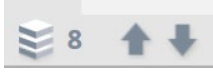

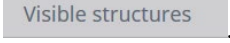


ChiroCredit.com Anatomy 230

INSTRUCTIONS/ASSIGNMENT FOR ANATOMICAL DISSECTION:

Navigating the Dissection Programs – **Read This! Very Important!**

- **Change Layer**, use the controls that are found on the left below the image: . 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 . 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 four instructions are all you need!

Let's get started!

Starting Point: Trigger Points > Muscles of the abdominal wall > Abdominal obliques 1

Identify Structures/Read Text on Structures:

- Abdominal obliques 1 (click on the trigger point indicated by the symbol #)

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

Identify Structures/Read Text on Structures:

- External Oblique (click on muscle)

- **INSTRUCTOR NOTES:**

- Under Primary Actions, Contralateral rotation of the trunk when acting unilaterally: Note the anterior attachment to the broad, abdominal aponeurosis (Rectus Sheath), the anterior iliac crest, the anterior superior iliac spine and the pubic tubercle.
- Under Lateral flexion of the lumbar spine when acting unilaterally, pay particular attention to the agonistic muscles. In order for the unilateral action of the external oblique to produce isolated lateral flexion instead of rotation the ipsilateral *iliocostalis lumborum*, *logissimus thoracis*, *psoas major*, *quadratus lumborum* and *internal oblique abdominal* must also contract.

Dissection Starting Point: Trigger Points - Abdominal obliques 2. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Abdominal obliques 2 (click on the trigger point indicated by the symbol #) **Study:** The location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.
- Rotate the image to **Frame 19**. Click on the Latissimus dorsi and then on the Thoracolumbar fascia.
 - **INSTRUCTOR NOTES:**
 - Note the relationship on these two structures to the External Obliques. The transmission of force from various muscle groups through the thoracolumbar fascia provide for core stability.

Dissection Starting Point: Trigger Points - Rectus abdominis 1. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Rectus abdominis 1 (click on the trigger point indicated by the symbol #)

Change Frame to 19 to view the location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

Dissection Starting Point: Trigger Points - Rectus abdominis 2. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Rectus abdominis 2 (click on the trigger point indicated by the symbol #)

Change Frame to 19 to view the location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

Dissection Starting Point: Trigger Points - Rectus abdominis 3. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Rectus abdominis 3 (click on the trigger point indicated by the symbol #)

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

Dissection Starting Point: Trigger Points - Iliocostalis thoracis 1. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Iliocostalis thoracis 1 (click on the trigger point indicated by the symbol #)

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

Change Frame to 36 to view the anterior location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

Dissection Starting Point: Trigger Points - Iliocostalis thoracis 2. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Iliocostalis thoracis 2 (click on the trigger point indicated by the symbol #)

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

Change Frame to 36 to view the anterior location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

Change Frame to 18

Change Layer to 2

Identify Structures/Read Text on Structures:

- Erector spinae: iliocostalis thoracis (click on muscle)
 - **INSTRUCTOR NOTES:**
 - Under Primary Actions, Extension of the thoracic spine when acting bilaterally: Note the antagonistic action of the rectus abdominis. Keep in mind that when extending the trunk while upright it is the action of the rectus abdominis contracting eccentrically that slows the rate of extension occurring due to gravity, not the action of the extensor muscle groups.
 - Under Lateral flexion of the thoracic spine when acting unilaterally: In addition to the agonistic action of the *iliocostalis cervicis*, *iliocostalis lumborum* and *longissimus thoracis*, the *external and internal oblique abdominal* muscles also contract to assist with lateral flexion but also to neutralize extension and ipsilateral posterior rotation.

Dissection Starting Point: Trigger Points - Iliocostalis Lumborum. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Iliocostalis Lumborum (click on the trigger point indicated by the symbol #)

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

Dissection Starting Point: Trigger Points - Longissimus thoracis 1. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Longissimus thoracis 1 (click on the trigger point indicated by the symbol #)

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

Dissection Starting Point: Trigger Points - Longissimus thoracis 2. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Longissimus thoracis 2 (click on the trigger point indicated by the symbol #)

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

Identify Structures/Read Text on Structures:

Change Layer to 2

- Erector spinae: longissimus thoracis (click on muscle)
 - **INSTRUCTOR NOTES:**
 - Under Primary Actions, Extension of the thoracic spine when acting bilaterally: Note the antagonistic action of the rectus abdominis. Keep in mind that when extending the trunk while upright it is the action of the rectus abdominis contracting eccentrically that slows the rate of extension occurring due to gravity, not the action of the extensor muscle groups.
 - Under Lateral flexion of the thoracic spine when acting unilaterally: All the erector muscles contribute to the action of lateral flexion. In performing the action of extension in the thoracic region the *iliocostalis cervicis*, *iliocostalis thoracis*, *longissimus thoracis*, *semispinalis cervicis* and *semispinalis thoracis* are also active. In performing the action of extension in the lumbar region the *iliocostalis lumborum* and *the spinalis thoracis* are more active. Similarly, in performing the action of lateral flexion in the thoracic region the *iliocostalis cervicis*, *iliocostalis thoracis*, *longissimus cervicis*, *iliocostalis lumborum* and *the internal and external oblique abdominal* muscles are also active. In performing the action of lateral flexion in the lumbar region the *iliocostalis lumborum*, *psoas major*, *quadratus lumborum* and *the oblique abdominal* muscles are more active.

Dissection Starting Point: Trigger Points - Multifidus 1. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Multifidus 1 (click on the trigger point indicated by the symbol #)

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

Change Frame to 36 to view the anterior location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

Dissection Starting Point: Trigger Points - Multifidus 2. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Multifidus 2 (click on the trigger point indicated by the symbol #)

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

Change Frame to 36 to view the anterior location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

Dissection Starting Point: Trigger Points - Multifidus 3. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Multifidus 3 (click on the trigger point indicated by the symbol #)

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

Dissection Starting Point: Trigger Points - Multifidus 4. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Multifidus 4 (click on the trigger point indicated by the symbol #)

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

Identify Structures/Read Text on Structures:

Change Layer to 2

- Transversospinalis: multifidus (click on muscle)
 - **INSTRUCTOR NOTES:**
 - Under Clinical Relevance: Appreciate the important role the more vertically oriented lumbar fibers play in stabilizing the lumbosacral junction.

Dissection Starting Point: Trigger Points - Quadratus lumborum 1. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Quadratus lumborum 1 (click on the trigger point indicated by the symbol #)

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

Change Frame to 26 to view the lateral location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

Change Frame to 34 to view the anterior location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

Dissection Starting Point: Trigger Points - Quadratus lumborum 2. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Quadratus lumborum 2 (click on the trigger point indicated by the symbol #)

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

Change Frame to 25 to view the lateral location of the primary (dark shaded) and secondary (light shaded) referral patterns of the muscle.

Dissection Starting Point: Trigger Points - Quadratus lumborum 3. See the next image on your screen.

Identify Structures/Read Text on Structures:

- Quadratus lumborum 3 (click on the trigger point indicated by the symbol #)

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

Identify Structures/Read Text on Structures:

- Quadratus lumborum (click on muscle)
 - **INSTRUCTOR NOTES:**
 - Under Primary Actions, Lateral flexion of the lumbar spine when acting unilaterally. Review the agonist muscles: Due to the mid-frontal location of the quadratus lumborum there is little need for other muscles to function as neutralizers of rotational moment.