Sports Nutrition: The Basics

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When we exercise, our nutritional needs may increase due to the increased exertion of our bodies. As a result, there are certain food and drink choices that can help to complement your physical activity, and help to improve endurance, speed, and recovery. There are 2 categories of nutrients that are important to know for sports nutrition: macronutrients and micronutrients. Once we understand these terms, we can achieve our goals and enhance our performance.

Macronutrients

1. Carbohydrates: If you are exercising regularly, you should be consuming 55 to 60 percent of your total calories from carbohydrates. Good sources include whole wheat pasta, brown rice, sweet potatoes, beans, fruit, and whole grains.
2. Protein: When exercising regularly, you will need a bit more protein than you normally consume when you are sedentary. Somewhere about 20-30% of your day should come from, good sources, including lean meat (try bison), fish, poultry, eggs, and low-fat dairy products.
3. Fat: You want to consume 20 to 25% of your total calories from fat. However, all fat is not created equal. Good fats to consume are those that are unsaturated, like those in nuts, avocados, olive oil, and fish oil.
4. Water: Our bodies are not designed to alert us when we need water, so we cannot depend on thirst alone to alert us to our needs. Water needs increase with higher temperatures and humidity, as well as with the consumption of alcohol, coffee, and soda. Make sure to consume at least 8-10 glasses per day, and increase your intake with your intensity and amount of physical activity.

Micronutrients

Though there are numerous micronutrients out there, the following are the most important to remember during physical activity.

1. Calcium: This mineral is extremely important for athletes. Calcium keeps your bones strong. If you do not get enough calcium, you are at increased risk for fractures and for osteoporosis. The recommended intake for calcium is 1000 to 1500mg daily, depending on your age.
2. Iron: All athletes are at increased risk for iron deficiency. Iron loss is increased during heavy training. If you are feeling weak or fatigue rapidly upon exertion, you may already be iron deficient. Most male athletes get enough iron in their diet and no supplementation is typically needed. The recommended intake for iron is 10 to 18 mg per day. However, consuming more iron is not better. Iron overload is associated with heart problems, especially in males.
3. Magnesium: This mineral may help to prevent cramping during and after exercise. Low magnesium levels can contribute to early fatigue, nausea, and muscle cramps. Moreover, chronic magnesium deficiencies can lead to increased osteoporosis risk and anemia. Good sources include wheat germ, nuts, rye, soybeans, and figs
4. Potassium: This mineral helps with muscle hydration and fatigue recovery. Good sources include fruits, vegetables, and whole grains. It is important to note, however, that potassium overload can have a toxic effect on the heart.
5. Selenium: This mineral benefits the immune system and helps repair cellular damage. Good sources include Brazil nuts, beans, bran, garlic, mushrooms, and seafood.

6. Zinc: Zinc helps with post-exercise tissue repair and in the conversion of food to fuel. Those who train without days off lose zinc even more quickly than other athletes. Good sources include bran, fish, wheat germ, and yeast.
7. Antioxidants (Vitamin E, C, A, selenium, zinc, green tea extract, wild grapeseed, lutein, etc.): Antioxidants are another class of nutrients that are necessary for athletes. Aerobic athletes need even more antioxidants than other athletes due to the fact that their cells undergo more oxidative damage. When you exercise, there is an increase in oxygen consumption due to the fact that the muscles use the oxygen to provide energy. However, as oxygen use increases, so does the production of free radicals, which can lead to cell damage, thus resulting in heart disease, cancer, or other ailments. Antioxidants help to prevent and repair this oxidative damage. It is nearly impossible, however, to consume all of your antioxidant needs from food sources, and so supplementation may be recommended.
8. Omega 3's: supportive but not conclusive research shows that they may reduce the risk of heart disease. They also may benefit joints, eyes, brain function and even assist in improving mood.

Amino Acids

1. Glutamine: Not quite a macro- or micronutrient, glutamine is an amino acid (a building block of protein), that is necessary for athletes. This amino acid increases the number of lymphocytes and macrophages, which greatly assist in improving immune function. Prolonged exercise, however, consistently lowers glutamine levels, thus depressing the activity of immune cells. Therefore, it is wise to take a supplement that contains 1-2g glutamine while training, or when heavily exercising.
2. Branched Chain Amino Acids (BCAAs): The BCAAs are also amino acids, and they are specifically Leucine, Valine, and Isoleucine. During periods of physical stress or intense exercise such as running or weight lifting, the body can enter a state where muscle is broken down (i.e. a catabolic state). When this happens, supplementation of BCAAs can help to reduce protein breakdown by providing the muscle with an additional energy source.

Conclusion

Those who exercise vigorously, whether trained athletes or serious gym goers, have greater nutritional needs than their less active counterparts. Adequate nutrients can mean quicker recovery time, less fatigue, a healthier immune system, and ultimately, can help you achieve desired performance levels.

A quote from Glen:
"Performance Nutrition is not an accident…it takes commitment. Athletes put their efforts into practices and need to remember that without the right fuel…practice will suffer as will game day."