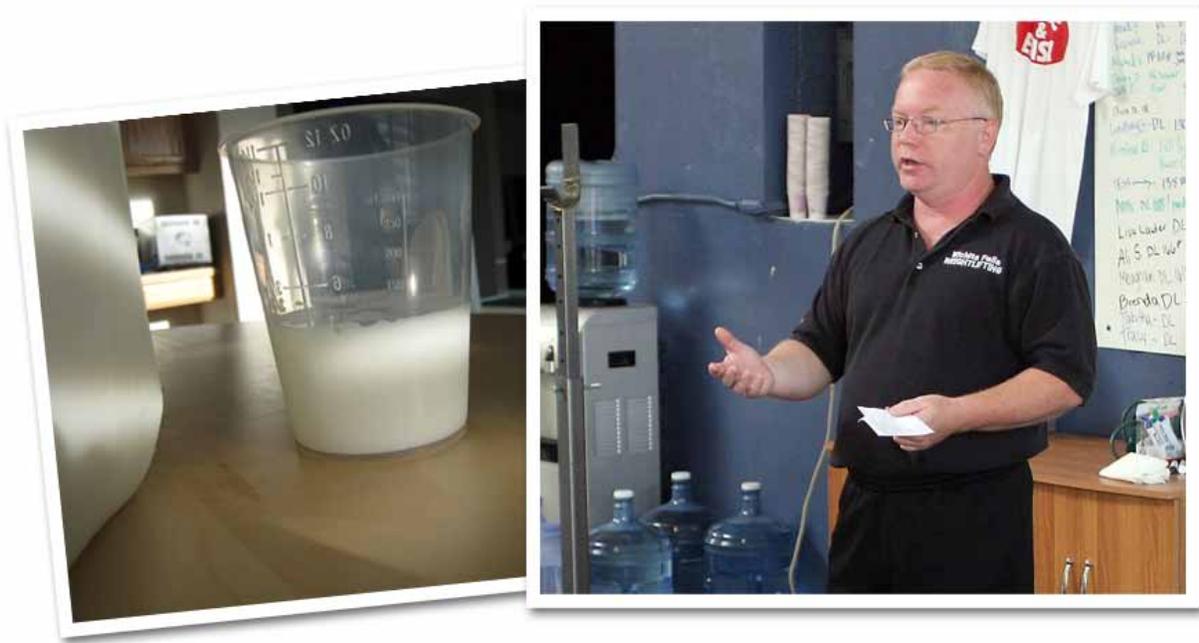


Milking Fact from Intolerance

Loaded with protein and a balance of macronutrients, moo juice is an optimal recovery drink — even if you're lactose intolerant.

Lon Kilgore, PhD



Every semester, every coaching seminar, and, seemingly every day, I get at least one question about milk for exercising populations. Some questions are quite good, some are just slightly off base, and some border on a level of silliness. "Isn't it true that if you drink milk it will take oxygen away?" Really?! And that question came from the coach of a junior soccer team.

Listen up: Any idea that milk should not be consumed by adults is wrong. In fact, the opposite is true. Milk offers a lot of good things for athletes.

Milk is a great source of protein. It's easily assimilated by the intestines and its breakdown products are easily transported to anywhere in the body that protein building blocks are needed. Mammals have always depended upon the nutritional value of milk for survival and growth. It is a natural and recommended component of the human diet, contributing to overall health and well-being. With respect to exercise, milk is an excellent recovery drink and, in general, an excellent protein source in support of muscle growth. In both cases, the protein in milk is broken down into useful protein building blocks in the gut and delivered to the muscle for uptake, where it aids in recovery from training or in supporting maintenance or addition of muscle mass. I am not talking about the gallon a day anabolic quantities proposed in some very familiar and successful training programs, I'm referring to volumes as low as a single eight-ounce serving and as moderate as the American Dietetic Association's recommendations.

Recovery and growth require an energy source. Milk provides this, as it contains both milk sugar (lactose) and milk fats. In fact, there is just about the right amount of carbohydrate and lipid in milk to be optimal for post-exercise recovery—a good balance of the three macronutrients: protein, fat, and carbohydrate. It has been suggested by some research that chocolate milk is even better.

Overblown Fear of Allergies and Lactose Intolerance

Despite milk's clear benefits, its use is limited among athletes due to a common belief that adults are "allergic" to it or "lactose intolerant." The two are very different things; the former is rare and potentially dangerous, while the latter is more common and literally more of a pain in the ass. Chances are, if you do have a problem with milk, it is due to lactose intolerance.



First, let's get milk allergies out of the way. Very rare in the population, they affect just 0.4% of first graders and a fraction of that figure among adults, who gain immunity with exposure over time. Milk allergies can be dangerous or even lethal if untreated, as they induce anaphylaxis, which features an acute drop in blood pressure and difficulty breathing. *Tip:* If you can eat cheese, yogurt, or any other dairy-derived product, you don't have a milk allergy.

Lactose intolerance, on the other hand, isn't necessarily dangerous, but can, at the very least, wreck your mood. A lessened ability to produce the enzyme that breaks down the milk sugar lactose as rapidly as you did as a child, it will hit you with a parade of elements grouped under the heading of "gastric distress:" painful intestinal gas, voluminous farting, burping, and nasty diarrhea, potentially including the messy projectile variety.

While it isn't true that all adults become intolerant to milk over time, it is true that a majority of adults lose some ability to produce lactase, so they cannot break down lactose as rapidly as they once could. This coincides with the shift in dependence from milk as the major foodstuff in the very young to an omnivorous diet for the rest of the lifespan. The frequency of decreased lactase activity ranges from nearly 5% in northern Europe (where colder weather and cow cultivation has made milk part of the culture for several millennium) to more than 90% in some Asian and African countries and among American Indians.

But regardless of race or nationality, no one loses all their ability to produce this enzyme. At most a 90% loss in lactase production is experienced. So even though the adult stomach and intestines cannot digest and process milk as quickly as during infancy, they can still process milk products quite effectively in support of a normal healthy diet. In fact, the current medical recommendations suggest retaining as much dairy in the diet as can be. Nearly 100% of all patients with lactose intolerance can consume the American Dietetic Association's recommendations of dairy products without inducing symptoms. It has been further noted that a 12-ounce milk serving

generally does not induce symptoms in the lactose intolerant. Other research suggests that in true intolerance it generally takes over one liter of cow's milk to induce symptoms.

The bottom line is that milk is not a villain for adults and it need not be avoided. And an exercising individual can still exploit it as a perfectly healthy and useful protein supplement to augment muscle recovery and growth. For those without diagnosed pathology, to not drink it is either a personal preference or a blind acceptance of unsubstantiated convention.



Lon Kilgore, Ph.D., is a professor of kinesiology at Midwestern State University where he teaches sport and fitness physiology and applied anatomy. He has authored or co-authored several professional exercise textbooks, numerous research articles on the biology of exercise, and many articles that interpret exercise science for the average coach and trainee. His students have become university faculty, high school and university sport coaches, private fitness practitioners, physicians, physical therapists, wellness directors, and US national team coaches in weightlifting and cycling. He has been a member or Chair of the Sports Science Committee for USA Weightlifting for more than a decade, a researcher on the USOC Weightlifting Performance Enhancement Team project, and a member of the Board of Certification for the American Society of Exercise Physiologists.