



There are so many “milk” options on the market it can be hard to decide which is ideal for your child swimmer. All children, but athletes in particular, need to make sure they consume adequate calcium and vitamin D. The macronutrients of fat, carbohydrates, and protein can be found in many food sources; however, the richest sources of calcium and vitamin D are dairy products or fortified foods.

Calcium and Vitamin D

Calcium and vitamin D are both bone-building nutrients. Bone building happens in the childhood and teen years and stops in early adulthood. In fact, 60% of adult osteoporosis cases are related to low bone content development during the teen years.

Calcium is a primary nutrient for bone health, but is also responsible for normal muscle contraction and normal blood clotting. Calcium is tightly controlled in the body so that constant levels are maintained in the blood regardless of the consumption of calcium in food. In other words, the body will not let blood levels of calcium fluctuate based on food consumption. If dietary intake is inadequate, calcium will be pulled from the bones and delivered to the bloodstream.

Nutrient	Age	RDA/AI
Calcium	8	1000mg
	9-18	1300mg
Vitamin D	8-18	600IU

An adequate vitamin D status comes from a diet rich in vitamin D and from exposure to direct sunlight, which enables vitamin D to be created in the skin. Not surprisingly, athletes who participate in indoor sports have higher rates of deficiency. Vitamin D occurs naturally in a few foods – mainly salmon, tuna and mackerel – and appears through fortification in others. Most vitamin D consumed in the American diet comes from fortified foods such as milk.

Cow's Milk

Cow's milk comes in a few options; those options all differ in fat content. The protein and carbohydrate content remains the same. Likewise, regardless of the fat content, all cow's milk has the same amount of naturally occurring calcium and is fortified with vitamin D. Since we can consume fat from many sources and because what we do as children often becomes our habit; aim to consume low fat - 1% or fat free – skim milk.



Pros of cow's milk

- Lactose-free versions are available for people who have lactose intolerance.
- Cow's milk contains all macronutrients and good source of calcium, vitamin A and D
- Cow's milk, including grass-fed and low-heat pasteurized options, is widely available in grocery stores and convenience stores.



Cons of cow's milk

- If not consuming the low fat version, you are consuming saturated (bad) fats.
- The protein in cow's milk is a common allergen for babies, children and adults.

Almond Milk

Almond milk is made from ground almonds and filtered water. It may also contain starches and thickeners to improve its consistency and shelf life. People who are allergic to almonds or nuts should avoid almond milk.



Pros of almond milk

- Almond milk is low in calories (unsweetened variety) and contains no saturated fat.
- It is a good source of vitamin A and can be fortified to be a good source of calcium and vitamin D.
- It is vegan and naturally lactose-free



Cons of almond milk

- It is not a good source of protein
- It may contain carrageenan, which may cause digestive issues.

Soy Milk

Soy milk is made from soybeans and filtered water. Like other plant-based milk alternatives, it may contain thickeners to improve consistency and shelf life. Because it comes from plants, soy milk is naturally free of cholesterol and low in saturated fat.



Pros of soy milk

- Soy Milk is a good source of protein, vitamin A, vitamin B-12, and potassium, plus it can be fortified with calcium and vitamin D.
- It is lactose free.
- It contains as much protein as cow's milk, yet equal in calories to 1 or 2% cow's milk.
- It contains very little saturated fat.



Cons of soy milk

- Soy is a common allergen for both adults and children.
- Too much soy may be a problem for people with thyroid conditions.
- Most of the soy produced in the US comes from genetically modified plants, which is a concern to some.

Rice Milk

Rice milk is made from milled rice and water. As with other alternative milks, it frequently contains additives to improve consistency and shelf stability. It is the least likely of all milk products to cause allergies, which makes it a good choice for people with lactose intolerance or allergies to milk, soy or nuts. Rice milk contains the most carbohydrates per cup.



Pros of rice milk

- It is the least allergenic of milk alternatives.
- It can be fortified to be a good source of calcium, vitamin A and vitamin D.
- It's naturally sweeter than other milk alternatives.



Cons of rice milk

- It's not a good source of protein.
- Rice has also been shown to have higher levels of inorganic arsenic. The FDA recommends not relying solely on rice and rice products, especially for infants, children, and pregnant women.

Coconut Milk

Coconut milk is made from filtered water and coconut cream, which is made from grated mature coconut flesh. In spite of its name, coconut is not actually a nut, so people with nut allergies should be able to eat it safely. Coconut milk is more accurately referred to as

"coconut milk beverage," because it's a more diluted product than the type of coconut milk used in cooking, and is usually sold in cans. As with other plant-based milk alternatives, coconut milk often contains added thickeners and other ingredients. Coconut milk contains more fat than the other milk alternatives, and nearly all of it is saturated.



Pros of coconut milk

- It rarely causes allergies.
- It can be fortified to be a good source of calcium, vitamin A and vitamin D.



Cons of coconut milk

- It is high in saturated fat, which is the bad fat.
- It is not a good source of protein.
- It may contain carrageenan, which may cause digestive issues.

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So what does all this mean for your swimmer? Ask yourself what you desire your child to gain from their dairy intake.

Milk	Fat	CHO	Pro	Calc-ium	Vitamin A&D
Cow	L	√	√	√	F
Almond	L	L	L	F	F
Soy	M	L	√	F	F
Rice	L	H	L	F	F
Coconut	H	L	L	F	F

√ good source; H high; M moderate; L low; F fortified

A child athlete can benefit from the all-inclusive cow's milk. The low fat variety is encouraged. If you desire a bit more protein and a little less sugar try Fairlife Milk. It is a cow's milk that is not only, lactose free, but is also higher in protein and lower in sugar than the typical cow's milk.

However, if your child has allergies there are options to ensure that your athlete consumes enough calcium and vitamin D.

Parents, if your main goal for consuming dairy is calcium then you can choose any milk product, since most are fortified to be comparable to the natural calcium of cow's milk. Your choice can be based on flavor, tolerance, and which macronutrient you desire/need: fat, carbohydrate or protein.

Monthly challenge:

Teenage Athlete- Aim for three servings of dairy per day. 1 serving = 1 cup milk, 1 cup yogurt, 1 ½ -2oz cheese. Check your labels 1 serving should = about 30% calcium

Parents – Don't stop consuming calcium even though you are past your growth spurt. "Teach your children well" and lead by example, by consuming 3 servings of low-fat dairy per day.