

Food for thought – burning the calories

At the end of a club run I've often been asked, 'How many calories did I burn?' If you have a Garmin and you've keyed in the necessary data, you'll probably know the answer. Your Garmin does a calculation based on your weight, distance you've run and time taken, to give a total figure of calories used, or a rate per hour.

Calories are the commonly used measure of energy. If you look for a definition you'll find that 1 Calorie = 4.18 Joules, or that 1 Calorie is the amount of energy required to heat 1 gram of water by 1°C. A Joule is the amount of energy required to lift 1kg (against gravity) by 10cm, or the amount of work done by a force of 1 Newton acting through a distance of 1m. Does that help you to understand your calorie burn? Not at all!

A calorie is actually a very small unit of measurement and so we work in kilocalories (kcal or 1000 calories). We use kcal to describe the amount of energy contained in foods and drinks and the amount of energy expended in activity. The recommended daily intake allowance (RDA) is 2000kcal for a woman and 2500kcal for a man in order to balance energy intake with expenditure. Those values are for 'average' adults, viewed across the whole population.

In reality, the figures vary considerably with age, weight and activity level. For example, a 64kg (10 stone) woman who runs 3 or 4 times a week burns somewhere between 1850 and 2600kcal per day, depending what she does when she's not running. Similarly for a 90kg (14 stone) man the range is 2600 to 3700kcal per day. We have to remember that we only run for a few hours each week whereas we're consuming energy throughout our waking hours, and so occupation and other activities play a major part in the energy equation. (In fact we're burning energy whilst we sleep too, but at the lowest level for sustaining life.)

We can estimate how many calories are burned when we run, however, and here are some examples:

Weight	Running at	kcal per hour *
Women		
64kg	10 min mile	538
64kg	8 min mile	648
55kg	8 min mile	605
55kg	7 min mile	630
Men		
90kg	10 min mile	764
90kg	9 min mile	819
90kg	8 min mile	920
75kg	8 min mile	815
75kg	7 min mile	850

*Based on age 30-60 yrs

As you can see, the heavier you are, and the faster you run, the more calories you'll use per hour.

If you're aiming to manage your weight through exercise, it's useful to appreciate how many calories you've burned, especially if you feel peckish afterwards and tend to head for the biscuit tin! If you really want to lose weight in a way that is likely to be permanent you should only aim to lose by 0.5kg per week. In order to do this you need to increase your energy expenditure by 500kcal per day, without increasing your intake.

If you're training heavily, particularly for marathon or ultra distances, the challenge may be to consume enough food to maintain weight and health. If you don't maintain this balance, you'll be drawing on your body's reserves to fuel your runs. Looking at your diet, in terms of calories, foods fall into 3 groups: carbohydrate, fat and protein. Carbohydrates should provide 50%, or more, of your daily energy requirement. Fat and protein will also provide energy and, gram for gram, protein provides the same amount of usable energy as carbohydrate. Fat, however, contains more than twice as much energy as either carbohydrate or protein so it is very useful as a concentrated source if you need to replace large amounts of energy.

An observation was shared with me once that regular club marathoners don't lose weight or get thinner. The conclusion was drawn that those marathoners can't be burning fat, else they would get thinner. If you want to read a little more about the fuel that you're burning when you run, and the science behind fat burning, check out the follow link: <http://russell-price.co.uk/wp/2013/05/marathons-and-fat-burning/>

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