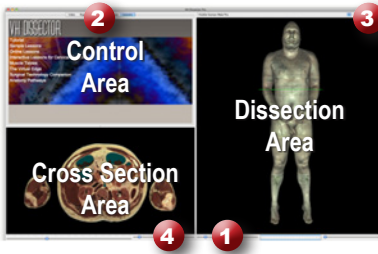


Introduction to the Lower Limb



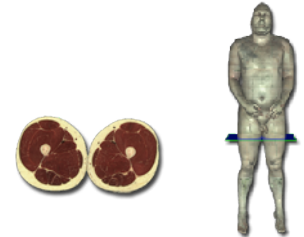
Learning Objective

After completing this exercise, you will be able to name the muscles of the anterior thigh as well as the major vessels and nerves that supply them.

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

1 Start by setting the cross section through the area we want to explore:

- Drag the reference plane in the dissection area by its green border to the middle of the thigh (*the cross sections are numbered in the lower left corner, you should be close to 2065*)
- Explore the anatomy of the thigh by moving your mouse over the cross section (*structures are identified in the upper right corner of the cross section area*)



2 Now skin the cadaver to reveal more anatomy:

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

Click on a structure to highlight
Click again to dissect



3 Take a closer look by magnifying the thigh in the dissection area:

- Zoom in using the magnification slider **1**
- Drag the dissection with your mouse to reposition it
- Dissect the superficial veins of the lower limb to cleanup the image



4 Identify the muscles of the quadriceps by highlighting them:

- Select the "Index" tab **2**
- Enter "quad" into the search box
- Select the "Quadriceps femoris - Right" from the list
- Click the "Add & Highlight" button

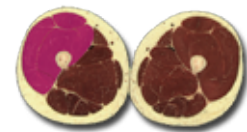
Locate specific structures
with the index

(*the cross sections are in standard radiologic orientation so the right muscle is highlighted on the left side*)



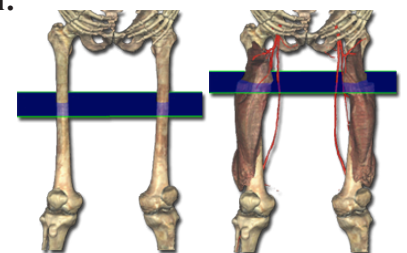
What muscles make up the quadriceps?

1. _____
2. _____
3. _____
4. _____



5 Isolate the arteries that feed the quadriceps by simplifying the dissection:

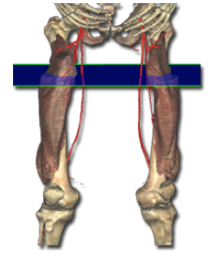
- Click the "Clear" button to clear the dissection area **3**
- Select the "Systems" tab **2**
- Select the "Skeletal system" and click the "Add" button
- Select the "Regions" tab **2**
- Expand "Lower limb" using the icon to the left of it
- Select "Arteries" under "Lower limb" and click "Add & Highlight"
- Expand "Muscles" and "Quadriceps femoris" and add the "Vastus intermedius"



Add, remove and highlight groups of structures with systems, regions and tissues

6 Follow the lateral circumflex femoral artery to the muscles it supplies:

- Locate the right “Lateral circumflex femoral artery” in the dissection (*it is anterior to the superior portion of the vastus intermedius*)
- Right-click on the artery as it crosses in front of the vastus intermedius and select “Cross Section”
- Zoom in on the cross section of the right thigh by using the magnification slider and dragging **4**
- Follow the artery 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

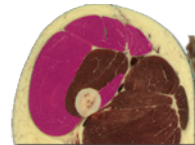


Move the cross section 1mm at a time by holding the command (Mac) or ctrl (PC) key while pressing the up or down arrow keys

Besides the vastus intermedius, what other muscles do branches of the lateral circumflex supply?

(Hint: nerves and arteries tend to supply structures that lie close to where they terminate)

1. _____
2. _____
3. _____
4. _____



7 Visualize a more advanced anatomical concept, the femoral triangle:

- Click the “Reset” button to reset the dissection **3**
- Dissect the skin and subcutaneous tissue
- Find and highlight the left inguinal ligament (*hint: use the index tab*)
- Go to the “Action” menu, select “Fit Dissection to Window” and choose “Highlighted”
- Now clean up your dissection by removing the upper limb and genital and urinary systems (*hint: use the regions and systems tabs*)
- Finally, dissect the superficial veins and inguinal lymph nodes



8 Examine the borders of the femoral triangle:

- Re-highlight the Inguinal Ligament (the superior border of the triangle)
- Hold down the shift key and click to highlight the Adductor Longus (the medial border of the triangle)
- Highlight the Sartorius (the lateral border of the triangle)



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

Which muscles make up the floor of the femoral triangle?

1. _____
2. _____

Which structures pass through the femoral triangle?

(Remember the mnemonic (N-A-Vy))

1. _____
2. _____
3. _____

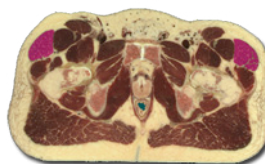


Rotate the dissection using the left or right arrow keys while holding the command (Mac) or ctrl (PC) Alternately, use the rotation wheel below the dissection area

Bonus: What is the final muscle of the anterior thigh?

What ligament does it connect into? (*it may help to rotate the dissection*)

1. _____
2. _____



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