Anatomy of the Heart
Anterior view, external anatomy

- Fat in interventricular sulcus
- Left ventricle
- Right ventricle
- Anterior interventricular artery
Posterior view, internal anatomy
Figure 19.5a

- Aortic arch
- Superior vena cava
- Branches of the right pulmonary artery
- Right pulmonary veins
- Right auricle
- Right atrium
- Coronary sulcus
- Right ventricle
- Inferior vena cava
- Ligamentum arteriosum
- Ascending aorta
- Left pulmonary artery
- Pulmonary trunk
- Left pulmonary veins
- Left auricle
- Anterior interventricular sulcus
- Left ventricle
- Apex of heart

(a) Anterior View
Tendinous cords

Papillary muscle
(a) Atrioventricular valves open

Atrium

Atrioventricular valve

Ventricle

Atrioventricular valves closed
(b) Semilunar valves open

Semilunar valves closed
1. Blood enters right atrium from superior and inferior vena cavae.
2. Blood in right atrium flows through right AV valve into right ventricle.
3. Contraction of right ventricle forces pulmonary valve open.
4. Blood flows through pulmonary valve into pulmonary trunk.
5. Blood is distributed by right and left pulmonary arteries to the lungs, where it unloads CO₂ and loads O₂.
6. Blood returns from lungs via pulmonary arteries to left atrium.
7. Blood in left atrium flows through left AV valve into left ventricle.
8. Contraction of left ventricle (simultaneous with step 3) forces aortic valve open.
10. Blood in aorta is distributed to every organ in the body, where it unloads O₂ and loads CO₂.
11. Blood returns to heart via venae cavae.
Figure 19.11b

Great cardiac vein

Circumflex branch of LCA

Coronary sinus

Left marginal branch of LCA

Left marginal vein

Right coronary artery (RCA)

Right marginal branch of RCA

Posterior interventricular branch of RCA

Middle cardiac vein

(b) Posterior view