



The Science Behind Lowfat Chocolate Milk - The Original Protein Drink

Supporting Research

Low-fat chocolate milk is the original protein drink. It contains a mix of carbs and protein to refuel and repair muscles, fluids to rehydrate and electrolytes including calcium, potassium and magnesium, to replenish what is lost in sweat. It has the added bonus of bone-building nutrients, like calcium, (not found in traditional sports drinks) to help maintain strong bones and prevent stress fractures.

In addition to getting the right combination of carbs and protein, research suggests low-fat chocolate milk is a naturally nutrient-rich protein drink that can help you refuel and rehydrate within the critical two-hour recovery window after exercise. The ultimate recovery milk, Rockin' Refuel™ is the better way to refuel after exercise, and one of the best-tasting options to boot. Research shows:

Endurance: Chocolate milk may be just as effective as certain commercial sport drinks in helping athletes refuel muscles after a workout. In fact, an Indiana University study found that endurance-trained cyclists who drank low-fat chocolate milk after an intense period of cycling were able to workout longer and have more power during a second workout compared to when the same athletes drank a commercially available carbohydrate replacement drink.¹

Rehydration: Drinking low-fat chocolate milk after exercise not only provides the carbohydrates and protein needed to refuel and repair muscles, it also helps replenish fluids and electrolytes (such as calcium, magnesium and potassium) that are lost in sweat. In fact, milk is 90 percent water. Research suggests milk may be especially effective as a post-exercise rehydration drink due to its unique mix of nutrients.²

Build Muscle: Milk contains high-quality protein and essential amino acids that may be particularly beneficial in building and maintaining muscle mass when combined with exercise. Several recent studies suggest low-fat milk after exercise can help increase lean muscle.³

Repair Muscle: Exercise-induced muscle damage can lead to future impairments in muscle performance, which could affect future exercise bouts. A study conducted in the U.K. found that those who drank reduced-fat regular or flavored milk after a strenuous muscle workout experienced less exercise-induced muscle damage than those who drank water or typical sport drinks.⁴

Maintain BMI: A new study released in the *Journal of the American Dietetic Association* found that children who drink flavored or plain milk consume more nutrients and have a lower or comparable body mass index (BMI – a measure of body fatness) than children who don't drink milk.⁵

¹ Karp JR, et al. Chocolate milk as a post-exercise recovery aid. *International Journal of Sport Nutrition and Exercise Metabolism*. 2006;16:78-91. Thomas K, et al. Improved endurance capacity following chocolate milk consumption compared with 2 commercially available sport drinks. *Applied Physiology, Nutrition and Metabolism*. 2009;34:78-82.

² Shirreffs SM, et al. Milk as an effective post-exercise rehydration drink. *British Journal of Nutrition*. 2007;98:173-180.

³ Hartman JW, et al. Consumption of fat-free fluid milk following resistance exercise promotes greater lean mass accretion than soy or carbohydrate consumption in young novice male weightlifters. *American Journal of Clinical Nutrition*, 2007;86:373-381.

⁴ Cockburn E, et al. Acute milk-based protein-CHO supplementation attenuates exercise-induced muscle damage. *Applied Physiology, Nutrition and Metabolism*. 2008;33:775-783.

⁵ Murphy MM, Douglass JS, Johnson RK, Spence LA. Drinking flavored or plain milk is positively associated with nutrient intake and is not associated with adverse effects on weight status in U.S. children and adolescents. *Journal of the American Dietetic Association*. 2008;108:631-639.

Nutrient Powerhouse:

Milk is packed with nine essential nutrients important for health. In fact, without milk, it's difficult to get the right amounts of needed nutrients. Numerous studies have shown that milk drinkers have healthier diets compared to non-milk drinkers.

Here's the powerful payback you get in every glass. One glass of low-fat milk contains*:

- 100 calories, 2.5 grams of fat
- #1 source of calcium, vitamin D and potassium
- Contains four nutrients of concern for adults (calcium, potassium, magnesium and vitamin A)
- 30% Calcium: Helps build and maintain strong bones and teeth; reduces the risk of stress fractures and osteoporosis. Plays a role in promoting normal blood pressure.
- 25% Vitamin D: Promotes the absorption of calcium for healthy bones. Maintains normal blood levels of calcium and phosphorus.
- 19% Phosphorus: Works with calcium and vitamin D to help keep bones strong.
- 20% Riboflavin: Helps convert food into energy. Plays a vital role in the development of the nervous system.
- 16% Protein: Helps build and maintain lean muscle; the high-quality protein in milk contains all of the essential amino acids (the building blocks for protein). Rockin' Refuel has 40% Protein.
- 11% Vitamin B-12: Works closely with folate to make red blood cells. Helps maintain the central nervous system.
- 11% Potassium: Helps regulate the balance of fluids in the body. Plays a role in maintaining normal blood pressure.
- 10% Vitamin A: Supports good vision, healthy skin and maintains integrity of immune system.
- 10% Niacin (niacin equivalents): Helps enzymes function normally in the body.

*Percent Daily Values for 8-ounce glass of low-fat (1%) milk. Daily Values were developed by the Food and Drug Administration and reflect current nutrition recommendations for a 2,000 calorie a day diet.