

## **Orange Juice in the Swimmer's Diet**

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*My teen grabs a jug of orange juice and guzzles it! Is this bad?*

In the nutrition world of hype and hysteria, you may think orange juice is a no-no. But is orange juice really as bad as everyone makes it out to be? Let's take a look:

Orange juice contains key nutrients, such as vitamin C, folate, potassium, and phosphorus. More and more, you'll find fortified orange juice, which has these nutrients plus calcium and vitamin D. All of these are important for growing athletes, but a few get honorable mention.

### **Vitamin C and Potassium**

Vitamin C is a protective antioxidant and helps the body absorb iron from meat and non-meat sources of protein. Potassium is important for athletes who lose this nutrient through sweat losses. The 2010 Dietary Guidelines for Americans (DGA) state vitamin C is a nutrient of concern for children and teens, and potassium is a shortfall nutrient, lacking in the diet of most Americans, mostly due to lack of fruit and vegetable consumption.

A cup of orange juice provides about 90 mg vitamin C, which amply meets the requirements for young swimmers: 4-8 years: 25 mg/day; 9-13 years: 45 mg/day; 14-18 years: 75 mg/day (males) and 65 mg/day (females).

A cup of orange juice offers ~445 mg potassium, which contributes to daily requirements: 4-8 years: 3800 mg; 9-13 years: 4500 mg; 14-18 years: 4700 mg.

### **Calcium**

Calcium requirements jump to 1300 mg/day for swimmers 9-18 years, yet intake of calcium-containing foods (milk and other dairy products) is decreasing. Why? Soda and sports drinks are taking the lead, crowding out calcium from food sources.

All young swimmers need calcium for bone development. Teens are especially needy due to their rapid growth rate and limited time to reach peak bone mass (by age 20-25 years).

A cup of calcium-fortified orange juice delivers ~500 mg calcium, meeting up to 35% of daily calcium needs for children and teens.

### **Vitamin D**

New recommendations for vitamin D have jumped to 600 IU/day for children over the age of one. Vitamin D is necessary for bone development but also plays a role in immunity, infectious disease, cancer prevention, and cardiovascular disease. While exposure to sunshine helps, sunscreen and other factors can inhibit vitamin D activation in the skin, making food sources an important player in meeting this requirement.

Natural food sources (fatty fish) or fortified sources (dairy products, eggs) can meet this need, but the truth is, consumption of these foods by children and teens may be limited.

A cup of vitamin D-fortified orange juice can provide ~135 IU, helping young swimmers get closer to their daily requirement for vitamin D.

### **Other Nutrients**

Drinking 100% juice in recommended portions (see below) can improve nutrient intakes for several nutrients, including energy, carbohydrates, vitamin C, vitamin B6, potassium, riboflavin, magnesium, iron and folate, according to one study in Archives of Pediatrics and Adolescent Medicine.

### **The Juice on Orange Juice**

Orange juice can be part of a healthy diet, and its nutrients can help your young swimmer meet critical nutrition requirements, especially calcium and vitamin D.

But with everything nutrition, balancing orange juice in the diet is the trick:

- For children under 6 years: limit juice to 4-6 ounces per day (1/2 to 2/3 cup).
- For children over 6 years: limit juice to 8-12 ounces per day (1-1 ½ cups).