A healthy snack packed with fiber, vitamins,
The Science Behind
In a study of 13 male college soccer players, post-exercise
Muscle Repair and Recovery
• promotes greater muscle protein accretion after resistance exercise
Rodriguez NR. Chocolate milk enhances glycogen replenishment
2010;42:1122-1130.
• Chocolate milk consumption during recovery from endurance exercise
reduced the rate of muscle breakdown compared to drinking a carbohydrate
• Recover from exhaustive exercise with chocolate milk.
Young Minds Inspired (YMI) is a Position Statement by the National Athletic Trainers’ Association,
Electrolyte Replenishment
Research has shown that drinking lowfat or fat-free milk after
Electrolytes—a nutrition profile that closely matches milk. 13
National Health Education Standards
Standards National Standards-Addressed
1. Health 1.1, 1.5
2. Health 1.6
3. Health 1.3
For a free guide for the latest updates on the
Visit milkdelivers.org/refuel
For more information on the health benefits of milk, or to download this program
Resources
Body by Milk HealthyBody.com
Milk Processor Education Program (MilkPEP) – milkprocessors.org/earth
Young Minds Inspired – ymiclassroom.com
For questions, contact us at
1-800-970-1001 or email us at feedback@ymiclassroom.com
Part A. Healthy Eating Tips
Eat for energy before exercise.
• Eat a light meal that’s high in carbs
two to three hours before exercise. Foods that are high in carbs—like
• Eat a variety of foods.
Different foods contain different types of high-quality protein, which, when combined with exercise, can
• Eat a light snack three to four hours before exercise
• Eat a light meal that’s high in carbs
Two reproducible student athlete
Three reproducible student athlete
A reproducible student athlete
An reproducible student athlete
A reproducible student athlete
A reproducible student athlete
Refuel with Chocolate Milk

Student Handouts

Handout 1: The Body’s Finest.
The Body’s Finest.

Your student athletes know how important training and preparation are to top performance, but are they aware that recovery is just as essential to athletic performance? This handout explains the recovery tips for rebuilding muscle.

Note: Regardless of which sport or physical activity you’re involved in, you probably have your prep routine down pat—including special physical exercise—is always important, but don’t forget to refuel your muscles. Fluids and electrolytes—nutrients like calcium, potassium, and magnesium—that you lose when you sweat.

Tips to Make Chocolate Milk Your Team’s Recovery Beverage:

- Ask your dietary food service director to install a milk vending machine that contains both chocolate milk and chocolate flavored milk in your locker areas.
- Chill a few gallons of chocolate milk prior to use, and keep them in a cooler in the locker area or on the bus, along with some paper cups, for after the big game.
- Have your student athletes pick up a container of chocolate milk before the game and store it in the locker room for use later.
- It’s important to drink chocolate milk on a regular basis.
- Reward your athletes with a free chocolate milk every time they meet a training and performance goal.
- Ask your athletic director to bring both chocolate milk and chocolate flavored milk in addition to water or other beverages for after the game.

Handout 2: Refuel with Chocolate Milk

Not all recovery beverages are created equal. This handout provides background information on the post-workout recovery benefit of chocolate milk as well as tips on how to create a simple chocolate milk workout recovery plan. Note their suggestions in the space provided.

Handout 3: My Recovery Routine

For nutrition (fluids and snacks):

- Water and carbohydrates
- Protein
- Carbohydrates
- Fluids and electrolytes

Nutrients

- Carbohydrates
- Protein
- Fat
- Cholesterol
- Sodium
- Potassium
- Calcium
- Vitamin D
- Vitamin A
- Vitamin C
- B vitamins
- Iron
- Magnesium
- Fiber
- Niacin
- Total fat
- Total carbohydrate
- Total sugar
- Sugars from milk
- Sodium
- Protein

Coach’s Guide

Why Chocolate Milk?

Take a look at how the unique package of nutrients in chocolate milk can benefit athletes.

- The rich mix of protein and carbohydrates helps build and repair muscles.
- Electrolytes, including calcium, potassium, and magnesium, replenish what is lost in sweat.
- Fluids help hydrate the body.
- Calcium and vitamin D strengthens bones and help reduce the risk of stress fractures.
- Electrolytes help maintain fluid balance.
- Fluids and nutrients are typically found in traditional sports drinks.

Real people the young or older post-midnight snacks embrace the same vitamins and minerals found in milk. It’s convenient, affordable, and guilt-free.

Handout 3: My Recovery Routine

Staying hydrated—before, during, and after exercise when making the right choices—can help rehydrate the body. Electrolytes, including calcium, potassium, and magnesium, to help replenish and rehydrate.

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- Potassium
- Calcium
- Vitamin D
- Vitamin A
- Vitamin C
- B vitamins
- Iron
- Magnesium
- Fiber
- Niacin
- Total fat
- Total carbohydrate
- Total sugar
- Sugars from milk
- Sodium
- Protein

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A study conducted at Indiana University found that endurance-trained cyclists who drank chocolate milk after an 8-hour period of cycling were able to ride longer and with more power during a second exercise period compared to when the same athletes drank a commercially available carbohydrate-replacement drink. 

One study found that active adults who drank fat-free milk after an intense muscle workout experienced less exercise-induced muscle damage than those who drank water or typical sports drinks.

Another study found that people who drank chocolate milk for 8 days after a strenuous muscle workout experienced less muscle soreness and inflammation compared to drinking a carbohydrate-electrolyte drink. The researchers found that drinking chocolate milk, just like drinking water, can help replace electrolytes—a nutrition profile that closely matches milk. 

Research has shown that drinking chocolate milk after exercise could restore and maintain hydration better than water or other popular post-exercise beverages. The study compared the recovery of fluid balance following ingestion of water, chocolate milk, or a carbohydrate-electrolyte drink on the restoration of fluid balance. Milk ingestion increased the rate of fluid repletion in exercise session in a warm climate, participants were given one drink due to the mix of nutrients it contains. According to a recent study, drinking milk after a strenuous muscle workout can help replace lost nutrients.

Several studies have shown that drinking milk after exercise can help replace electrolytes—including calcium, which may increase the risk of stress fractures. 

References

Part A. The After-Workout Workout

The 2-hour recovery window is the time after a workout in which you need to refuel your body. Your body is most receptive to carbohydrates and protein during this 2-hour period. This area is critical, because that's when you need the right fuel to rebuild your muscles and refuel your body, and the right post-workout plan to help you recover.

Cool-Down Exercises

Cool-down exercises help to prevent injuries and improve blood circulation. They should be performed in the following order:

1. 5-10 minutes of stretching exercises to help your muscles relax and establish their normal range of movement.
2. 5-10 minutes of lighter aerobic exercises to help you breathe more easily and cool down.
3. 5-10 minutes of cooling down exercises like slow walking, light running, or yoga.

Part B. The Facts:

Chocolate Milk & Recovery

Chocolate milk delivers:

• Fluids: Help rehydrate the body.
• Electrolytes: Help replace electrolytes you lose when you sweat.
• Carbs: Help aid recovery. Consider fruits and vegetables, whole grains, and protein—like peanut butter and banana rolls. And don't forget the frozen chocolate milk!
• Protein: Helps build and refuel muscles (restore muscle glycogen).
• Vitamins and minerals: Like vitamin D, which strengthens bones and helps reduce the risk of stress fractures.
• Potassium: Helps muscles relax and re-establish their normal range of movement.
• Magnesium: Helps relax muscles and tendons.
• Carbohydrates: Helps with quick recovery. 

My New Recovery Routine

To make your recovery routine:

1. Make it routine.

2. Make it nutritious.

3. Make it fun!

Welcome back to Refuel with Chocolate Milk! This handout can help your athletes make the right choices as they train and compete, and why chocolate milk is a nutritious choice for athletes.

Refuel with Chocolate Milk

The Workout’s Finished. The Body Isn’t.
Refuel with Chocolate Milk

What you do during that 2-hour recovery window after a hard workout is critical to how well your body is able to recover. This includes replenishing your body and rebuilding and repairing the muscles that worked so hard to help you perform at your peak.

**Part A. The Facts: Chocolate Milk & Recovery**

Check out what the latest research says:

- **Chocolate Milk** has high-quality protein and essential nutrients that may be beneficial in rebuilding and maintaining muscle mass when combined with exercise. Several recent studies suggest better muscle function after exercise may help resistance training.

- **Exercise-induced muscle damage** can be reduced by consuming chocolate milk after an exercise session. A study at Idaho University found that subjects who drank chocolate milk were able to work out longer and with fewer pain during an exercise session than when they drank a commercially available carbohydrate replacement sports drink and just water. Chocolate milk also contained a natural fluid replacement drink.

- **Drinking chocolate milk after exercise** can help reduce the thirst and electrolyte losses after exercise. Easy-to-swallow, chocolate, potassium, and magnesium are perfect for your hydration needs. And, it tastes delicious.

**Part B. Chocolate Milk: It’s the Real Deal**

You may have heard of or drunk chocolate milk before, but do you know just how great a post-workout treat it is? Chocolate milk drinks have the same vitamins and minerals as other sports drinks, but they taste great and give you a much needed chocolate fix. And research suggests that lowfat chocolate milk may be especially effective as other sports drinks.

**Final Score!** Chocolate milk has the right mix of carbs and protein and other important nutrients to help you refuel and recover. Ask your coach to stock up after every event, grab some from the cafeteria, or make a quick stop for chocolate milk on your way home from school. Better yet, have some at home in the fridge ready to go down!
The Science Behind

One study found that active adults who drank fat-free milk after following resistance exercise promotes greater lean mass accretion. Am J Clin Nutr. 2009;41:508.

While both beverages promoted muscle maintenance and gain, compared to the same adults who drank a soy protein beverage. Researchers take notice of the potential exercise benefits of lowfat milk. 1

Alternative to commercial fluid replacement drinks and carbohydrate composition and strength changes in women with milk and other popular post-exercise beverages. The study compared the drink due to the mix of nutrients it contains. According to a recent study, researchers found that drinking 16 ounces of fat-free chocolate milk with its mix of nutrients and strength changes in women with milk and carbohydrate electrolyte drink on the restoration of fluid balance during recovery from endurance exercise. 1

Drinking milk after exercise can help replace electrolytes—including calcium, which may increase the risk of stress fractures. 16, 17, 18 Research suggests rigorous exercise could cause substantial losses of energy density. 14

Perform Your Best

Part A. Healthy Eating Tips for Athletes

- Eat a variety of foods. Different foods contain different types of nutrients, so you need to eat a variety of foods to get everything you need to stay in top condition.
- Drink milk. Eating regular meals provides a steady and balanced source of the nutrients you need to ensure you’ll be at your best.

Part B. Smart Food Choices

Smart food choices can be as simple as a few food swaps. Follow these guidelines to make healthy food choices—

More workouts and throughout the day!

Choose This... Instead of This... And You Will Get...

Whole grain bread Whole wheat A healthy start packed with B vitamins and other essential nutrients to help support healthy brain function

Leafy greens (spinach, lettuce, arugula, etc.)

High fat meats

A lean source of protein to help build muscle

Eat a light meal that’s high in carbs

A healthy snack packed with fiber, vitamins, and essential nutrients

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Why Milk?

Drinking milk after exercise can help you make a difference in your progress and your body. It’s a natural source of high-quality protein, which, when combined with exercise, can help build lean muscle. It also has the right mix of carbohydrates and protein to refuel and fluids and electrolytes to help replace fitness benefits of lowfat milk. 1

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The Workout’s Finished. The Body Isn’t.

Experts agree. The first two hours after the workout is when the body’s real work begins – refueling, building, and repairing muscles. How you refuel and rehydrate after a game or workout can affect your performance.

Lowfat chocolate milk has essential nutrients your body needs after a workout.

- Calcium and Vitamin D to strengthen bones and help reduce the risk of stress fractures.
- The right mix of high quality protein and carbohydrates to help build and refuel muscles (restore muscle glycogen).
- Fluids and electrolytes, including calcium, potassium, and magnesium, to rehydrate and replenish what’s lost in sweat.
- B vitamins to help convert food to energy.
- Calcium and vitamin D to strengthen bones and help reduce the risk of stress fractures.

Did You Know??? Many of today’s top professional and collegiate coaches, trainers, and athletes advocate for chocolate milk as a post-exercise recovery beverage.

Visit www.bodybymilk.com to learn more about the recovery benefits of lowfat chocolate milk.