

**Health:**  
State of complete mental, physical and social wellbeing and not merely the absence of disease.

**Well-being:**  
A mix of physical, social and mental factors that gives a sense of being comfortable, healthy and happy.

**Fitness:**  
Ability to meet the demands of the environment

**Improvements in fitness will:**

- Improve your ability to cope with the demands of your daily environment
- Reduce the chances of you suffering injuries
- Make it easier for you to complete physical work
- Make you feel more content / happy

**Sedentary Lifestyle:**  
A person's choice to engage in little or no physical activity.

**Consequences of choosing a sedentary lifestyle are:**

- Weight Gain / become obese
- Suffering from heart disease
- Suffering from diabetes
- Suffering from poor sleep / insomnia
- Suffering from poor self-esteem / confidence
- Feeling tired and lethargic
- Having a lack of friends

#### Somatotypes (body shapes)

**Ectomorph:**

- Very thin, lean and usually tall
- Narrow shoulders, hips and chest
- Not much fat / muscle
- Long arms and legs

**Activities that suit ectomorphs:**

- High Jump / Pole Vault – lighter so less weight to lift in the air over the bar.
- Marathon runner / Long distance runners – Lighter so less weight to carry + longer stride length so can cover larger distance with each stride.

**Mesomorph:**

- Broad shoulders and thin waist (narrow hips)
- Large amount of muscle
- Strong arms and thighs
- Little body fat

**Activities that suit mesomorphs:**

- Sprinting – large arms and legs to help produce more power resulting in them running quicker.
- Weightlifter – Large muscles helps provide the force required to lift heavier weights
- Rugby player – Muscle helps generate force required when making contact with opponents.

**Endomorph:**

- High content of fat
- Fat round middle, thighs and upper arms

**Activities that suit endomorphs:**

- Sumo-wrestling – large size is difficult to force out of the ring and can be used to create short powerful actions.
- Shot Putter – Extra bulk allows for a more powerful release of shot.

**Physical Health and well-being**

- Relates to the bodies systems and how well they are working.

Exercising positively affects physical health and well-being as it can:

- Improve your heart function
- Improve the efficiency of cardiorespiratory and musculoskeletal systems
- Reduce the risk of illness e.g. diabetes
- Help to prevent obesity
- Enable you to carry out everyday tasks without getting tired

**Obesity:**  
A term used to describe people with a large fat content, caused by an imbalance of calories consumed to energy expenditure. BMI of over 30.

## Diet, Somatotypes, Health and Fitness

**Calories:**  
Energy is measured in calories. These calories are obtained from the food and drink we consume.  
**Male = 2500 kcal/day Female = 2000 kcal/day**

**Maintaining Weight:** Calories Taken in = Calories Used  
**Weight Gain:** Calories taken in is more than calories used  
**Weight Loss:** Calories taken in is less than calories used

**What is a balanced diet?**  
Eating the right amount of calories to deal with the energy that will be needed. It is also eating different food types to provide the body with the right nutrients, vitamins and minerals to remain healthy.  
Ideal average intake of main nutrients – **Carbohydrates = 55 – 60%, Fat = 25 – 30%, Protein = 15 – 20%**

**Why should we strive to have a balanced diet?**

- Unused energy is stored as fat which could lead to obesity.
- The human body needs nutrients for energy, growth and hydration.

**Carbohydrates:**  
Bodies main energy source especially during exercise.  
Simple Carbohydrates – stored as glucose and is broken down quickly for fast energy release (found in sugar food e.g. sweets).  
Complex Carbohydrates – stored as starches in the body and are broken down more slowly but produce large amounts of energy (found in bread, pasta and potatoes).

**Social Health and well-being**

- Relates to basic human needs being met (food, shelter) as well as being able to socially interact with others in society.

Exercise positively affects social health and well-being as it can:

- Provide opportunities to socialise and make friends
- Encourages co-operation and team work

**Effects of obesity on Physical Health:**

- Contributes to cancer
- Causes heart disease / heart attacks
- Causes high blood pressure
- Can cause diabetes
- Causes cholesterol levels to rise

**Effects of obesity on Mental Health:**

- Can lead to depression
- Cause a loss of confidence
- Make an individual feel like they cannot contribute to society

**Effects of obesity on social Health:**

- Inability to socialise
- Make people feel uncomfortable in social situations.

**Effects of obesity on Fitness:**

- Limits a persons cardio-vascular endurance / stamina therefore making it difficult for them to take part in physical activities for a long period of time.
- Limits a persons flexibility making it difficult for performers to use a full range of movement at a joint when performing a skill e.g. lunging forward for the shuttle in badminton.
- Limits a persons agility making it difficult for them to change direction quickly.
- Limits a persons speed / power making it hard to react quickly enough or produce any forceful movement.

**Factors that effect calorie intake:**  
**Age** – younger people need more calories to help them grow. After 25 the calorie needs of individuals starts to fall.  
**Gender** – Men need more calories than women.  
**Height** – The taller an individual the more calories they require.  
**Energy Expenditure** – The more exercise an individual does the more calories they need.  
**Basal Metabolic Rate** – This is how fast energy is being used and varies from individual to individual.

**Protein:**  
Food source which is used for growth and repair of body tissues.

Athletes would require power / strength / speed need protein to help their muscle development (growth) and repair of muscle tissue after training sessions (micro tears).

Protein can also be used as an energy source at the end of prolonged activities when all other energy sources have been used up.

**Mental Health and well-being**

- Relates to a persons emotions and state of mind.

Exercise positively affects mental health and well-being as it can:

- Reduce stress / tension levels.
- Release feel-good hormones in the body such as serotonin.
- Enable a person to control their emotions and work productively.

**Fats:**  
Food source that provides energy at low intensities.  
Fat can provide more energy than carbohydrates BUT only when the performer is working at a low intensity. Often used for energy when walking or jogging and is also used when a runner has used up all their carbohydrate stores (starches).

Unsaturated fats cause cholesterol which leads to the narrowing of arteries and can cause heart attacks.

**Minerals:**

Inorganic substances that assist the body with many of its functions (help the body function properly).

Examples:

- **Calcium** found in milk, cheese and other dairy products. This is needed for teeth and bone growth as well as helping with nerve and muscle functions.
- **Iron** is found in liver. It helps the immune system, helps red blood cell production and assists haemoglobin carry more oxygen.

**Both vitamins and minerals are needed for maintaining the efficient working of the body systems.**

**Vitamins:**

Organic substances that are required for many essential processes in the body.

Examples:

- **Vitamin A** is found in dairy products and helps our skin function properly and helps us to grow.
- **Vitamin B** is found in whole grain products, nuts, eggs and fish. It helps the general functioning of the body.
- **Vitamin C** is found in citrus fruit, broccoli and liver. It aids the immune system, skin elasticity and the functioning of blood vessels.
- **Vitamin D** is found in oily fish, eggs and butter and is used to help bones.

**Water:**

Water is vital to maintain hydration levels (water balance) as it assists in how the body functions.

Key terms

- **Hydration** – having enough water (water balance) to enable normal functioning of the body.
- **Dehydration** – excessive loss of body water interrupting the function of the body.
- **Rehydration** – consuming water to restore hydration.

Hydration helps our reactions, lubrication of joints, blood flow and also plays a big part in maintaining correct body temperature.

The amount of water we need to drink depends on:

- The environment you are in – the hotter the environment the more water is required to keep you hydrated.
- The temperature in which you are in – due to you sweating more you require more water to keep you hydrated.
- The amount of exercise / activity you are doing – exercise means you need to replace the water lost in sweat.

Negative effects of dehydration:

- The blood thickens (increased viscosity), which slows blood flow down.
- The heart rate increases which means that the heart has to work harder.
- The body temperature is likely to increase, meaning that the body may overheat.
- Reaction time increases (it gets slower) which has a negative effect on decision making.
- An individual may suffer muscle fatigue and muscle cramps.