

# Sugar-Free Sports Performance Enhancement

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Lifexpand.com's Lyte'N Go is designed for today's athlete:

- A convenient, tasty chewable tablet that's easy to carry
- Contains vitamins and minerals (electrolytes) for sports performance
- Sugar-free

## **Electrolytes**

Electrolytes are minerals that are commonly lost in sweat during strenuous exercise. Although sodium is well known, calcium and magnesium are also important. Calcium contracts muscles, and magnesium relaxes them. It has been proposed that muscle cramps, which are fairly common in endurance sports, may be due to a deficiency of magnesium.

- A recent *New England Journal of Medicine* study found that 13 percent of Boston marathon runners studied had a serious imbalance of fluid and electrolytes after the race. [1]
- Magnesium deficiency can result in reduced exercise performance. [2]
- Magnesium supplementation may benefit strength training. [3]
- One study demonstrated improved swimming, cycling, and running times in triathletes. [4]

## **B Vitamins**

The B vitamins (thiamin, riboflavin, niacin, pyridoxine and cobalamin) play an important role in energy metabolism.

- Supplementation with vitamin B1, B6 and B12 was been found to improve target shooting in marksmen in two different studies. [5]
- A restricted intake of vitamins B1, B2, B6 and C may lead to decreased endurance capacity within a few weeks. [6, 7]
- One study's findings suggested that vitamin B12 metabolism might be altered in ultra-endurance runners. [8]
- Several studies have shown an increase in plasma homocysteine in athletes after strong physical activity. Vitamin B6, B12 and folic acid are needed to reduce homocysteine. [9-12]

## **Oxidative Stress**

Vitamins C, E and zinc are antioxidants that help reduce oxidative stress that occurs after strenuous activity.

- Vitamin C may protect against exercise-induced muscle damage. [13]
- Vitamin C may improve recovery after strenuous endurance exercise [14, 15]
- A study of basketball players found that vitamin E prevented problems caused by free radical production from exercise. [16]
- One study found that antioxidants (vitamin C and E) might blunt the cortisol response to a single 2.5-hour bout of prolonged exercise. [17]
- Another study found that antioxidants (vitamin C and E) lowers exercise-induced oxidative stress in overweight adults. [18]
- Zinc may reduce post-exercise free radical activity. [19]

### ***Natural Sweeteners***

Unfortunately, most sports drinks contain excessive amounts of simple sugars, which make them inappropriate for those seeking to lose weight or with blood sugar imbalances, such as diabetes.

#### **Xylitol and Mannitol**

Xylitol and mannitol are two natural sugar replacers that may be useful for those wanting to avoid sugar. [20, 21]

Xylitol has the same sweetness as sucrose with about one-third fewer calories and no unpleasant aftertaste.

Mannitol is similar to xylitol and is an isomer of sorbitol. Mannitol has about half the calories of sugar. Mannitol is commonly used as the dust that coats chewing gum, where it keeps the gum from absorbing moisture and getting sticky.

#### **Stevia**

Stevia leaves contain stevioside, which is about 300 times sweeter than sugar. Stevioside is not a carbohydrate, which makes it a great substitute for sugar. [22, 23]

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