

## Weight management and the athlete

### How many calories do we need each day?

In Western society a firm, lean body is highly prized and something the great majority of people wish they had. Yet, in spite of this, nearly 50 percent of adults in the UK are overweight and the numbers are increasing.

So how can you make sure that your exercise is giving you a healthy body?

### Know your body's composition

Your body is made up of lean body tissue - such as muscle, bone and internal organs - and stored body fat. And it is the balance between these components in your body that is important, not necessarily your overall weight. For example, it is often the case that people are the right weight for their height but they are carrying too much body fat. Although we all need some body fat, excess fat is a disadvantage in most sports. In contrast, muscle is nearly always beneficial.

Alternatively, you might be very heavily muscled (from strength training) and have very little body fat. This is usually good, but you might find yourself classified as being as overweight for your height.

For these reasons, the best way to find out if your weight is appropriate is to determine your body's composition by measuring your body fat percentage.

### How can you measure your body fat percentage?

There are a number of different machines that can assess your body fat percentage. Also, if you go to a health club, gym or have a health screen you may be offered body fat measurement where calipers are used to measure your skin fold thickness at various points on your body.

### So what is the ideal body fat percentage for an athlete?

Your body must have some stored fat as it is needed for certain essential physiological functions. From a performance point of view, the ideal body fat percentage for male athletes lies between 6 percent and 15 percent and, for female athletes, between 12 percent and 18 percent.<sup>1</sup> Experts believe that, for men, 5 percent and, for women, 10 percent is the absolute minimum.

### It's not just how much fat, but also where it's distributed

For people in general, the way their body fat is distributed is also important.

#### Apple-shaped

People who have stored body fat mainly around the abdominal area - often described as "apple" shaped - are known to have significantly increased risks of developing heart disease and diabetes.

**Pear-shaped**

On the other hand, people whose excess body fat is stored mainly around the hips and thighs - "pear" shaped - have a lesser risk.

**What other measurements are used in body weight management?**

There are a number of methods you can use to help you find out whether you're overweight or not, including body fat percentage. However, none of them is ideal.

- Height and weight tables
- Body mass index (BMI)

**Height and weight tables**

These tables take into account your height, weight and frame size (ie small, medium or large). They're easy to use but they require you to know your frame size. Unfortunately it is easy to assign yourself to the wrong frame size and mistakenly believe that your weight is okay, when in fact, it may not be.

**Body mass index (BMI)**

Body mass index (BMI) is used by healthcare professionals, such as doctors and dietitians. It is calculated by dividing your weight in kilograms by your height in meters squared. A large number of studies into BMI and its relationship to various health risks such as heart disease have been conducted and it has been found that:

- if your body mass index falls within the satisfactory range of 20-25 you will have no increased health risks
- a BMI of between 26-30 is considered overweight and health risks start increasing
- a BMI above 30, will classify you as obese and your risk of developing health problems increase significantly

If you would like to calculate your BMI, you can do so using the BUPA BMI calculator at [www.bupa.co.uk/health](http://www.bupa.co.uk/health)

A drawback of BMI is that it does not tell you anything about your body composition, i.e. how much of your weight comes from lean body tissue and how much comes from stored body fat. So, your BMI could be within the "normal" range, but you could be carrying too much fat. Equally, you could be very heavily muscled and have little body fat, but your BMI could be above the normal range. For these reasons, athletes might find a body fat percentage reading the most helpful way of finding out the composition of their body.

**If you want to lose weight (body fat), here are some important points to remember:**

- aim to lose no more than one or two pounds a week
- continue to eat a balanced diet each day but reduce the overall quantity of food

- aim to reduce your calorie intake by about 500 calories per day
- don't starve yourself because this may make you feel unwell, tired, possibly vitamin deficient, and you will also start losing muscle as well as body fat
- try to eat foods which have a low glycaemic index (see article on glycaemic index) as these provide a steady energy supply and are good at satisfying appetite
- reduce the amount of fat in your diet
- keep alcohol to a minimum
- continue to exercise as this will use up calories and, very importantly, help preserve muscle mass
- combine aerobic training such as running, with resistance exercise, such as weight training, i.e. aerobic one day - resistance another day

### **References:**

Wilmore JH. Body composition in sport and exercise: directions for future research. *Med Sci Sports Ex* 1983; 15: 21-31.