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CAN NUTRITION HELP MUSCLE CRAMPS?

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A young swimmer asked if there were any nutritional strategies that prevented muscle cramps. If you have experienced the pain of an exercise-induced muscle cramp, you might just try anything to avoid another cramp. Sucking on mustard packets from the local fast food joint to swallowing pickle juice have all been reported to be miracle cures for cramping. One report found that 25% of athletic trainers suggest pickle juice for immediate relief. Muscle cramps have plagued not only athletes, but those who do hard, physical work in hot and humid conditions, like coal miners. But, while cramps are not uncommon in active folks, the reason for cramping remains in question. There are generally two theories on cramping and neither theory has been proven beyond a doubt to be the cause.



The first theory is that cramps are related to dehydration and loss of the electrolyte, sodium, especially in hot and humid environments. That is where mustard and pickle juice come in...both are concentrated sources of sodium. One study compared pickle juice to sports drinks, but did not show that pickle juice elevated blood sodium levels quickly enough to relieve cramps, yet some athletes do report relief. Another problem with this theory is that cramps occur in cool weather conditions or while swimming in cooler water, so there is more to cramping than just hot weather conditions. Lastly, not every athlete who cramps is dehydrated.

The second theory is that cramps are caused by an imbalance in nerve signals to muscles, sometimes called the neuromuscular theory. Cramps tend to occur more frequently at the end of competition or hard physical work when the muscle is tired. Rest and stretching the cramping muscle are the treatment options based on this theory.

So, where does that leave the cramping swimmer? It still makes sense to ensure good hydration and have adequate salt intake. While it may not be the sole cause of cramps, dehydration can affect performance, and severe dehydration can result in life threatening heat illness. Research with football and tennis players have found that those athletes who have a high sweat rate and high sodium losses in sweat (the "heavy and salty sweater") are cramp-prone. So, try these tips and see if they help reduce cramps:

- Monitor your body weight by weighing before and after practice. If you lose more than 2% of your body weight (for example, a 150-pound swimmer who loses more than 3 pounds in a workout has lost over 2% of his body weight) try drinking about a liter (4 cups) of a sports drink 1 hour before your workout.
- Add about 1/3 teaspoon of salt to a liter of sports drink (shake well) to make your own endurance formula sports drink.
- Consume higher sodium foods or beverages in your pre-workout meal or snack; try chicken noodle or tomato soup, beef or turkey jerky, tomato juice, salted pretzels or baked chips.
- Drink sports drink during your workout; keep a sports bottle handy and drink a few swallows when you can.

Chris Rosenbloom is a professor emerita of nutrition at Georgia State University and provides sports nutrition consulting services to athletes of all ages. She is the editor-in-chief of the Academy of Nutrition and Dietetics Sports Nutrition Manual, 5th edition and editor-in-chief of an online Sports Nutrition Care Manual for health care professionals. She welcomes questions from swimmers, parents and coaches. Email her at chrisrosenbloom@gmail.com.

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