

## Unit 26: Topographic anatomy: **Thoracic cavity and breast**

### Guide for the practical class using Anatomedia online

#### Topography of the thorax/thoracic space

1. Go to An@tomedica, **thorax** module-regions-frames: **1 and 2** (Surface markings of thorax, Bony boundaries of thorax)
  - Click on underlined text: (see figure) to see the position of thorax between four other modules of the body on frame 1
  - Activate 'can you identify' to visualize surface margins and bony boundaries of the thorax
2. Go to An@tomedica, **thorax** module-regions-frames: **3 and 4** (Position of thorax in trunk, Relations of thorax)
  - Click on underlined text to see vertebral levels of transverse sections on frame 4
  - Activate 'can you identify' to visualize position of the thorax in trunk and its relations to neighboring body modules
3. Go to An@tomedica, **thorax** module-regions-frames: **7 and 8** (Position of regions in thorax in trunk, Subdivisions of mediastinum)
  - Click on underlined text to review how is thoracic cavity divided into regions, which viscera are located in thorax, how is mediastinum subdivided and what is the position of each division
  - Activate 'can you identify' to visualize parts of the thorax/mediastinum
4. Go to An@tomedica, **thorax** module-regions-frames: **16 and 17** (Parietal & visceral pleura, Pleural cavities)
  - Click on underlined text to review differences between parietal and visceral pleurae (including their supply), how is parietal pleura subdivided, what is normally contained in pleural cavity and what can be its contents in pathological situations
  - Activate 'can you identify' to visualize parts of parietal pleura and various surface markings
5. Go to An@tomedica, **thorax** module-regions-frames: **19 and 20** (Fibrous & serous pericardium, Pericardial cavity)
  - Click on underlined text to see arrangements of parietal and visceral pericardium (including their supply), what is the contents of pericardial cavity and what can be

its contents in pathological situations, where parietal and visceral layers become continuous with each other and what are the sinuses of pericardial cavity

-Activate 'can you identify' to visualize parts of pericardium and contents of pericardial cavity, position of pericardial sinuses

6. Go to An@tomedica, **thorax** module-regions-frames: **18 and 21** (Position of lungs, Position of heart)

-Click on underlined text to see lines of pleural reflection, surface markings of lungs and lung fissures, position of the heart and its chambers, surface markings of the heart borders and projection/auscultation areas of heart valves

-Activate 'can you identify' to visualize surface markings of pleura, lungs, airways, heart borders and valves as well as four auscultation areas for four valves

7. Go to An@tomedica, **thorax** module-regions-frames: **22 and 23** (Superior mediastinum, Anterior mediastinum)

-Click on underlined text to review the contents and exact location of structures in superior and anterior mediastinum

-Activate 'can you identify' to visualize surface markings of anterior mediastinum and viscera, vessels and nerves of the superior/anterior mediastinum

8. Go to An@tomedica, **thorax** module-regions-frames: **24 and 25** (Middle mediastinum, Posterior mediastinum)

-Click on underlined text to review the structures located between the root of lungs, specifics of the vagus nerve and vessels in posterior and middle mediastinum

-Activate 'can you identify' to visualize structures located in the middle/posterior mediastinum

## **Organs and systems in the thoracic cavity/wall**

9. Go to An@tomedica, **thorax** module-systems-frames: **14 and 15** (Breasts, The breast in pregnancy)

-Click on underlined text to review position/components/subdivision of the breast, its origin and supply as well as its functional (pregnancy and breastfeeding) and clinical importance.

-Activate 'can you identify' to visualize parts of the breast and surrounding area

10. Go to An@tomedica, **thorax** module-systems-frames: **16 and 17** (Trachea & main bronchi, Lungs: fissures & lobes)

-Click on underlined text to review anatomy of tracheal wall, its bifurcation, principle bronchi, their supply, clinical importance. Also, how are lungs organized, demarcated, supplied and drained

-Activate 'can you identify' to visualize components of tracheal/bronchial wall and parts of lungs

11. Go to An@tomedica, **thorax** module-systems-frames: **18 and 19** (Right lung, Left lung)

-Click on underlined text to review structures creating impressions of medial lung surface and the arrangements of structures in lung hila

-Activate 'can you identify' to visualize grooves on medial surfaces and structures in lung hila

12. Go to An@tomedica, **thorax** module-systems-frames: **20 and 21** (Bronchial tree, Bronchopulmonary segments)

-Click on underlined text to review the arrangement of secondary and tertiary bronchi on right and left lungs and characteristics of bronchopulmonary segments

-Activate 'can you identify' to visualize branching of bronchial tree and division of lung parenchyma into segments

13. Go to An@tomedica, **thorax** module-systems-frames: **25 and 26** (Heart: borders & surfaces, Valves & fibrous skeleton of heart)

-Click on underlined text to revise borders, surfaces and orientation of the heart, features of different cardiac valves and fibrous

-Activate 'can you identify' to visualize heart borders and surfaces and then valves together with cardiac skeleton features

14. Go to An@tomedica, **thorax** module-systems-frames: **27 and 28** (Atria and ventricles of heart)

-Click on underlined text to revise features of cardiac atria and ventricles and direction of the blood flow

-Activate 'can you identify' to visualize features of atria and ventricles

15. Go to An@tomedica, **thorax** module-systems-frames: **29 and 30** (Conducting system & nerve supply, Coronary artery)

-Click on underlined text to revise components and features of conducting system, specifics of cardiac innervation and arterial (coronary) supply

-Activate 'can you identify' to visualize components of conducting system and origin/branches of coronary arteries

16. Go to An@tomedica, **thorax** module-systems-frame: **22** (Oesophagus)

-Click on underlined text to review layers of oesophageal wall, sites of its constrictions, localization of its sphincters, details about its supply

-Activate 'can you identify' to parts of oesophagus and its supply

## **Vessels and nerves of the thorax**

17. Go to An@tomedica, **thorax** module-systems-frames: **32 and 33** (Pulmonary circulation, Aorta & branches in thorax)

- Click on underlined text to review parts of pulmonary circulation, parts aorta (ascending, arch, descending), its branches, particularly internal thoracic artery
- Activate 'can you identify' to visualize components of pulmonary circulation, parts of aorta and its principle branches (parietal and visceral)

18. Go to An@tomedica, **thorax** module-systems-frames: **34 and 35** (Caval & azygous systems in thorax, Lymph vessels & nodes of thorax)

- Click on underlined text to review tributaries to SVC, brachicephalic veins, azygous vein (and its tributaries) and principles of the lymph flow in thorax
- Activate 'can you identify' to visualize principle veins, lymph ducts and nodes in thorax

19. Go to An@tomedica, **thorax** module-systems-frames: **36 and 37** (Thoracic duct, Thymus)

- Click on underlined text to review the origin of the thoracic duct and the right lymphatic duct as well as their tributaries,
- Activate 'can you identify' to visualize lymph ducts, their sites of entry to venous system and to visualize location and size of thymus in two years old child

20. Go to An@tomedica, **thorax** module-systems-frames: **23 and 24** (Somatic and visceral nerves of thorax)

- Click on underlined text to review specifics of somatic and visceral (autonomic) nerves and its supply of thoracic viscera
- Activate 'can you identify' to visualize components of ANS in thorax

## **Dissection**

21. Go to An@tomedica, **thorax** module-dissection-frames: **10 to 15** (Thoracic cavity & inlet: LAYER-BY-LAYER DISSECTION)

- Turn on the colored buttons to highlight different dissected structures, from surface to deep
- Activate 'can you identify' to see dissected structures

22. Go to An@tomedica, **thorax** module-dissection-frames: **16 to 19** (Mediastinum & posterior thorax: LAYER-BY-LAYER DISSECTION)

- Turn on the colored buttons to highlight different dissected structures, from surface to deep
- Activate 'can you identify' to see dissected structures

23. Go to An@tomedica, **thorax** module-dissection-frames: **20 to 26** (Contents of mediastinum: LAYER-BY-LAYER DISSECTION)

- Turn on the colored buttons to highlight different dissected structures, from surface to deep
- Activate 'can you identify' to see dissected structures

### **Anatomical basis of some clinical procedures**

24. Go to An@tomedica, **thorax** module-dissection-frame: **48** (External cardiac compression)

- Click on underlined text to review anatomical basis of external cardiac compression
- Activate 'can you identify' to visualize structures that might be endangered by this procedure