



Energy Balance and Metabolism

How your body uses calories, and what that means for your goals

Metabolism is simply how your body turns food into energy, running every function from breathing to training. Understanding it takes the mystery out of weight change and helps you set realistic goals.

What your metabolism does

Your metabolism never stops, even at rest. It powers breathing, circulation, digestion, cell repair, hormones and temperature control. Food provides the fuel, which is stored and released as energy (think of ATP as your body's battery).

Energy balance, simply

If you are in	That means	The result
Balance	Energy in equals energy out	Weight stays the same
A surplus	Energy in is greater than energy out	Weight gain
A deficit	Energy in is less than energy out	Weight loss

Energy comes from carbohydrate (4 kcal/g), protein (4 kcal/g), fat (9 kcal/g) and alcohol (7 kcal/g).

Where your calories go

Your Total Daily Energy Expenditure (TDEE) is what you burn in a day. Most of it, around 70%, is your Basal Metabolic Rate: the energy just to keep you alive. The rest comes from digesting food, everyday movement and exercise.

About 70% of your daily burn is simply staying alive. That is why everyday movement and keeping muscle matter more for your metabolism than any single workout.

What affects your metabolic rate

- **Body size:** larger bodies burn more.
- **Muscle:** more lean tissue raises your rate.
- **Sex:** men often have higher rates, mainly from more muscle.
- **Age:** your rate drifts down roughly 2 to 3% a decade after 20, mostly from lost muscle.
- Plus activity, climate, hormones, illness and genetics.

Working out your needs

Equations like Schofield or Harris-Benedict estimate your rate from your age, sex and weight, then multiply by an activity factor for your TDEE. They are a useful starting point, but can be off by up to 20%, so treat the number as a guide and adjust based on real results.

Where to learn more: the NHS, the British Nutrition Foundation, and the British Dietetic Association (BDA). For targets tailored to you, get in touch, or speak to a registered dietitian.

This leaflet is general nutritional guidance for education only. It is not medical advice, diagnosis or treatment, and it does not replace advice from your GP or a registered dietitian. Always check with a qualified professional before making significant changes, particularly if you have a health condition, are pregnant, or take medication.

Ready to take the next step? Book a free call or start your food diary analysis at performancenutritionlondon.co.uk