GCSE Physical Education – Diet, Weight, Nutrition & Hydration

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

7 components of a balanced diet:

Macronutrients

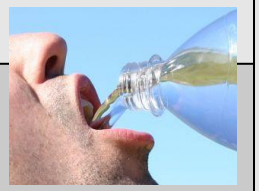
- Carbohydrates – Main energy source. i.e. Complex starch (pasta & potatoes) & simple sugars (glucose, chocolate, sweets)
- Fats – Secondary energy source & provides insulation. i.e. Saturated fats (butter) & unsaturated fats (vegetable oil)
- Proteins – Help growth and repair of muscles. i.e. eggs, meat & fish

Micronutrients

- Minerals – Maintains healthy bodily functioning. i.e. iron and calcium
- Vitamins - Maintains a healthy immune system. i.e. vitamin A, C, D, E, K

Other components

- Fibre – Aids digestion of food in the gut. *i.e. cereals & nuts*
- Water – Maintains cell function and hydrates 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.

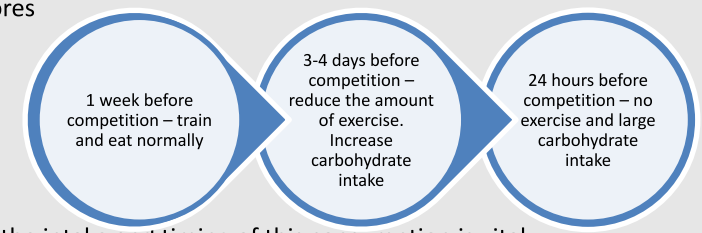
Organising meals around exercise – it is recommended to eating 2-3 hours before exercise. This is due to redistribution of blood during exercise (Blood Shunting)

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



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**.

Glycogen stores

Optimum energy at muscle level through carb-loading. Other ways to keep this high are to:

- Consume carbs 2-4 hours before exercise
- Consume very small amounts of carbs half an hour before exercise
- Eat carbs straight after exercise for up to 2 days to replenish stores

Other factors

- Timing of meals around training
- Adequate fluid intake
- Adequate iron intake
- Adapt diet depending on workload
- Psychological well-being
- Sharing of ideas between coach, dietician and athlete
- Obsession with food by athletes should be strongly avoided
- Possible use of supplements for high performing athlete within the restictions of the sport

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Term	Definition/notes/concept

Keywords: