

Coronary heart disease

GCSE Biology — revision notes

How to use these notes: cover the right-hand column. Read each question and answer it from memory, out loud or on paper, then uncover and check. Mark the ones you missed and come back to them.

1. Coronary heart disease (CHD)

Questions	Key points
What is atherosclerosis?	- fatty material (incl. cholesterol) builds up in coronary artery walls - artery narrows, loses flexibility
How does CHD lead to a heart attack?	↓ oxygenated blood to heart muscle cells → cells can't respire properly → can die → heart attack
How can a blood clot form in a narrowed artery?	- plaque ruptures → platelets gather on it → blood clot (thrombus) → can block artery completely
Risk factors for CHD?	- high blood pressure, smoking, excess alcohol, poor diet - high cholesterol, heredity, stress, lack of exercise
Four treatments for CHD?	statins — drugs, ↓ blood cholesterol stents — mesh tube holds artery open (less invasive, faster recovery) bypass — vessel from elsewhere (often leg vein) reroutes blood round blockage lifestyle — balanced diet, quit smoking, ↓ alcohol, healthy weight, exercise
How is a stent fitted?	- catheter in via blood vessel (wrist / groin) → narrowed artery - balloon inflated → squashes plaque against wall - stent folded on balloon → balloon opens stent against wall - balloon deflated + removed; stent stays → artery held open
Other heart problems and their treatments?	faulty valves — don't open/close properly → backflow, breathlessness, fatigue → valve replacement (biological or mechanical) pacemaker problems — irregular → artificial pacemaker septal defect ("hole in the heart") — oxygenated + deoxygenated mix → surgery heart failure → heart or heart-lung transplant

Summary fatty build-up narrows coronary arteries → less O₂ to heart muscle → heart attack. Treat with statins, stents, bypass, lifestyle.