# Chocolate Milk and Recovery

The Scientific Support



## **REFUEL** | got chocolate milk?"

## **POST-GAME** Nutrition



## 2-HOUR RECOVERY WINDOW

- Can affect performance at the next game/practice
- ✓ Can help reduce the chances of injury
- Boost the health, well-being of athletes

#### **IT'S JUST AS IMPORTANT AS PRE-GAME NUTRITION!**

# WHAT'S IN IT?

## Chocolate Milk's Liquid Assets

Protein	Carbohydrates	Electrolytes	Fluids	Calcium and vitamin D	B vitamins	9 essential nutrients
To help build muscle, reduce muscle breakdown and work with carbohydrates to restore muscle glycogen	To <b>refuel</b> <b>muscles</b> (restore muscle glycogen)	To help replenish what's lost in sweat (sodium, calcium, potassium and magnesium)	To help <b>rehydrate</b> the body	To strengthen bones and help reduce the risk of stress failure	To help convert food to <b>energy</b>	Offers additional nutrients not typically found in traditional sports drinks



## PERFORM

and the second

#### **AIDS PERFORMANCE For The Next Bout Of Exercise**



After recovering with chocolate milk, athletes:

- Exercised LONGER and with MORE
  POWER during a second workout
- Cycled **51% LONGER**
- Had significantly MORE POWER and RODE FASTER, shaving about six minutes from their ride time
- Had **TWICE THE IMPROVEMENT** in V02max (measure of aerobic fitness)

#### NEW STUDY Finds Recovering With Chocolate Milk Gave Runners A Performance Edge

Recreational runners ran 23 percent longer in a follow-up run after drinking fat free chocolate milk compared to a typical sports drink

# REFUEL

#### Chocolate Milk HELPS REPLACE MUSCLE GLYCOGEN

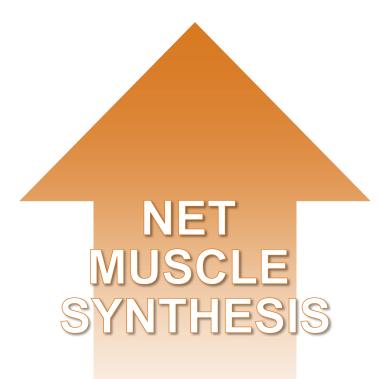
The Right Mix of Carbohydrates and Protein

3.25:1

16 ounces of fat free chocolate milk after exercise led to greater concentration of glycogen in muscles at 30 and 60 minutes postexercise, compared to a carb only sports drink with the same calories

# REBUILD

### A Muscle Building **ADVANTAGE**



- In a study of moderately trained male runners those who drank fat free chocolate milk after exercise had enhanced skeletal muscle protein synthesis – a sign that muscles were able to repair and rebuild – compared to a fluid replacement drink (with just carbohydrates).
- Athletic men and women who drank milk one hour after a "leg resistance exercise routine" experienced a significant increase in two measured amino acids

Lunn W, et al. *Medicine and Science in Sports and Exercise*, 2010;42:S48. Elliot TA, et al. *Medical Science in Sports and Exercise*. 2006;38:667-674.

### Reduced EXERCISE-INDUCED MUSCLE DAMAGE

Athletes who drank regular or flavored milk after a rigorous workout had less exerciseinduced muscle damage than those who drank water or typical sports drinks, according to several studies.



### EXERCISE-INDUCED MUSCLE DAMAGE

can lead to future impairments in muscle performance, which could affect future exercise bouts

### Improved BODY COMPOSITION

- Compared to other electrolyte beverages lacking protein:
  - Canadian researchers found that active adults who drank milk after resistance exercise experienced greater support for muscle gain
  - Other studies found that untrained men and women who drank fat free milk after exercise gained more muscle and lost more body fat at the end of a 12-week training program

Researchers suggest MILK'S ADVANTAGE may be due to unique properties of milk proteins that may cause differences in speed of digestion and absorption.

## REHYDRATE AND REPLENISH

### Milk HELPS REPLACE ESSENTIAL ELECTROLYTES Lost In Sweat

Potassium	Magnesium	Calcium	Sodium
Milk provide 360mg:	Milk provides 27mg:	Milk provides 300mg:	Milk provides 100mg:
<b>12%</b> of the daily value	8% of the daily value	<b>30</b> % of the daily value	<b>4</b> % of the daily value

### Milk HELPED RESTORE HYDRATION BETTER Than Other Popular Post-Exercise Beverages



Significantly more urine excretion after drinking water or sports drink compared to milk

Researchers believe milk's natural electrolyte content and energy density may help restore and maintain hydration after exercise