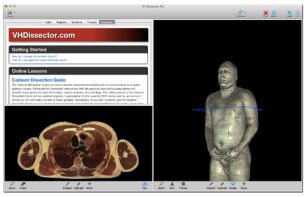
Introduction to the Lower Limb

Learning Objective

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

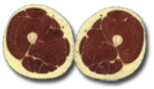


1 Start by setting the screen view:

- 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 thigh *(the cross sections are numbered in the lower left corner, you should be close to 1064)*
- Explore the anatomy of the thigh 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 *(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

Use the tools and controls in the toolbar below each area to manipulate the corresponding dissection or cross-section



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

- Use the "Zoom" control, located in the toolbar below the dissection area, to enlarge the diessection
- Select the "Move" tool and drag the dissection with your mouse to reposition it
- Dissect the superficial veins of the lower limb to cleanup the image



5 Identify the muscles of the quadriceps by highlighting them:

- Select the "Index" tab
- Enter "quad" into the search box
- Select the "Quadriceps femoris - Right" from the list
- Click the "Add & Highlight" button *(the cross sections are in standard radiologic orientation so the right muscle is highlighted on the left side)*

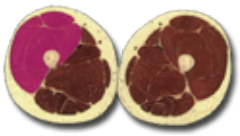
Locate specific structures with the index



What muscles make up the quadriceps?

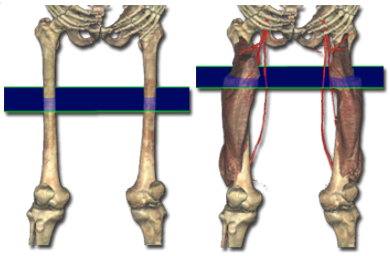
1. _____ 3. _____

2. _____ 4. _____



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

- Click the "Clear" button to clear the dissection area
- Select the "Systems" tab
- Select the "Skeletal system" and click the "Add" button
- Select the "Regions" tab
- 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 the Systems, Regions and Tissues tabs

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

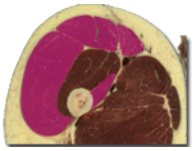


- Locate the right "Lateral circumflex femoral artery" in the dissection *(it is anterior to the superior portion of the vastus intermedius)*
- Drag the transverse plane down until this artery is visible in the cross section
- Enlarge the cross section of the right thigh using the zoom control
- Follow the artery superiorly by holding down the command (Mac) or ctrl (PC) key while pressing the up arrow key 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?

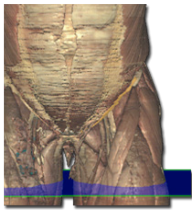
(Hint: nerves and arteries tend to supply structures that lie close to where they terminate)



1. _____ 3. _____

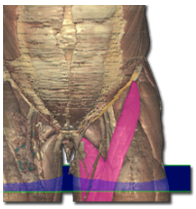
2. _____ 4. _____

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



- Click the "Reset" button to reset the dissection
- Dissect the skin and subcutaneous tissue
- Find and highlight the left inguinal ligament *(hint: use the index tab)*
- Zoom out and center the inguinal ligament in the view
- 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

9 Examine the borders of the femoral triangle:



- Select the "Highlight" tool from the toolbar below the dissection area
- Click on the Inguinal Ligament (the superior border of the triangle) to highlight
- Highlight the Adductor Longus (the medial border of the triangle)
- Highlight the Sartorius (the lateral border of the triangle)

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

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. _____

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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