Hydration for Health and Performance

Why fluid balance is one of the simplest ways to feel and perform better

Water makes up around 60% of your body weight and drives almost everything that matters for training and daily life: circulation, temperature control, energy, focus and recovery. Losing as little as 2% of your body fluid can cut performance by 10 to 20%, so getting hydration right is one of the easiest wins in nutrition.

Know the words

- **Euhydration** is the normal, well-hydrated state your body works best in.
- **Dehydration** is losing more fluid than you take in. **Rehydration** is topping it back up.
- **Hypohydration** and **hyperhydration** mean a body-water deficit or excess beyond the normal range.
- **Hyponatraemia** is blood sodium falling too low, which can be dangerous. It can come from drinking too much plain water during very long events, so more is not always better.

Spot the signs, know the risks

Early signs

- Thirst and dry mouth
- Dark yellow urine, passing less
- Tiredness and mild headache
- Dry skin and muscle cramps
- Dizziness or light-headedness

Why it matters

- Impaired performance
- Heat-related illness
- Poor concentration and mood
- Kidney and urinary problems
- Electrolyte imbalance

How dehydration adds up (example: a 70 kg person)

Level	Fluid lost	What you might notice
Mild	1 to 2% (0.7 to 1.4 L)	Thirst, dry sticky mouth, dark urine, tiredness, mild headache, cramps
Moderate	3 to 5% (2.1 to 3.5 L)	Stronger thirst, very dark urine, sunken eyes, fast heartbeat, dizziness, rising body temperature
Severe	Over 5% (over 3.5 L)	Intense thirst, little or no urine, weak rapid pulse, confusion, fainting. This needs medical help.

Performance drops early. Exercise capacity can fall by around 30% at 5% fluid loss, and hard, high-intensity efforts by up to 45% at just 2.5%. You do not need to feel very thirsty for it to cost you.

How much do you need?

Everyday, aim for around 2 to 2.5 litres of fluid a day (roughly 6 to 8 glasses), little and often. Warm weather, exercise, illness and altitude all push this higher.

- **Before training:** about 500 ml in the two hours before your session.
- **During:** a few gulps, 120 to 180 ml, every 15 minutes.
- **After:** replace around 150% of the fluid you lost, or 1.2 to 1.5 litres for every kilogram of body weight lost.
- **Check your urine:** pale straw means well hydrated, dark yellow means time to drink.

Adjust for the session and the setting

- **Under 30 minutes:** water is usually enough, drink to comfort.
- **30 to 90 minutes:** add some carbohydrate, and electrolytes can help fluid stay in.
- **1 to 2.5 hours:** aim for 30 to 60 g of carbohydrate an hour from drinks or food.
- **Over 2.5 hours:** include sodium as well as carbohydrate, and avoid over-drinking plain water.

- **In the heat:** you can lose up to 3 litres of sweat, so start well hydrated and use cool drinks.
- **At altitude:** dry, cold air raises your needs, so spread fluid across the day.

Where fluid comes from

Water, lower-fat milk, tea and coffee, and sugar-free drinks all count. Food adds up too, especially fruit and vegetables with a high water content such as cucumber, melon, tomatoes, oranges and soups. Limit fruit juice and smoothies to a combined 150 ml a day because of the sugars.

Sports drinks, simply

Type	Carbs	Electrolytes	Best for
Isotonic	6 to 8%	Yes	General training and team sport. Quick energy plus fluid (for example Lucozade Sport).
Hypotonic	Under 6%	Higher	Fast fluid replacement with fewer calories.
Hypertonic	Over 8%	Lower	Extra energy for long endurance. Absorbs more slowly, so less ideal for rapid rehydration.

Sports drinks add energy and electrolytes over plain water, but also calories, so they are not always the right choice if fat loss is your goal. For most sessions under an hour, water is enough.

Alcohol and hydration

- Alcohol is a diuretic, so it increases fluid loss and slows rehydration after training.
- It reduces muscle repair (protein synthesis), even when you eat enough protein.
- Even small amounts before exercise can reduce endurance, coordination and judgement.
- It adds 7 kcal per gram with no useful nutrients. UK guidance is under 14 units a week, spread over at least 3 days.

Match your drink to your goal. If you are managing weight, water or a hypotonic drink usually beats a calorie-rich sports drink. If you train long or in the heat, carbohydrate and sodium earn their place.

Where to learn more: NHS Eatwell Guide and hydration advice, the British Nutrition Foundation, the British Dietetic Association (BDA), and sport nutrition guidance from the Sport and Exercise Nutrition register (SENr) and the IOC. For any medical concern, please speak to your GP.

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