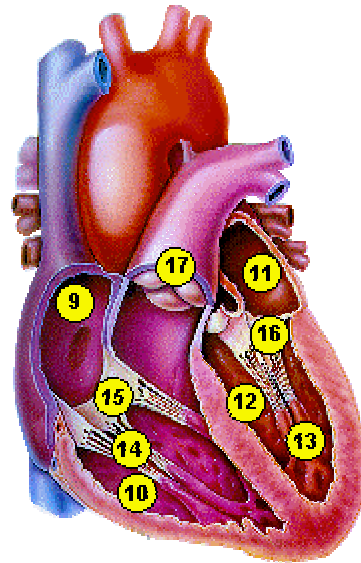


# The Heart and Cardiac Cycle

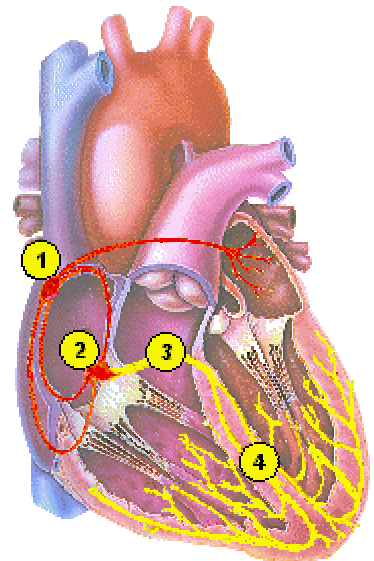


## Heart structure:

- Structure of the heart in relation to its function
- Cardiac muscle
- Valves and vessels

## Heart function:

- Myogenic stimulation (cardiac cycle) of the heart and the transmission of a subsequent wave of electrical activity
- Roles of the sinoatrial node, atrioventricular node and bundle of His
- Pressure and volume changes and associated valve movements during the cardiac cycle
- Cardiac output as the product of the heart rate and stroke volume.
- Pulmonary ventilation as the product of tidal volume and breathing rate
- Changes in cardiac output and pulmonary ventilation in response to exercise.
- Nervous control of heart rate in relation to changing demands



## Effects of exercise:

- Redistribution of blood flow in response to varying degrees of exercise
- The relative stability of blood supply to the brain kidneys and heart and the increase to skeletal muscle

