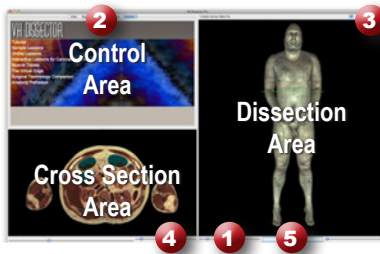


# Introduction to the Back



## Learning Objective

After completing this exercise, you will be able to name the major muscles and structures of the back.

Use the reference on the left to locate controls and areas referred to in the text below.

### 1 Start by rotating the view to the area we want to explore:

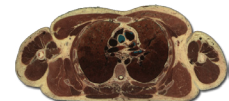
- Using the rotation wheel **5** or by holding the command (Mac) or control (PC) and pressing the left/right arrow buttons, rotate the dissection to 180°. Hold down the shift and command/control to rotate 90° at a time using the arrows

*Rotate the dissection using the left or right arrow keys while holding the command (Mac) or ctrl (PC)*



### 2 Set the cross section through the upper back:

- Drag the reference plane in the dissection area by its green border to the upper back (*the cross sections are numbered in the lower left corner, you should be close to 1400*)
- Explore the anatomy of the back by moving your mouse over the cross section (*structures are identified in the upper right corner of the cross section area*)



### 3 Now skin the cadaver to reveal the anatomy below:

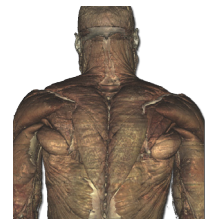
- Click on the skin in the dissection area to highlight it (*structures change colors when highlighted*)
- Click on the skin again to remove it (*now you see the fat and other subcutaneous tissue*)
- Remove the fat just like the skin

*Click on a structure to highlight  
Click again to dissect*



### 4 Take a closer look by centering the back in the dissection area:

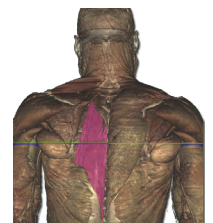
- Zoom in using the magnification slider **1**
- Drag the dissection with your mouse to reposition it
- Dissect the veins of the thorax and posterior head and neck to cleanup the image



### 5 Identify the erector spinae muscles:

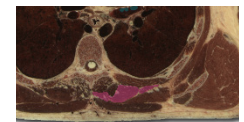
- On the left side, dissect the middle and inferior parts of the trapezius muscle
- Under the trapezius, dissect the rhomboid major muscle
- Select the "Index" tab
- Enter "erector" into the search box
- Select the "Erector spinae - Left" from the list
- Click the "Add & Highlight" button (*the cross sections are in standard radiologic orientation so the left erector spinae are on the right side*)

*Locate specific structures  
with the index*



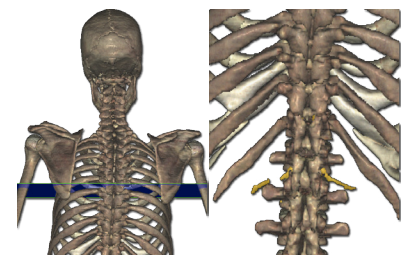
**What muscles make up the erector spinae?** (Remember the mnemonic *I Love Spines!*)

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_



### 6 Isolate the spinal nerves by simplifying the dissection:

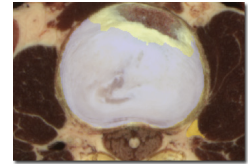
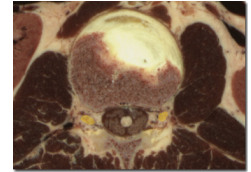
- Click the "Clear" button to clear the dissection area **3**
- Select the "Systems" tab **2**
- Select the "Skeletal system" and click the "Add" button
- Select the "Tissues" tab **2**
- Expand "Nervous (Peripheral Nervous System)" using the icon to the left of it
- Select the Lumbar nerve [L1] and click "Add and Highlight"
- Go to the "Action" menu, select "Fit Dissection to Window" and choose "Highlighted"



**7 Follow the lumbar nerve as it exits the spinal column:**

- Right-click on the L1 nerve as it exits the spinal column on the right side and select “Cross Section”
- Zoom in on the cross section of the spine by using the magnification slider and dragging **4**
- Follow the nerve by holding down the command (Mac) or ctrl (PC) key while pressing the up and down arrow keys to move 1mm at a time through the cross sections

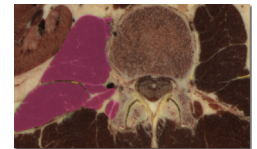
*(Notice how close the nerve passes to the intervertebral disk as it exits the spine. This is the basis for the nerve pathology of a herniated disk )*



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

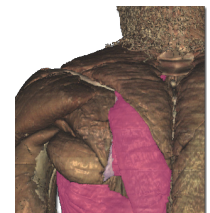
**Follow the L1 nerve downward, what muscles does the nerve pass between?**

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_



**8 Visualize a more advanced anatomical concept, the triangle of auscultation:**

- Click the “Reset” button to reset the dissection **3**
  - Zoom out and center the upper back in the view
  - Dissect the veins of the thorax to cleanup the dissection
  - On the left side, highlight the inferior part of the trapezius muscle
  - Hold down shift and click to highlight the latissimus dorsi muscle
  - Highlight the tendon and muscle of the rhomboid muscle as well
- (These muscles form the border of the triangle of auscultation)*



Highlight multiple structures or un-highlight a structure by holding the shift key when clicking

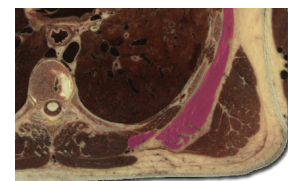
**9 Examine the contents of the triangle of auscultation:**

- Place the cross section through the middle of the triangle of auscultation
- (The triangle of auscultation is the point through the back with the thinnest muscular layer between the skin and the lungs, making an excellent place to listen to breath sounds)*



**Which muscles make up the floor of the triangle of auscultation?**

1. \_\_\_\_\_ 2. \_\_\_\_\_



**Which structures separate the floor of the triangle from the lungs?**

1. \_\_\_\_\_  
2. \_\_\_\_\_

