

Module 10, Lesson 7 Handout:

Electrolyte Basics

Electrolyte is a term we hear so often, but what they actually are can often be a gray area even among athletes. Here's a refresher on what electrolytes are and their function in the body, signs and symptoms of electrolyte imbalance and recommendations for client athletes.

What are Electrolytes?

Electrolytes are elements and compounds found in the blood and body that carry a positive or negative charge. They're responsible for maintaining your physiology and regulating processes such as nerve and muscle function, maintaining hydration and fluid status and balancing acidity. Basically, electrolytes are vital for maintaining overall stability in the body.

The most common electrolytes of importance in exercise are sodium, chloride, potassium, calcium, and magnesium. They all work together to maintain fluid balance and ensure proper function of the heart, nerves and muscles.

Electrolyte Imbalances

Electrolytes travel in fluids in the body and are lost in sweat. Athletes may experience electrolyte imbalances if they lose too many of these compounds in their sweat and will see signs of an electrolyte issue during or after exercise. It's hard to pinpoint the exact electrolyte of concern since the signs are all similar, but know that sodium and chloride are most readily lost through sweat compared with other electrolytes. If electrolytes aren't quickly replaced, electrolyte imbalances can lead to serious health consequences and can even be life threatening.

Signs of Electrolyte Imbalance Include

- Dizziness
- Fatigue
- Muscle twitches/spasms
- Muscle weakness
- Cramps
- Irregular heart beat
- Confusion
- Nausea

Replenishing Electrolytes

Ask your clients specifics about their workouts and about how much they sweat. You may want to ask if they are ever coated in a thin layer of salt during or after their workouts. Their electrolyte replenishment needs are based on how much they sweat, their size, their genetics, the temperature where they train, the temperature outside and how hydrated they are when they start their exercise.

If workouts are longer than 90 minutes, if the athlete is a heavy sweater, and/or if the athlete works out in a hot environment, you may recommend taking in electrolytes during training. It's likely that you're already recommending taking in fuel during training for this type of athlete.

Recommendations will be personalized to the athlete's individual tolerance to foods and fluids during exercise.

Some Choices Include:

- Sports drinks
- Coconut water
- Electrolyte gels
- Sports chews
- Dried fruit such as raisins

Post-workout, recommend water and a snack that contains electrolyte minerals. A good rule of thumb is a piece of fruit and/or something lightly salted.

A few choices include:

- Banana
- Fruit smoothie
- Coconut water
- Baked potato