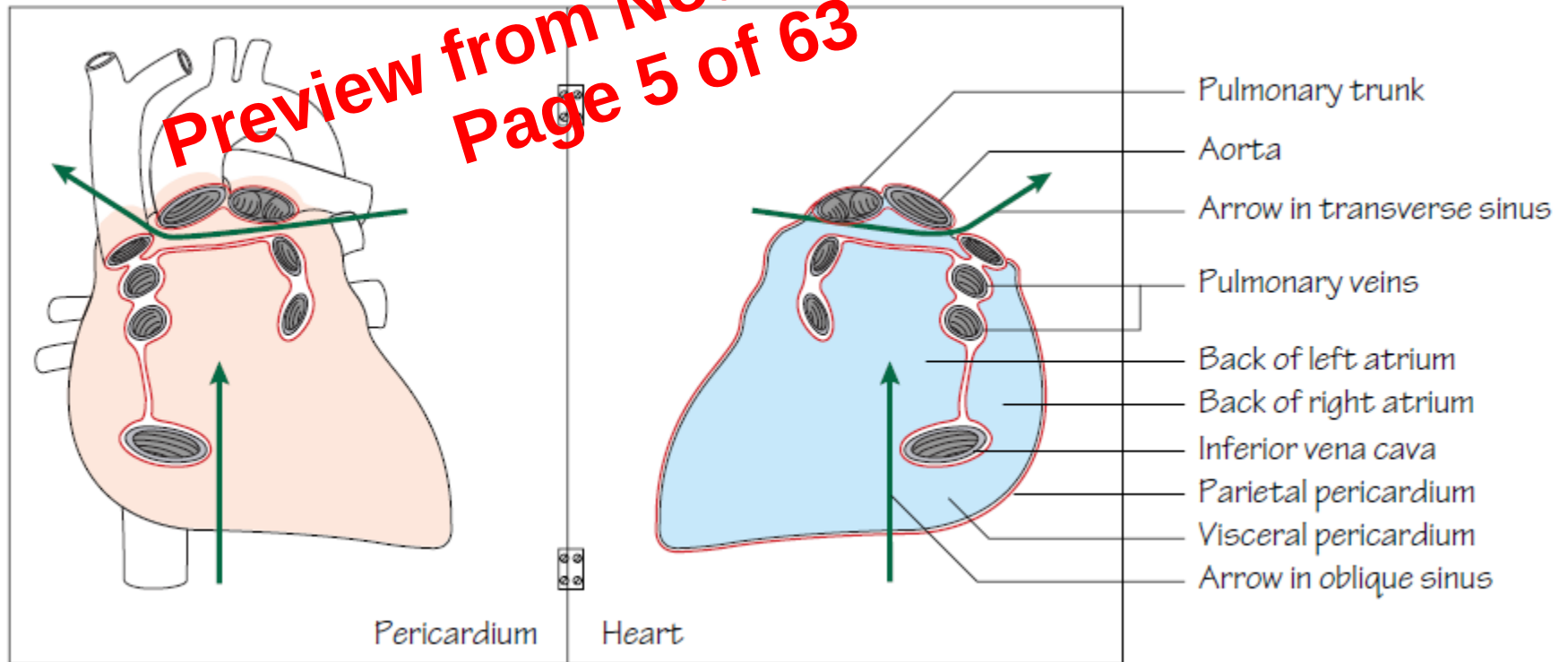


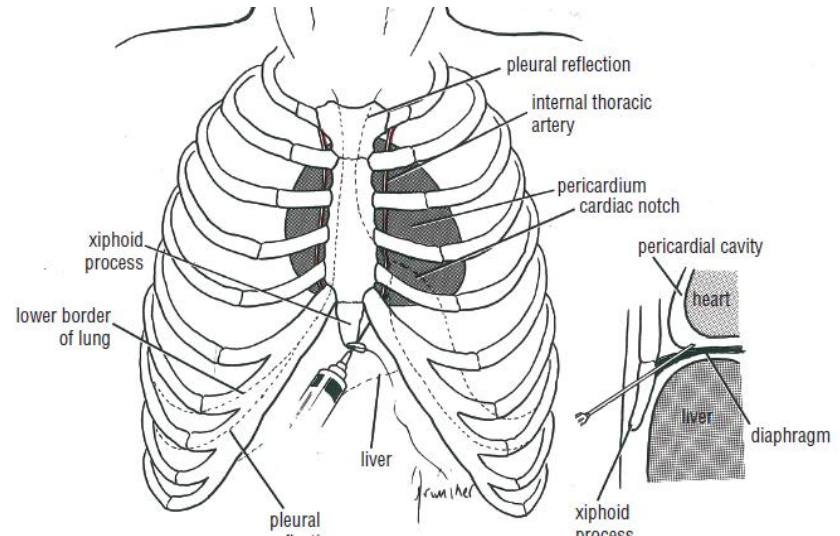


# The pericardium

- The transverse pericardial sinus is especially important to cardiac surgeons. After the pericardial sac has been opened anteriorly, a finger can be passed through the transverse pericardial sinus posterior to the aorta and pulmonary trunk.

# Pericardiocentesis

- Posterior lamina of the aponeurosis of the internal oblique and the transversus abdominis muscles.
- Extraperitoneal fat.
- Diaphragm.
- Pericardium.



# Anatomy of Complications

- The needle is advanced too far and enters the myocardium of the right ventricle.
- The needle may pierce the anterior descending branch of the left coronary artery.
- The needle may enter the pleural cavity, producing a pneumothorax or a hydropneumothorax.
- The needle may pierce the liver.

# Auscultation of Heart Valves

- On listening to the heart with a stethoscope, one can hear two sounds: lū-b-duːp.
- The first sound (lower-pitched) is produced by the contraction of the ventricles and the closure of the tricuspid and mitral valves.
- The second sound (higher-pitched) is produced by the sharp closure of the aortic and pulmonary valves.

# Referred Pain

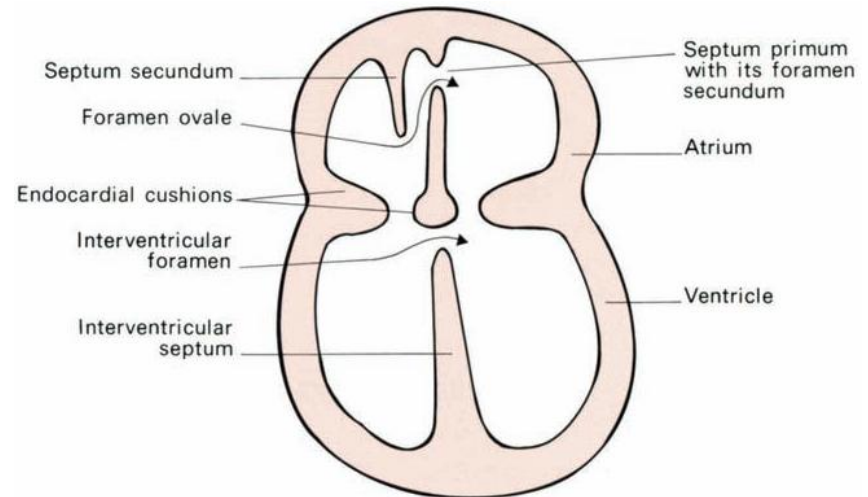
- Another theory is that under normal conditions the viscus does not give rise to painful stimuli, whereas the skin area repeatedly receives noxious stimuli.

# Arteriosclerotic disease of the coronary arteries

- Arteriosclerotic disease of the coronary arteries may present in three ways, depending on the rate of narrowing of the lumina of the arteries:
- (1) General degeneration and fibrosis of the myocardium occur over many years and are caused by a gradual narrowing of the coronary arteries.
- (2) Angina pectoris is cardiac pain that occurs on exertion and is relieved by rest. In this condition, the coronary arteries are so narrowed that myocardial ischemia occurs on exertion but not at rest.

# Congenital Anomalies

- Atrial Septal Defects (ASD): After birth, the foramen ovale becomes completely closed as the result of the fusion of the septum primum with the septum secundum.
- In 25% of hearts, a small opening persists, but this is usually of such a minor nature that it has no clinical significance.





# Ventricular Septal Defects

- Ventricular septal defects (VSD) are less frequent than atrial septal defects.
- They are found in the membranous part of the septum and can measure 1 to 2 cm in diameter.
- Blood under high pressure passes through the defect from left to right, causing enlargement of the right ventricle

# Coarctation of the Aorta

- To compensate, an enormous collateral circulation develops, with dilatation of the **internal thoracic, subclavian, and posterior intercostal arteries.**
- The dilated intercostal arteries erode the lower borders of the ribs, producing characteristic notching, which is seen on radiographic examination.

