

# Edexcel (A) Biology A-level

## 1.5 to 1.7 + 1.16 + 1.18 - Heart Disease

### Flashcards

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# What causes atherosclerosis?



## What causes atherosclerosis?

Endothelium becomes damaged which leads to an inflammatory response and possible blood clotting. Substances in the blood build up and harden into a plaque that narrows the artery and raises blood pressure.



# Why does blood need to clot?



## Why does blood need to clot?

- Prevents blood loss
- Prevents entry of harmful bacteria.
- Provides a framework for repair.



Explain the process of blood clotting.



Explain the process of blood clotting.

1. Platelets release thromboplastin in response to damage.
2. Causes prothrombin to change to its active form, thrombin.
3. Turns soluble fibrinogen into insoluble fibrin, forming a mesh that traps blood cells.



# How can blood clots be detrimental to health?





How can blood clots be detrimental to health?

May restrict blood flow which can mean tissues don't get the oxygen supply needed. In the case of atherosclerosis, a person may even develop cardiovascular diseases such as angina, stroke, heart attack.



Give factors that increase the risk of cardiovascular disease.



Give factors that increase the risk of cardiovascular disease.

Genetics (predispositions), age (older more at risk), gender (men more at risk), diet, high blood pressure, high cholesterol levels, smoking, physical inactivity, obesity.



Give three treatments for cardiovascular disease.



Give three treatments for cardiovascular disease.

- Antihypertensives (ACE inhibitors, calcium channel blockers, diuretics)
- Statins
- Platelet inhibitors (anticoagulants)



Give benefits and risks of  
antihypertensive medication.



Give benefits and risks of antihypertensive medication.

- + Reduces risk of kidney failure, lowers blood pressure, increases volume of urine to get rid of excess fluids.
- Side effects include dizziness, arrhythmia, and nausea.



Give benefits and risks of statins.





Give benefits and risks of statins.

- + Lowers cholesterol, minimal risk of side effects.
- Side effects that do appear tend to be severe e.g. muscle pain, liver damage, increased risk of diabetes, memory loss.



Give benefits and risks of platelet inhibitors.



Give benefits and risks of platelet inhibitors.

- + Prevents blood clots to limit narrowing of arteries, also effective within arteries.
- Prone to heavy bleeding even from small injuries.

