

Millthorpe School GCSE Physical Education – Diet, Weight, Nutrition & Hydration

A balance diet – eating the right foods in the correct proportions. Insufficient macro and micronutrients can cause health issues *i.e. anaemia, rickets and scurvy.*

7 components of a balanced diet:

Macronutrients

- Carbohydrates – Main energy source. *i.e.* pasta & potatoes
- Fats – Secondary energy source & provides insulation. *i.e.* butter
- Proteins – Help growth and repair of muscles. *i.e.* eggs, meat & fish



Micronutrients

- Minerals – Maintains a healthy bodily functioning. *i.e.* iron and calcium
- Vitamins - Maintains a healthy immune system. *i.e.* vitamin C/D



Other components

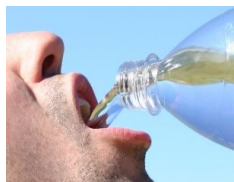
- Fibre – Aids digestion of food in the gut. *i.e. cereals & nuts*
- Water – Maintains hydration of an athlete.



Hydration and physical activity

Water is necessary for:

- Transportation of nutrients
- Removes waste products through urine
- Regulates body temperature



A lack of water can cause **dehydration**. Symptoms are tiredness, lack of concentration and headaches.



After the event - An athlete will continue to drink fluids to replace the water and carbohydrate levels that are depleted.

Organising meals around exercise – it is recommended to eating 2-3 hours before exercise. This is due to redistribution of blood during exercise (Blood Shunting)

When exercising, the distribution of blood around the body changes according to the demands. *i.e. away from digestive system and to working muscles.*

Energy Balance – this relates to intake and energy expenditure.



Dietary manipulation to optimise performance

Carbohydrate Loading – a strategy used by endurance athletes to increase carbohydrate stores



1 week before competition – train and eat normally

3-4 days before competition – reduce the amount of exercise. Increase carbohydrate intake

24 hours before competition – no exercise and large carbohydrate intake

Protein intake – the intake and timing of this consumption is vital to maximise the repair of muscle tissues after training. Protein should be take straight away to increase muscle repair. Used by **sprinters, shot putters & power events.**



Optimum Weight – this is the ideal weight someone should be. This will depend on:

- Height
- Gender
- Bone structure
- Muscle girth (size)



Optimum weight varies depending on the requirements of different sports/positions.

i.e. rugby forwards & backs

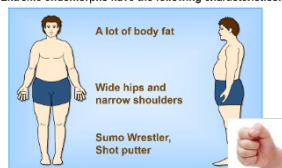


Somatotypes (AQA only)

1. Endomorph

Remember the 'D' stands for DUMPY.

Extreme endomorphs have the following characteristics:



2. ECTOMORPH

Remember the 'T' stands for THIN.

Extreme ectomorphs have the following characteristics:



3. Mesomorph

Remember the 'M' stands for MUSCULAR.

Extreme mesomorphs have the following characteristics:

