

Muscle Cramps: The Right Ways for the Dog Days

By E. RANDY EICHNER, M.D., FACSM

Professor of Medicine at the University of Oklahoma Medical Center and Team Internist for the Oklahoma Sooners

August brings the grueling combination of training camps and intense heat. As athletes make their way back to school and get back into shape, dehydration and muscle cramping sometimes occur.

No laughing matter, whole-body muscle cramps are debilitating and can sideline an athlete for the day, at least. What's the game plan to defeat cramping?

What Causes Cramping

First, understand what causes cramping. Muscle fatigue, salt loss and dehydration – all three acting together – play a role in muscle cramping. Consider this: on a hot day a 250 lb-football player can easily lose as much as one gallon of sweat in the course of a game. In losing that much sweat, the player can also lose enough sodium chloride to equal 2 to 3 teaspoons of table salt. Compared to the trivial losses of potassium, calcium, and magnesium in sweat, the loss of sodium can be huge.

The Loss of Sodium

Why worry about losing sodium? Sodium is key not only to maintain blood volume but also to help nerves fire and muscles work. Sodium depletion short-circuits the coordination of nerves and muscles as muscles contract and relax. The result can be muscle cramping. Players most prone to disabling whole-body cramps are those most lean and fit, intense and explosive at their position, who take many reps in the heat, sweat early and heavily, and cake with salt.

So the first line of defense against cramping is to encourage your athletes to consume more salt and drink enough of the right fluids.

A Balanced Diet

Set the tone for the team by advocating a balanced diet and recommending the best beverages for athletes before, during and even after the dog days of summer. Popular foods rich in sodium include tomato juice, canned baked beans, dill pickles, pretzels, canned soups and cheese pizza.

Hydration Options

Options for hydration include various sports drinks and bottled waters, all claiming to help athletes reach peak performance. In hot and sweaty weather, it is vital that athletes choose the right fluids to stay hydrated and maintain a healthy balance of electrolytes – most importantly sodium – to help prevent muscle cramping. Sports drinks taste good, which encourages players to keep drinking, and contain sodium (Gatorade thirst quencher has 110 mg in 8 oz) to help fend off muscle cramping. Water, which contains almost no sodium, is not the best choice as your only drink in hot, humid playing conditions.

Myths on Preventing Muscle Cramping

And then there are the myths. Some coaches have used super-salty sources like pickle juice, mustard and even antacids as quick, on-field “fixes” for sodium-related muscle cramping. There is no scientific evidence to support these remedies and, in most cases, they provide too much salt and not enough fluid.

For most players, a balanced diet containing some salty foods and proper hydration with a sports drink will suffice to stave off cramping. For those who are prone to severe muscle cramps or who are “salty sweaters” – that may not be enough. Players with extreme cramps need even more sodium which they can get by adding 1/4 teaspoon of salt to a 16 to 20 oz beverage.

Preventing heat cramps is all about what players put in their body. Keep them well hydrated and replace sodium and other electrolytes and you'll keep them in the game.