

The Cardiac Cycle

Biology

The stages of one heartbeat, and what controls the rhythm.

One complete cycle, roughly 0.8 seconds at rest.

1

Atrial systole

Atria contract; the last 20–30% of ventricular filling.

2

Ventricular systole

Ventricles contract; AV valves close — the first heart sound.

3

Ejection

Pressure exceeds the arteries; semilunar valves open.

4

Diastole

Ventricles relax; semilunar valves close — the second sound.

5

Passive filling

Blood flows in from the atria.

CONDUCTION

SA node — the pacemaker

AV node — delays, letting atria empty

Bundle of His and Purkinje fibres — ventricles contract from the apex up

Cardiac output = stroke volume × heart rate. Both rise with exercise, which is why output can increase several-fold.