DIET & WEIGHT

# Do You Really Need an Electrolyte Drink?

Here is what those minerals do, when losses matter and why a sports drink is not automatically better than water.

## The bottle makes a big promise

You finish a workout hot, thirsty and streaked with sweat. At the shop, the choice appears almost medical: plain water on one side, a bright electrolyte drink on the other, its very name suggesting that water alone might leave your body unfinished.

Electrolytes do matter. They are charged minerals found in blood, urine, tissues and other body fluids. Sodium, potassium, chloride, calcium, magnesium, phosphate and bicarbonate help regulate water and acid-base balance, move substances in and out of cells, and support nerves, muscles, heart rhythm, blood pressure, bones and teeth.

That impressive job description does not mean everyone needs to drink extra electrolytes. You already get them from food and fluids. Many people obtain all the potassium they need that way, from foods including leafy greens, fruit, root vegetables and citrus fruit.

The useful question, then, is not whether electrolytes are essential. They are. It is whether your particular day has disturbed the balance enough to require something beyond your usual food and drink-and whether a commercial drink is the right answer.

## Sweat changes the calculation

Your fluid balance depends on intake roughly matching losses. Heavy sweating, intense exercise in very hot weather, not drinking enough, severe vomiting or diarrhoea, certain medicines, and heart, liver or kidney problems can upset that balance. Drinking too much water can disturb it as well.

This is where electrolyte drinks have a plausible role, but the evidence supplied here does not draw a neat line based on workout type or duration. It supports paying attention to unusually heavy fluid losses. It does not support treating every gym visit, walk or training session as an electrolyte emergency.

Even among elite athletes, the performance argument is weaker than advertising often implies. A 2023 systematic review of supplements used by elite soccer players included beverages containing carbohydrates and electrolytes. The review found that these drinks

could contribute to carbohydrate-intake strategies during training and matches, but used alone they did not improve athletic performance.

That distinction matters. A drink may provide fluid, carbohydrates and minerals without making you faster, stronger or better at jumping. Hydration and performance enhancement are not interchangeable claims. If you buy the drink because you expect it to transform an ordinary workout, this review offers little support for that expectation.

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## More is not automatically safer

An electrolyte imbalance can mean too little or too much of one or more minerals. The direction matters. So does the cause. Adding minerals without knowing what is out of balance is not the same as correcting the problem.

Sodium helps regulate body fluid and supports nerves and muscles. Potassium supports cells, muscles, nerves and regular heartbeat. Yet too much sodium and too little potassium can raise blood pressure. Most Americans already consume too much sodium, largely from packaged and restaurant foods, while many consume too little potassium.

Potassium deserves particular care if you have chronic kidney disease. Healthy kidneys help keep the amount in your body within the right range, but damaged kidneys may not remove excess potassium from the blood. Some medicines can raise potassium too. In that situation, casually adding a potassium-containing drink or supplement may work against a prescribed diet.

Magnesium is another familiar addition. A 2021 systematic review of 14 studies found that organic magnesium formulations appeared more bioavailable than inorganic ones, while absorption depended on the amount taken. All studied supplement forms could maintain normal levels in healthy people without a previous deficit, but the researchers could not assure the same result for older people, those with illnesses or people starting with low levels. The word "magnesium" alone does not tell you what an added dose will achieve.

## Illness is a different problem

A hard, sweaty day and a true electrolyte disorder are not the same thing. If severe vomiting or diarrhoea, medicines, or heart, liver or kidney disease may be involved, the decision is no longer simply water versus a sports drink. An electrolyte panel can check the body's main electrolyte levels, and treatment depends on which one is high or low and why.

Minor imbalances may be addressed through changes to diet. Other cases require a specific electrolyte as a medicine or supplement, taken by mouth or given intravenously (IV). If a level is too high, treatment may instead involve medicines or fluids to help remove it. Severe cases can require dialysis.

That is why a commercial mixture cannot be treated as universal replacement therapy. It contains what its formula contains; your body may have too little of one electrolyte, too much of another, or a fluid problem driven by an illness or medicine. The correct response can move in opposite directions.

Severe vomiting or diarrhoea, suspected dehydration or overhydration, or concerns connected to heart, liver or kidney disease belong in a conversation with a healthcare professional. The same is true if you take medicines that affect electrolyte levels. A drink chosen from a shelf cannot identify the imbalance or its cause.

## Make Monday's choice visible

Before your next ordinary workout, put a refillable water bottle where you will see it. That step takes the bottle and access to drinking water. Not drinking enough-especially during intense exercise or very hot weather-is one recognised route to disturbed fluid balance, so beginning with a drink you will actually carry addresses the basic problem without assuming you need added minerals.

Then consider the day in front of you. Ordinary thirst after ordinary activity is not evidence, in the material available here, that you require a specialised drink. Heavy sweating, intense exercise in heat, vomiting or diarrhoea changes the question because fluid and electrolyte losses may be more substantial.

If you are choosing an electrolyte drink, treat it as a source of fluid and minerals, not a performance guarantee. The review in elite soccer players found no athletic-performance benefit when carbohydrate-and-electrolyte beverages were used alone. That is a useful brake on the idea that the more athletic-looking bottle must be the more effective choice.

For the coming week, make the water bottle your default and reserve the electrolyte question for days with unusual losses or medical advice. If kidney disease, other organ disease or relevant medicines complicate the decision, write down the drink's listed electrolytes and ask your healthcare professional whether they fit your needs. That takes the container and a short written question-not guesswork.

## Where this comes from

- Fluid and Electrolyte Balance

  MedlinePlus, U.S. National Library of Medicine · https://medlineplus.gov/fluidandelectrolytebalance.html
- Potassium

  MedlinePlus, U.S. National Library of Medicine · https://medlineplus.gov/potassium.html
- Sodium and Potassium: Health Effects (electrolytes in food and drinks)

  Centers for Disease Control and Prevention · https://www.cdc.gov/salt/sodium-potassium-health/index.html
- Bioavailability of magnesium food supplements: A systematic review.

  Nutrition (Burbank, Los Angeles County, Calif.), 2021 · https://pubmed.ncbi.nlm.nih.gov/34111673/
- Effects of dietary supplements on athletic performance in elite soccer players: a systematic review.

  Journal of the International Society of Sports Nutrition, 2023 · https://pubmed.ncbi.nlm.nih.gov/37462346/
- Levothyroxine Interactions with Food and Dietary Supplements-A Systematic Review.

  Pharmaceuticals (Basel, Switzerland), 2021 · https://pubmed.ncbi.nlm.nih.gov/33801406/