

# WJEC Wales Biology GCSE

## 1.4 (k) to (l) - Cardiovascular Disease

### Flashcards

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# What is cardiovascular disease?



# What is cardiovascular disease?

- Group of diseases affecting the heart or blood vessels
- Build up of fatty deposits on the walls of the arteries forms atheromas which reduce blood flow to muscle tissue
- Blood clots may form, blocking the arteries and stopping blood flow completely. This can lead to a heart attack or stroke.



Give some examples of types of cardiovascular disease



Give some examples of types of cardiovascular disease

- Coronary heart disease
- Heart attacks
- Angina
- Strokes



# How can cardiovascular disease lead to a heart attack?



# How can cardiovascular disease lead to a heart attack?

- Obstruction of a coronary artery due to an atheroma or blood clot
- Results in loss of blood supply to an area of heart muscle
- This causes death of the cells and leads to a heart attack



# How can cardiovascular disease lead to a stroke?





## How can cardiovascular disease lead to a stroke?

- A blood vessel supplying the brain becomes obstructed
- This can lead to a loss of blood supply to an area of the brain
- This causes death of the cells and leads to a stroke



# What is angina?



# What is angina?

Pains in the chest due to a blockage in the coronary artery



# What is a risk factor?



# What is a risk factor?

A variable associated with a greater chance of developing a disease or infection



# What are the risk factors for cardiovascular disease?



# What are the risk factors for cardiovascular disease?

- High blood pressure
- High blood cholesterol
- Smoking
- Obesity
- Diabetes
- Lack of exercise
- Family history of heart disease
- Ethnic background



How does high blood pressure increase the risk of cardiovascular disease?





# How does high blood pressure increase the risk of cardiovascular disease?

- Damages the walls of the blood vessels
- Promotes the deposition of fatty substances



# How does smoking increase the risk of cardiovascular disease?



## How does smoking increase the risk of cardiovascular disease?

- Carbon monoxide in cigarette smoke reduces oxygen-carrying capacity of blood
- Heart must work harder to deliver required volume of oxygen to tissues



How do high blood cholesterol levels increase the risk of cardiovascular disease?



# How do high blood cholesterol levels increase the risk of cardiovascular disease?

- Cholesterol deposited on walls of blood vessels
- Leads to the formation of atheromas



# How does obesity increase the risk of cardiovascular disease?



# How does obesity increase the risk of cardiovascular disease?

- Fat build-up around heart muscle
- Heart must work harder to pump blood around the body



Which ethnic groups are more likely to develop cardiovascular disease?





Which ethnic groups are more likely to develop cardiovascular disease?

- South asian
- African Caribbean



# How can cardiovascular disease be treated? (3)



## How can cardiovascular disease be treated? (3)

- Improving diet and lifestyle
- Medication
- Angioplasty



What changes to diet and lifestyle can be made to reduce the risk of cardiovascular disease?



# What changes to diet and lifestyle can be made to reduce the risk of cardiovascular disease?

- Regular exercise
- Reduce intake of saturated fat
- Maintenance of a healthy weight
- Diet low in salt
- Reduce stress
- Stop smoking and drinking alcohol



How effective are changes to lifestyle and diet in treating cardiovascular disease?



How effective are changes to lifestyle and diet in treating cardiovascular disease?

Although not themselves effective in the treatment of CVD, they can enhance the efficiency of other methods of treatment.



Outline the benefits vs the risks of making lifestyle changes to treat CVD





# Outline the benefits vs the risks of making lifestyle changes to treat CVD

- Avoids risks of surgery and side effects of drugs

However...

- Generally less effective than other methods
- Relies on the patient's perseverance to make the changes



What medication is used to treat cardiovascular disease?



What medication is used to treat cardiovascular disease?

Statins



# How do statins work?



# How do statins work?

## They lower blood cholesterol levels



# Outline the benefits vs the risks of using statins to treat cardiovascular disease



# Outline the benefits vs the risks of using statins to treat cardiovascular disease

- Convenient - taken orally

However...

- Side effects (liver damage, kidney failure, memory problems)
- Do not directly treat CVD but reduce the risk factor of high blood cholesterol



# What does angioplasty involve?





## What does angioplasty involve?

- Small, hollow tubes (stents) inserted into the lumen of arteries
- Small balloon used to inflate the artery to allow insertion of the stent



What are the risks associated with the use of stents to treat cardiovascular disease?



# What are the risks associated with the use of stents to treat cardiovascular disease?

- Insertion requires surgery
- Stents cause the growth of scar tissue in the arteries over time, further narrowing the lumen
- Blood clots may stick to stents

