



Nutrition Approach to Cramping

Exercise Associated Muscle Cramps (EAMC) is a highly debated topic and could be the result of many factors, which may include; **altered neuromuscular function, dehydration/fluid imbalance, electrolyte imbalance (sodium, potassium, calcium, and magnesium) or inadequate carbohydrates.** While much of the research is inconclusive to determine a single cause for EAMC, all may be a contributing factor. Therefore, a proper diet is an effective preventative action to reduce EAMC. *Avoid - Caffeine, Energy Drinks (Monster, Red Bull and other Brands), 5-hour Energy, Overeating and Large Amounts of Refined Sugar.*

Athlete's Focus During the Week:

- | | | |
|---|----------|---------------------|
| 1. <u>Drink Water Throughout the Day:</u> Roughly at least 1mL for every calorie consumed. | 1 | HYDRATED |
| • <i>On Average - Shoot for 115oz a day (3.5 of the Gatorade 32oz water bottles we have at practice) in addition to fluids consumed during practice/games. Based on 3,500-calorie diet.</i> | 2 | HYDRATED |
| • <i>Shoot for a full bottle of water 2 hours prior to practice/games.</i> | 3 | HYDRATED |
| ○ An assessment of overall hydration status can be determined through urine color. | 4 | DEHYDRATED |
| 1. Good hydration = color similar to lemonade | 5 | DEHYDRATED |
| 2. Poor Hydration = color similar to apple juice | 6 | DEHYDRATED |
| ○ If hydration is adequate, consider utilizing electrolyte drinks occasionally to help reduce chance of electrolyte imbalance. | 7 | SEVERELY DEHYDRATED |
| | 8 | SEVERELY DEHYDRATED |
2. Consume Adequate Carbohydrates: During Training Week: 5-7 grams of carbohydrate per every 2.2 lbs of body weight per day.
- *On Average - Shoot for 120 grams of carbs per meal and 40 grams per snack 3x a day.*
 - (For a male weighing between 150 - 200lbs, estimated carbohydrate intake per day ranges from 475 - 650 grams per day, respectively)

• 2 Slices of Bread = 30-46 grams	• 1 Medium Apple = 20-30 grams
• 1 English Muffin = 30 grams	• Banana = 30-45 grams
• 1 cup Cooked Pasta or Rice = 45 grams	• 1 cup Cantaloupe = 15 grams
• 11 Small Pretzels = 15 grams	• ½ cup Fruit Juice = 15 grams
• ½ cup Peas or Corn = 15 grams	• ½ cup Mashed Potato = 15 grams

Mercer Island Sports Nutrition Department

3. Consume Foods High in Electrolytes: See attached food list, try to incorporate at least 1 food item from each column in every meal.
- Providing a daily diet high in electrolytes is a balanced long-term approach that also provides additional nutrients for optimal performance.
 - Pair electrolyte rich diet with electrolyte drink daily to help support overall balance.

Potassium	Calcium	Magnesium
<ul style="list-style-type: none"> • Fish (Salmon, Halibut, Tuna, Rock Fish, Cod) • Swiss Chard • Spinach • Broccoli • Banana • Cantaloupe • Tomato • Carrots • Mushrooms • Kale • Green Beans • Lima Beans • Sweet Potato • Soybeans • Avocado • Lentils • Winter Squash • Figs • Apricots • Oranges • Onions • Raspberries • Strawberries • Bok Choy • Nuts (Peanuts, Almonds, Cashews) 	<ul style="list-style-type: none"> • Tofu • Yogurt • Cheese • Milk • Spinach • Swiss Chard • Kale • Sesame Seeds • Oranges • Green Beans • Broccoli • Turnip Greens • Beet Greens • Mustard Greens • Bok Choy 	<ul style="list-style-type: none"> • Pumpkin Seeds • Fish (Salmon, Halibut, Mackerel Tuna) • Spinach • Swiss Chard • Soybeans • Sesame Seeds • Beans (Black, Kidney, Navy, Lima) • Quinoa • Lima Beans • Winter Squash • Raspberries • Broccoli • Cashews • Sunflower Seeds • Brown Rice • Oats • Tomato • Cantaloupe • Strawberries • Bok Choy • Kale • Asparagus • Banana • Figs • Dairy
Sodium: Sea Salt, Table Salt		

*Above are some good electrolyte sources, but many other food sources can provide potassium, calcium and/or magnesium. When thinking of whole foods, most items contain more than one electrolyte, and provide a variety of other beneficial nutrients! **Bold** terms above provide some examples of foods that contain a good source of more than one electrolyte, example: spinach contains potassium, calcium and magnesium.*

Sample Meals/Snacks with Electrolytes and Carbohydrates:

Here are a few ideas that were generated off of the provided list, not all-inclusive but a good starting point!

1. Fig Bar, Yogurt w/ Granola and Strawberries	2. Roasted Sweet Potato and Soybeans – Serve with Protein and Rice of Choice
3. Pretzels with Hummus and Oranges	4. Salmon w/ Green Beans and Brown Rice – Serve with Favorite Side Dish
5. Cashews, Sunflower Seeds and Cantaloupe – Serve with Yogurt for Added Calories	6. Black Beans and Rice with Cheese – Serve with Salad of Choice
7. Glass of Milk, Oatmeal and Apricots	8. Roasted Potato, Winter Squash and Green Beans – Serve with Protein and Bread of Choice
9. Banana with Nut Butter and Yogurt	10. Spinach and Romaine Salad with Avocado, Tomato, Mushrooms and Sunflower Seeds – Serve with Protein and Rice of Choice
11. Apple and Strawberries with Cheese	12. Spinach Salad with Pumpkin Seeds, Goat Cheese and Strawberries – Serve with Protein and Lentils of Choice
13. English Muffin with Nut Butter, Glass of Milk and Raspberries	14. Vegetable Sauté w/ Spinach, Onions, Broccoli, Carrots over Quinoa – Serve with Protein of Choice

ENJOY!