



Nutrition

Energy Balance

Lesson 3

Become an expert at understanding energy balance in the body and how it can be controlled.





To maintain a healthy weight energy balance must be equal. This means that the energy taken in by the body by diet is equal to the energy used by the body.





Positive energy balance is when energy intake is greater than the energy expenditure, this results in weight gain.





Negative energy balance is when energy intake is less than the energy expenditure, this results in weight loss.





If a negative energy balance has occurred and a person is losing too much weight the energy intake must be increased by eating healthy high calorific foods or increasing portion size.





If a high intake of energy (calories) has occurred e.g. high calorie meal then the energy expenditure should also be increased by doing more exercise to compensate and create an equal energy balance.





In the UK most people suffer from a positive energy balance rather than a negative energy balance. To correct this and lose weight it is recommended to increase energy expenditure through exercise rather than reducing energy intake to below recommended EAR's because this could result in deficiencies of vital nutrients needed by the body.





Energy expenditure is very important in energy balance. Physical activity levels are key to controlling this.





Physical activity is energy used during occupational duties, housework, leisure time, care giving, sport and transport such as cycling or walking.





The amount of energy used during physical activity can also depend on how often it is performed, for how long and the intensity of the activity.





**In the UK
population only 35%
of adult males and
24% of females are
meeting
recommendations
for physical activity.**





It is recommended by the Department of Health that for a healthy lifestyle adults should perform at least 30 minutes of moderate intensity activity on at least 5 days a week.





Moderate intensity activity should increase breathing, increase heart rate and lead to the body temperature increasing or sweating. An example of a moderate intensity activity is a brisk walk.





Adults should consider trying to undertake activities which increase strength, balance and co-ordination.





It is recommended that children and young people perform moderate intensity activity for at least 60 minutes everyday.





Twice a week children and young adults should undertake activities that improve flexibility, muscle strength and bone strength.





Due to high intakes of calories it is suggested to prevent obesity, people should each day perform 45 to 60 minutes of moderate intensity activity.





Listed are the amounts of calories used by the body if performed for 30 minutes.

Ironing: 69

Cleaning: 75

Vacuum cleaning: 105

Mowing the lawn: 165

Walking: 99

Brisk walking: 150

Golf: 129

Singles tennis: 240

Aerobics: 195

Swimming: 195

Cycling: 180

Running 8.5 mins/mile:
345

Running 10 mins/mile: 300



The portion size of food eaten has an affect on energy intake. It is important to try to control portion sizes.





It is recommended that a daily healthy diet consists of:

- **5 portions of fruit and vegetables**
- **3 to 4 portions of starchy carbohydrates**
- **2 to 3 portions of beans, pulses, egg, fish and meat**
- **2 to 3 portions of dairy and dairy alternatives**





One portion of fruit and vegetables is:

- **80g of fruit or vegetables**
- **30g dried fruit and vegetables**





One portion of starchy carbohydrates:

- 40g breakfast cereals
- 180g cooked pasta
- 85g bagel
- 180g cooked rice





One portion of beans, pulses, egg, fish and meat:

- 120g eggs
- 100 to 140g grilled salmon
- 130g grilled lean rump steak
- 100g roast chicken
- 200g baked beans
- 120g lentils





One portion of dairy and dairy alternatives:

- 125g milk on cereal
- 30g hard cheese
- 125g plant-based yoghurt
- 100g cottage cheese
- 125 to 150g low fat fruit yoghurt





Keeping portion control to the correct size and physical activity to an appropriate level then energy balance can be achieved more easily.





Revision Activity 3

What is positive energy balance?