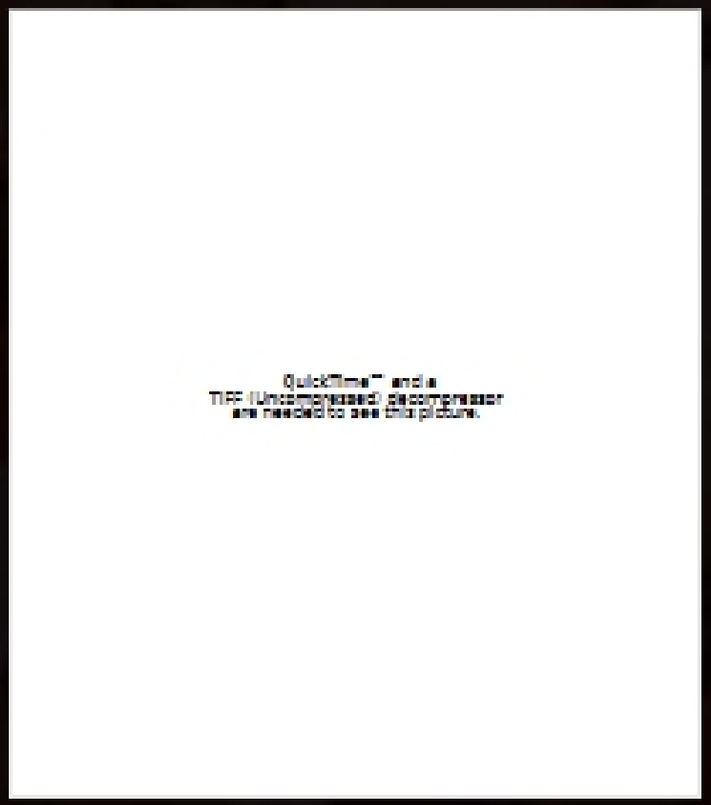
Cardiovascular Pharmacology



- Hypertension
- Angina pectoris
- Cardiac Arrhythmias
- Heart Failure

Cardiovascular Pharmacology

- Cardiovascular (=Circulatory) system – heart and blood vessels
- Arteries – transport blood to tissues
- Capillaries – sites of exchange, fluid O2, CO2, nutrients etc.
- Venules – collect blood from capillaries
- Veins – transport blood back to heart
- Blood moves within vessels – higher pressure to lower pressure

  Resistance to flow depends on vessel diameter, length and viscosity of blood

Cardiovascular Pharmacology

Cardiac blood flow

- The mammalian heart is a double pump in which the right side operates as a low-pressure system delivering de-oxygenated blood to the lungs, while the left side is a high pressure system delivering oxygenated blood to the rest of the body.
- The walls of the right ventricle are much thinner than those of the left, because the work load is lower for the right side of the heart.
- The ventricular muscle is relatively stiff, and it would take some time to fill with venous blood during diastole. The thin, flexible atria serve to buffer the incoming venous supply, and their initial contraction at the begining of each cardiac cycle fills the ventricles efficiently in a short space of time.