

Workbook 1

Principles of Healthy Eating and Nutritional Needs of Individuals

PHYSICAL ACTIVITY

FOOD SOURCES

ADDITIVES

NUTRIENTS

HEALTHY DIET

ENERGY

EATING DISORDERS

Level 2

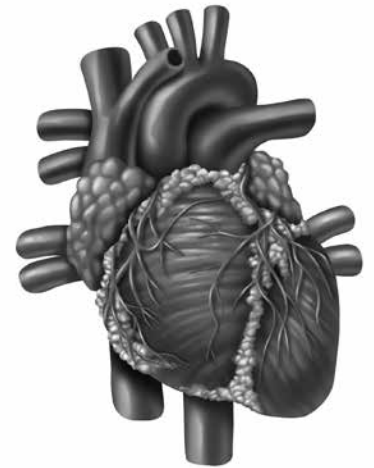
Certificate in Nutrition and Health

Section 1: Explore principles of healthy eating

Coronary heart disease (CHD)

One of the main causes of death in the UK, CHD occurs when fatty deposits block the coronary arteries. These vessels are responsible for transporting blood around the body and so their function can become impaired. The strain that is put on the heart can then lead to angina or a heart attack.

The main dietary link to CHD is eating too much saturated fat which can increase cholesterol in the blood. Fat from meat and full fat dairy foods contains saturated fat so these foods should be eaten in moderation.



High Blood Pressure leading to Stroke

High blood pressure is a condition where blood is pumped round the body at too high a pressure.

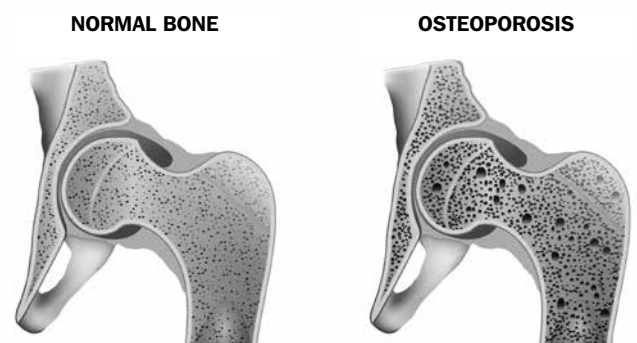
Having high blood pressure means that you are at greater risk of CHD and stroke. Salt intake from food increases blood pressure so we should limit the amount of salt we eat. Eating plenty of fruit and vegetables can help to lower blood pressure.

Type 2 diabetes

Type 2 diabetes is on the increase and obesity is a major risk factor. The risk of CHD, stroke, blindness, limb amputations and kidney disease are all increased in people with type 2 diabetes.

Osteoporosis

When we are young, minerals (especially calcium) are added to our bones to make them harder and stronger. As we reach the age of 30–35 we are said to have reached 'peak bone mass'. After this more minerals are taken out of the bones than are put back in and occurs in both men and women as they age. A diet rich in calcium and vitamin D is important; particularly in women as when they reach the menopause they lose the hormones that protect the bones from losing minerals.



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Tooth decay and gum disease

Tooth decay is caused by eating too much sugar, such as cakes, biscuits, sweetened and fizzy drinks, sweets and chocolate. We all have bacteria called plaque on our teeth, which feed on sugar. When we eat sugar therefore, the plaque uses this and as a by-product produces acid, which damages the enamel of our teeth and can lead to cavities (holes) in the teeth. The frequency of sugar intake is very important, it is advisable to restrict sugar intake to three times a day.



Some types of cancer

Cancer is a common cause of death in the UK and cancers such as breast cancer and bowel cancer are linked to diet.

Eating a diet based on plenty of grains, fruit and vegetables and low in fat can help to reduce the risks along with avoiding too much processed food, red meat and alcohol.



Knowledge Activity 3: Give at least one dietary tip in order to reduce the risk of.

Condition	Dietary tip/s
CHD	
Obesity	
Osteoporosis	
Tooth decay	

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Energy

Please read the following as it will help you to answer questions 4 and 5.

Energy allows us to move around, keep warm, do work and be active. We need a certain amount to stay alive and keep the body working. Jobs such as the heart beating, the brain sending out messages and the digestive system working all need energy. This amount is called the Basal Metabolic Rate (BMR).

There are three nutrients that provide energy, these are:

- carbohydrates (bread, cereals, potatoes, pasta and rice)
- proteins (meat, fish, eggs, dairy foods, nuts and pulses)
- fats (butter, lard, oils and margarine)

Each one provides a certain amount of energy:

Nutrient	Energy in Kilocalories	Energy in Kilojoules
1g of carbohydrate	3.75	15.7
1g of protein	4	16.8
1g of fat	9	37.8



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Basal Metabolic Rate (BMR)

Please read the following as it will help you to answer questions 6, 7 and 8.

This is the amount of energy your body uses to carry out basic functions, when you are completely at rest. We all have a different BMR and this tends to be reduced, as we get older.

Our BMR can be affected by age, gender, body size and weight.

The BMR is also affected by thyroxine, which is a hormone produced in the thyroid gland.

In the short-term, factors such as stress, illness, temperature changes and fasting or starving can all alter the BMR.

Calculating your BMR

There are many different equations for calculating BMR and some can be rather complicated. A simple way to calculate it is to multiply body weight in kg by 30 kcalories a day. This is only approximate however.

Example:

A 57kg woman would need:

$$30\text{kcal} \times 57\text{kg} = 1,710\text{kcal}$$

There are also Internet sites which allow you to calculate your BMR by inputting your height, weight, age and gender. You could use one of these sites as an alternative to the calculation or the table shown below.

This table provides an approximate guide to estimating your BMR.

BMR Kcal per day By age	Men	Women
Age 20	2388	2150
Age 25	2627	2388
Age 30	2507	2245
Age 40	2388	2150
Age 50	2269	2030
Age 60	2149	1671