Week 1
Cunningham's Practical
Manual, pp. 1-27

DISSECTION GUIDE: WALLS OF THE THORAX AND MEDIASTINUM

1. Make a midline incision and a horizontal one at the level of the xiphoid process, and then reflect the skin, superficial fascia and pectoralis major laterally. Leave pectoralis minor attached to the ribs.

2. Clean and identify the external intercostal muscle and membrane between the ribs, also find the anterior cutaneous neurovascular bundles. Cut through the external intercostal muscle and membrane along the lower border of two or more intercostal spaces, and reflect it upwards to expose the internal intercostal muscle.

3. Cut the internal intercostal muscle and reflect it upwards. Trace the anterior cutaneous branch into continuity with the intercostal nerve. You will have to remove the lower part of the rib above (together with the attached intercostal muscles) to expose the intercostal artery and vein, lying on the parietal pleura (or more laterally, lying on the innermost intercostal muscle). Medially you may have exposed the internal thoracic vessels giving rise to anterior intercostal vessels.

4. Cut transversely through the manubrium and first intercostal space then on each side down the midaxillary line (medial to pectoralis minor) through ribs and intercostal spaces two to six, you will now be able to fold the flap of thoracic wall downwards. This will involve cutting the internal thoracic vessels and the parietal pleura.

5. On the internal aspect of the flap of thoracic wall identify the pleural reflexions, then remove this fascia and fat to expose the transversus thoracis muscle, and the internal thoracic and anterior intercostal vessels.

6. Pull the lung away from the mediastinum, identify and cut the root of the lung and the pulmonary ligament. Remove both lungs and examine the pleural cavity.

7. Remove the parietal pleura from the side of the mediastinum and vertebral bodies. Identify on both sides: Sympathetic Trunk; Grey and White ramus communicans; Intercostal veins, arteries and nerves; Pericardium, pulmonary veins and arteries, diaphragm, Oesophagus, Phrenic nerve and pericardiacophrenic artery, vagus nerve, pulmonary plexus, bronchi, superior intercostal vein, splanchnic nerves.

On the right:	Trachea, Superior Vena cava, Inferior vena cava, right atrium and azygos vein.
On the left:	arch of aorta, descending aorta, left subclavian artery, left ventricle, pulmonary trunk, thoracic duct.

8. On the inside of the thoracic cage identify subcostal and innermost intercostal muscles.

Week 2
Cunningham's Practical
Manual, pp. 27 - 37

DISSECTION GUIDE: LUNGS AND ANTERIOR MEDIASTINUM

1. Examine the surface markings of the lungs, which mediastinal and thoracic wall structures have left their impressions on the fixed lung?

2. Clean the hilum of each lung and identify the pulmonary artery and vein, and the bronchi.

3. Starting from the hilum, remove the spongy lung tissue from the airways and blood vessels and identify the tertiary bronchus and pulmonary artery for each bronchopulmonary segment. Look for the black lymph nodes in the bifurcations of the bronchi.

4. Find the left recurrent laryngeal branch of the vagus nerve and trace it under the aortic arch posterior to the ligamentum arteriosum to the cardiac plexus. Note the other branches of the sympathetic trunk and vagus nerve on the arch of the aorta (these also pass to the cardiac plexus).

5. Remove the fat and fibrous tissue from the anterior mediastinum and try to define the thymus gland. Trace any blood vessels which supply this area.

6. Open the pericardium by making two vertical incisions and one horizontal incision just above the diaphragm, fold the flap up. Note the attachment of the pericardium to the roots of the great vessels. Try to locate the oblique and transverse pericardial sinuses.

Week 3
Cunningham's Practical
Manual, pp. 38 - 67

DISSECTION GUIDE: HEART AND GREAT VESSELS

1. Strip the visceral pericardium from the anterior surface of the heart and remove the fat from the coronary and interventricular sulci. Identify the right coronary artery emerging from the right aortic sinus under cover of the right auricle, trace it inferiorly and to the right, find its marginal branch then lift the heart and continue cleaning it on the back of the heart. Identify the posterior interventricular artery.

2. Identify the left coronary artery emerging from the left aortic sinus under cover of the left auricle and trace it in the coronary sinus; note its anterior interventricular branch and continue cleaning this and the continuation of the main trunk (circumflex artery) onto the back of the heart where they come into relation with the ends of the right coronary artery.

3. Open the right atrium by an incision from the superior vena cava to the tip of the right auricle and then down parallel to the coronary sulcus, remove the blood clot and identify:

   (a) openings; superior and inferior vena cava; coronary sinus and right ventricle, (b) musculi pectinate, crista terminalis (sulcus externally); annulus and fossa ovalis, (c) the "valve of the inferior vena cava" (which is continuous with annulus ovalis).

4. Open the right ventricle by an incision from the right border of the heart across below the coronary sulcus then down beside the interventricular sulcus. The septo-marginal band may have to be cut before the ventricle can be opened. Identify: Trabeculae carneae, tricuspid valve, chordae tendineae and papillary muscles. Examine the smooth infundibulum then open the pulmonary trunk by cutting between the right and anterior cusps of the semilunar valve - examine the pulmonary semilunar valve.

5. Open the left atrium by cutting the posterior surface between the right and left pulmonary veins. Note the distribution of musculi pectinati and the position of the fossa ovalis and mitral valve.

6. The left ventricle should be opened by an incision to the left of the interventricular sulcus and another below the coronary sulcus extending around the left border of the heart. Identify: Trabeculae carneae, the mitral valve with its cusps, chordae tendineae and papillary muscles. Note also the vestibule and membranous septum. Open the aorta and examine the aortic valve and the sinuses with the openings of the coronary arteries.

7. The superior mediastinum should be dissected in three stages. (a) Examine the remnant of the thymus and the great veins first; right and left internal jugular, subclavian and brachiocephalic veins, the superior vena cava. Look for the tributaries of the brachio-cephalic veins; inferior thyroid; internal thoracic, vertebral, supreme intercostal, thoracic duct and left superior intercostal veins. (b) Reflect the great veins aside and note the phrenic and vagus nerves lying in front of the arch of the aorta and its branches; brachiocephalic, common carotid, subclavian and ligamentum anteriosum. (c) The 3rd layer of structures are all longitudinal. The trachea, oesophagus, thoracic duct and left recurrent laryngeal nerve.

8. To examine the Posterior Mediastinum the heart must be removed by cutting the great vessels just inside the fibrous pericardium. Then remove the pericardium posteriorly and expose the oesophagus, thoracic duct, azygos and hemiazygos systems of veins. Also look for: branches of the descending aorta (bronchial, oesophageal and intercostal); and the branches of the sympathetic trunk and vagus nerves which pass into the Posterior Mediastinum.

STUDY GUIDE: LUNGS AND ANTERIOR MEDIASTINUM

1. Describe the borders and surfaces of the left and right lungs.

2. What structures are found at the hilum of the left and right lungs? What is the pulmonary ligament?

3. Describe the lobes, fissures and bronchopulmonary segments of the left and right lungs, try to account for the differences between the two lungs (and between different textbook descriptions).

4. Where does gas exchange take place?
   What factors influence the rate of diffusion?

5. Recall the histology of the lung.
   What role does the lung itself play in expiration?
   What is a pneumothorax?

6. What is the mediastinum?
   What are its parts and how are they defined?

7. Describe the contents of the Anterior (and the anterior part of the superior) mediastinum.

8. What is the Pericardium?
   Define the terms: serous, fibrous, visceral and parietal with respect to the pericardium; what is the epicardium?

THE MEDIASTINUM

What is the Mediastinum?

What are the subdivisions of the mediastinum and what are the contents of each subdivision?

What are the structures which can be seen on the right and left sides of the mediastinum and which of these leave impressions on the lungs?

What important anatomical 'events' occur at the vertebral level T4-5?

THE MIDDLE MEDIASTINUM

Pericardium

What are the layers of the pericardium and what are their functions?

To what structures is the pericardium attached and what is the significance (if any) of these attachments?

What are the origins of the oblique and transverse pericardial sinuses?

Heart

Draw the surface profile of the heart on a living subject, and indicate the position of the interventricular septum and the chambers which present on the anteview aspect.

Describe the internal and external features of the right atrium and explain how they are related to the function of the foetal heart.

Discuss the similarities and differences between the right and left ventricles with special regard for the development and the functional requirements of the foetal and adult hearts.

Where is the left atrium located? Enumerate its relationships.

What is the nerve supply of the heart? What effect does:

a) sympathetic;
b) parasympathetic stimulation have on the heart?

Describe the coronary circulation. What is special about the coronary arteries?

Recall the histology of: heart muscle, blood vessels and the conducting system of the heart. How does cardiac muscle differ from skeletal muscle?

SUPERIOR MEDIASTINUM

Describe the relations of the aortic arch.

Describe and explain the differences between the two extra pulmonary bronchi.

Describe and explain the differences in the courses of the two recurrent laryngeal nerves.

What is the structure, function and relations of the thymus gland? How does it differ from a lymph node?

Where are the cardiac plexuses located and how are they formed?

Give the location of the lymph nodes in the trachiobronchial region - what areas do they drain?

POSTERIOR MEDIASTINUM

Describe the relations of the oesophagus. State its innervation and blood supply.

Describe the course of the thoracic duct. Where does it begin and end?