

**Study:** The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

While reading the information in the dialogue box, click on the link for ‘intermediate upper teeth’ for an additional view of this muscle and its trigger points.

**Back on the left menu under 3D views, under Trigger Points, click on Temporalis 3.**

**Change Frame** to 30

**Identify Structures:**

- Temporalis 3 (trigger point indicated by the symbol #). **Read** the contents of dialogue box.

**Study:** The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

While reading the information in the dialogue box, click on the link for ‘posterior upper teeth’ for an additional view of this muscle and its trigger points.

**Back on the left menu under 3D views, under Trigger Points, click on Temporalis 4.**

**Change Frame** to 30

**Identify Structures:**

- Temporalis 4 (trigger point indicated by the symbol #). **Read** the contents of dialogue box.

**Study:** The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

**Identify Structures:**

- Temporalis (click on muscle) - **Read** the contents of dialogue box.
- Under Primary Actions, Elevation of the mandible at the temporomandibular joint when acting bilaterally, click on the (Anim 1) link. **MOVE** your cursor over the image and identify the Temporalis. Play the video and **NOTE:** that it is the anterior (vertical) fiber of the Temporalis that produce elevation of the jaw.
- Under Secondary Actions, Retraction of the mandible at the temporomandibular joint when acting bilaterally. Click on the (Anim) link. Play the video and **NOTE** that it is the posterior (horizontal) fiber of the Temporalis that produce retraction of the jaw.
After you complete this assignment, CLOSE the dissection window and return to the course page to answer course quiz questions.