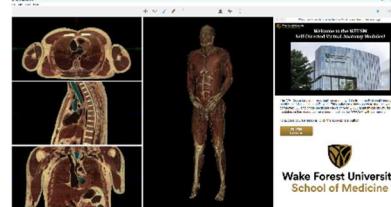


# VHD Jumpstart: Introduction to the Thorax

Sectra Table Version

**NOTE:** If you are not using the Sectra Table, return to the previous page and select the Touch or Non-Touch Version.



## 1 Start by setting the screen view

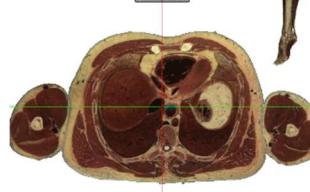
- Hide or unhide the Lessons Pane by tapping the “View” icon and then tapping on the “Lessons” icon.
- Tap “dissect” and select “rotate”. Double-tap on the transverse cross-section to enlarge it.



## 2 Set a cross-section of the thorax

- Add a transverse cross-section to the 3D model.
- Tap on the “Cross-Section” icon and select “Transverse” and “Color”. *On the Toltech Table, anatomic cross-sections are the default option.*
- Tap on the Cross-Section icon or one of the main panels to close the window.
- Using one finger, slide up and down over the transverse cross-section image. Scroll to the middle of the chest.
- Explore the anatomy of the thorax by tapping the “Rotate” icon and the “Highlight” tool. Drag one finger over structures of interest to see their labels.
- Note: structures are identified at the top of the cross-section area.

Use one finger to highlight structures.  
Use two fingers to zoom and move the model.  
Use one finger to scroll through slices.



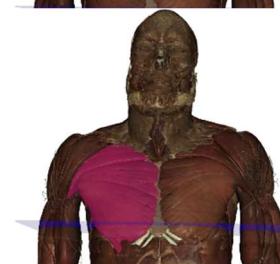
## 3 Magnify the 3D model pane

- Using two fingers, zoom out and translate the position of the 3D model.

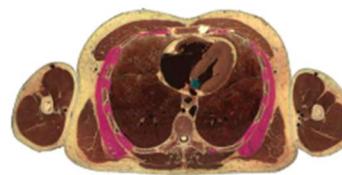


## 4 Find and highlight the P. major muscle

- Open the Anatomy glossary window by selecting the “Anatomy” icon .
- Make sure you are under the “Index” list .
- Enter “Pectoralis major” into the search box.
- Tap the “Highlight” icon next to “Pectoralis major – Right” to add and highlight this muscle. *(The cross-sections are in standard radiologic orientation, so the right P. major is highlighted on the left side of the screen.)*

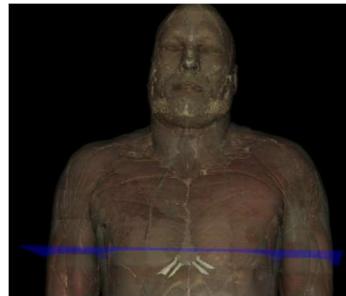


**What are four other muscles that contribute to the thoracic wall?** Explore the cross-sectional and 3D models to identify muscles contributing to the thoracic wall.



## 5 Adjust the skin to see surface anatomy

- Tap the “Skin” icon  to reveal the skin tool.
- Slide the bar to the right or left to change the opacity of the skin.
- Before proceeding, remove the skin from the 3D model (slide the bar to the left).



## 6 Isolate the Phrenic Nerves by simplifying the 3D model

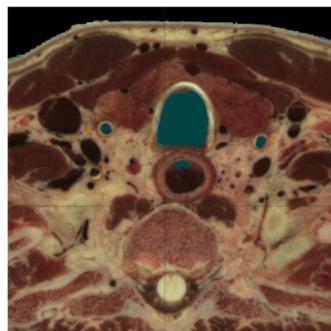
- Clear the 3D model by tapping the “Hide All” icon at the top of the Anatomy glossary. 
- Next, tap the “Systems” icon  on the left side of the Anatomy glossary to open the Systems list.
- Add the full skeletal system to the 3D model by selecting the “Visible” icon  to the left of “Skeletal System”. Tap the Anatomy icon  to close the Anatomy window.
- Dissect the bones of the sternum and costal cartilages using the “Dissect” tool .
- Tap the Anatomy icon, and expand “Nervous System” > “Peripheral Nervous System” > “Spinal Nerves”.
- Expand “Cervical Plexus – Left” and “Cervical Plexus – Right”.
- Add and highlight left and right “Phrenic Nerve” using the “Highlight” icon .
- 

Within the Anatomy window, toggle between “Index” , “Regions” , and “Systems”  to sort through a listing of specific anatomical structures that you can show, hide, or highlight.



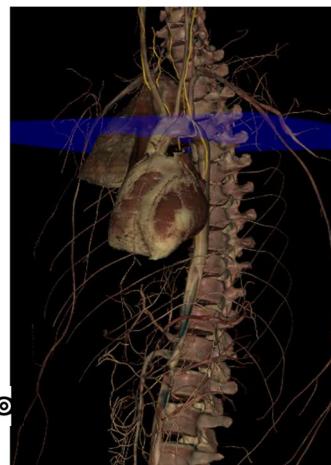
## 7 Follow the Phrenic and Vagus Nerves

- Scroll through the transverse cross-section to view the first rib.
- Find and highlight  the “Vagus Nerve” (*Hint: use the search box in the index list*).
- Locate the phrenic and vagus nerves in the cross-section.
- Zoom in and center the cross-section to get a closer look at the nerves (*Hint: use two fingers!*).
- Follow the nerves inferiorly by scrolling through the cross-section with one finger.

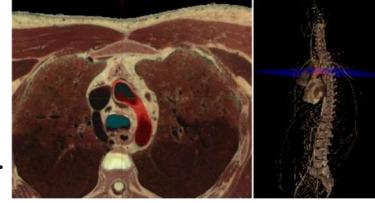


## 8 Visualize a more complex structure, the Aortic Arch

- Clear the 3D model .
- Confirm you are on the “Systems” list , then click “Collapse”  in the top right corner of the Anatomy glossary.
- Expand “Skeletal System” > “Axial Skeleton” and add  “Vertebral Column”, then...
- Expand “Cardiovascular System” to add “Heart”. 



- Tap the “Rotate” icon , then rotate the 3D model to a posterolateral view.
- Scroll through the cross-section to view the aorta where it exits the heart.
- Manually highlight  the “Ascending Aorta”.
- Scroll through the cross-sections to follow the ascending aorta superiorly until it begins to arch.
- Manually highlight  the “Aortic Arch”.

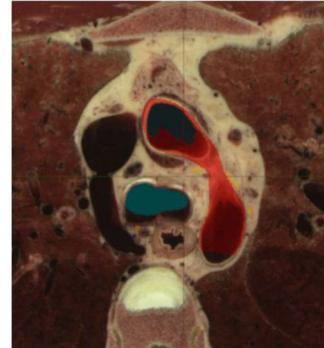


**List the three branches of the aortic arch.** Visually trace the aorta superiorly to identify the branches. Remember to use the highlight function and hover over the cross-section!

## 9 Revisit the Vagus Nerve

- Open the “Systems” list  and expand “Nervous System” > “Peripheral Nervous System” > “Cranial Nerves”.
- Highlight the left and right “Vagus Nerve [X]” .
- Scroll through the cross-section, locate the left vagus nerve and follow it inferiorly as it passes the aortic arch.

**What branch of the vagus nerve loops inferior to the aortic arch?** Examine the cross-sectional anatomy.



## 10 Free Exploration

- Practice using these tools (and exploring other options) to examine additional thoracic structures of interest.
- Click the “Cross-Section” tool  and select “Visible” and “Anatomy” under the Sagittal cross-section. Click the Cross-Section icon or one of the main panels to close the window.
- When finished, click the home button  on the top right corner to return the main VHD window.
- Select “View” > “Reset 3D” to reset the models.



Original design: Toltech  
Modified with permission: Taflin Arbor, Ph.D., WFUSM

One of my favorite tools is to use an anatomic cross-section superimposed on a 3D model. Try it!