GCSE Review 2 – Cardiovascular Disease

Basic Revision Aims:
2.1. What is cardiovascular disease?
2.2.1. The risk factors for cardiovascular disease (smoking, diet, obesity & type 2 diabetes).
2.3. The treatments for cardiovascular disease.

Extending Further:
2.2.2. Measuring obesity

Resources
Use the GCSE Bitesize sections below and your GCSE textbook, class notes and GCSE revision guide.
Cardiovascular Disease and Treatments
https://www.bbc.co.uk/bitesize/guides/zqnsrwx/revision/8 (AQA)
https://www.bbc.co.uk/bitesize/guides/z3t4xfr/revision/1 (Edexcel)

Risk Factors (diet)
https://www.bbc.co.uk/bitesize/guides/zcttv9q/revision/1 (AQA)
https://www.bbc.co.uk/bitesize/guides/z88hcj6/revision/4 (Edexcel)

Regulating Glucose
https://www.bbc.co.uk/bitesize/guides/z8t47p3/revision/4 (AQA) (Watch the video to help)
https://www.bbc.co.uk/bitesize/guides/z3gxb82/revision/5 (Edexcel) (Watch the video to help)

Risk Factors (others)
https://www.bbc.co.uk/bitesize/guides/z372ng8/revision/4 (AQA)
https://www.bbc.co.uk/bitesize/guides/z3t4xfr/revision/4 (Edexcel)

Extending Further (Measuring Obesity)
https://www.bbc.co.uk/bitesize/guides/z3t4xfr/revision/6

2.1. What is Cardiovascular Disease?

Cardiovascular disease is a non-communicable disease. What is a non-communicable disease?

……

One type of cardiovascular disease is <u>coronary heart disease</u> (CHD). By labelling the heart below, identify the position of the following:

- Coronary arteries (right and left)
- Coronary veins (right and left)
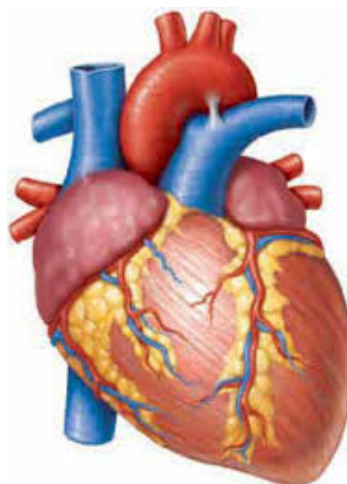
The coronary heart muscle needs a good supply of ……………………… & ………………….……… which are used in ……………………………………………………………… to allow the heart to ……………………………………. .

Describe the role of the coronary arteries.

………

Suggest the role of the coronary veins.

………

Describe how the coronary arteries may become blocked.

………

………

………

Describe the consequence if the blockage is allowed to build up.

………

………

………

………

………

2.2.1. Risk Factors for Cardiovascular Disease

A risk factor is ………

What can risk factors be caused by? ………

………

Smoking

Describe the 4 ways that smoking increases the risk of cardiovascular disease:

-
-
-

-

Diet

A person's diet can influence their risk of developing cardiovascular disease. Two important types of molecule involved are carbohydrates and lipids.

<u>Carbohydrates</u>

Examples include ………

What is their major function? ……………………………………………………………………………………………………

What is the function of glucose? ………………………………………………………………………………………………
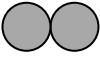
State the major sources of carbohydrates in our diet.

……

……

……

Simple sugar units
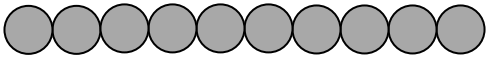
The basic building block (monomer) of a carbohydrate is a ………………………………………………………

Name two examples of these monomers ……………………………………………………………………………………

Double sugar units

These are known as? ………

Name some examples: ……

Many sugar units

These are known as? ………

Complete the table below to identify the three polysaccharides from their descriptions:

Polysaccharide	Description
	Made up of glucose molecules. It is the storage polysaccharide in animals.
	Made up of glucose molecules. It is the storage polysaccharide in plants.
	Made up of glucose molecules. It makes up plant cell walls. It cannot be broken down by the digestive system.

Regulating Glucose Levels

Glucose is needed by cells for ………………………………………………………………………………………………

If blood glucose concentration is too **high**, the hormone …………………………………… is released.

This hormone is released from the ………………………………… .

If blood glucose concentration is too **low**, the hormone …………………………………… is released.

This hormone is released from the ………………………………… .

This regulation of glucose levels is an example of ……………………………………………………………………………

Complete the table below to summarise the actions of the two hormones:

	Low blood glucose	**High blood glucose**
Hormone released		
Effect on liver & muscles		
Effect on body cells		
Effect on blood glucose level		

Lipids

Lipids can also be known as …………………… or ……………………

The two different molecules that make up lipids are:

………

Lipid are important for which part of a cell? ……………………………………………………………………………………

If a person eats too much carbohydrate and lipid as part of their diet and they don't use all the energy that the molecules provide, then their energy balance will be unequal and they will put on weight. This can lead to …

Obesity & Type 2 Diabetes

Describe how obesity leads to cardiovascular disease.

………

………

Obesity can increase the likelihood of developing …………………………………………………………………………

How does the increase in body fat in obesity lead to this?

………

What is type 2 diabetes?

………

………

Type 2 diabetes can be controlled by making changes to …………………………………………………………………

The risk of developing cardiovascular disease and type 2 diabetes can be reduced by doing the following:

………

………

2.2.2. Measuring Obesity (Extending Further)

There are two ways in which obesity can be measured. Complete the table below for the two methods.

Method	Calculation	Classification of Obesity
BMI		
Waist:hip Ratio		

2.3. Treating Cardiovascular Disease

2.3.1. Medication

Statins

Describe how statins work.

………

………

When are statins prescribed?

………

………

What happens if a person stops taking a statin?

………

Who should not be prescribed a statin?

……

State the possible side-effects of taking statins.

……

……

Why should statins be used more widely?

……

2.3.2. Surgical Procedures

Stents

Describe when a stent is used and how it works

……

……

What is the advantage of a stent being made of a metal alloy?

……

State the risks of having a stent

……

Heart Transplant

When would a heart transplant be required?

……

What is heart failure?

……

Describe what a patient must do following a heart transplant.

……

……

……

What is a transplant patient more at risk of following their surgery?

……

Summarise the key advantages and disadvantages for the following treatments:

Treatment	Advantages	Disadvantages
Statins		

Treatment	Advantages	Disadvantages
Stents	7	
Replacement heart valves		
Heart transplant		
Lifestyle changes		

Well done! You have completed the second GCSE review pack to help you prepare for the first part of the A-level Biology course! Now move onto GCSE Review 3 – DNA & Protein Synthesis.