- Blood supply of the heart

- The right coronary artery arises from the anterior sinus & passes forwards between the pulmonary trunk and the right atrium.
- It descends in the right part of the atrioventricular groove to anastamose near the apex of the heart with the corresponding branch of the left coronary artery.
- The RCA supplies the:
  1. Lateral wall of the right ventricle
  2. Posterior wall of the right ventricle
  3. Inferior wall of the left ventricle
  4. Sinoatrial node in 55% of patients.
- In 85% of patients, the RCA terminates as the posterior descending artery (right dominant).

- The left coronary is larger than the right. It arises from the aortic sinus.
- It passes first behind and then to the left of the pulmonary trunk, reaches the left part of the atrioventricular groove in which it runs laterally round the left border of the heart to reach the inferior interventricular groove.
- The left coronary divides into the LAD and circumflex arteries.
- The LAD gives rise to diagonal branches.
- The circumflex gives rise to obtuse marginal branches.

LAD & diagonal branches supply:
1. Anterolateral wall of the left ventricle
2. Interventricular septum
3. Anterior wall of the right ventricle
4. Ventricular apex

- The circumflex & obtuse marginal arteries give rise to:
  1. The left atrium
  2. Posterior wall of the left ventricle
  3. Lateral wall of the left ventricle

- About 2/3rds of the venous drainage of the heart is by veins which accompany the coronary arteries & which open into the right atrium.
- The rest of the blood drains by means of the small veins (venae cordis minimae) directly into the cardiac cavity.
- The coronary sinus receives the:
  1. Great cardiac vein in the anterior interventricular groove
  2. Middle cardiac vein in the inferior interventricular groove
  3. Small cardiac vein which accompanies the marginal artery along the lower border of the heart
  4. Oblique vein which descends obliquely on the back of the left atrium which opens near the left extremity of the coronary sinus.
- The anterior cardiac vein lies in the anterior atrioventricular groove.
- It drains much of the anterior surface of the heart and opens directly into the right atrium.