



# Calcium

## Information

- ✓ Calcium is the most essential and the most abundant mineral in the body. In fact 2-3 pounds of body weight is calcium, with 99% being stored in the bones and teeth.
- ✓ Elite athletes should be concerned with their calcium intake because of its role in bone metabolism. Adequate calcium intake can reduce the risk for stress fractures.
- ✓ Calcium is also a component in blood clotting, wound healing and muscle contractions.
- ✓ The Recommended Daily Allowance (RDA) for Calcium intake is 1300 mg per day for teenagers, 1000 mg per day for adults and 1500 mg per day for women who are amenorrheic.
- ✓ Calcium is found mostly in dairy products, such as milk, yogurt, and cheese. Green leafy vegetables as well as seafood and fish can provide good sources of calcium.

## Application

- ✓ Eating the proper amount of calcium is essential for optimal performance. It will help make your bones stronger to resist fractures and help blood clot faster to improve recovery in times of injury.
- ✓ Adequate calcium intake is important for bone injury rehabilitation (such as stress fractures). Since most of the calcium in the body is stored in the bones, it is important to maintain a high calcium intake during this healing process in order for the body to be able to repair the bone.

## Calcium-Rich Foods

Food	Amount	Calcium (milligrams)
Low-fat plain yogurt	8 ounces	415
Low-fat chocolate milk	8 ounces	302
Broccoli	½ cup	21
Low-fat milk fruit smoothie	8 ounces	297
Enriched soy milk	1 cup	368
Enriched rice milk	1 cup	300



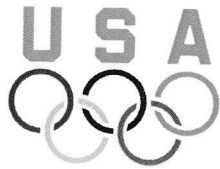
# Recovery Nutrition

## Information

- One of the most important times for elite athletes to eat is immediately after a training session because the body is depleted of key nutrients, specifically carbohydrates. Goals of your post-workout nutrition plan should include:
  - ✓ Replenishing glycogen
  - ✓ Decreasing muscle breakdown
  - ✓ Promoting muscle protein synthesis
  - ✓ Boosting immune system
  - ✓ Re-hydrating

## Application

- Follow these nutrition guidelines to maximize recovery within 30-60 minutes after finishing a training session:
  - ✓ **Focus on carbohydrate.** Eat 50-100 grams (200-400 calories) of carbohydrate rich foods such as bread, tortillas, juice and fruit.
  - ✓ **Add protein.** Eat 10-20 grams of protein from sources such as low-fat milk, hard boiled egg whites, plain tuna fish and low-fat yogurt.
  - ✓ **Drink up.** Drinking 20-24 ounces of water or sports drink for every pound that you lose during training will help your body get re-hydrated.
  - ✓ **Don't forget sodium.** Sodium helps the body absorb more fluid after training and can be found in most foods such as bread, yogurt, cheese and pasta to name a few. However, for weight class sports, limit sodium intake in the week prior to weigh-in.
- Of course, your daily eating program will have a significant influence on how fast you recover from training also. Be sure to include good amounts of the following:
  - ✓ **Antioxidant** rich foods such as fruits and vegetables.
  - ✓ **Essential fats** such as ground flax, walnuts, salmon, tofu, halibut and soybeans.
  - ✓ Beneficial **carbohydrates** such as whole grain pasta, quinoa, couscous, cereal, rice and bread.
  - ✓ **Water** which can be found in fruits, vegetables and non-caffeinated beverages other than water.



# Nutrition Label Facts

Serving sizes are standardized for foods. Pay attention to how many there are in a food product.

Saturated and trans fats increase inflammation and slow recovery.

Sodium is essential for optimal hydration before, during and after training.

Complex carbohydrates and dietary fiber can stabilize blood sugar, prevent insulin spikes and keep body weight under control.

## Nutrition Facts

Serving Size 8 fl oz (236mL)

Servings Per Container: 1

Amount per serving

Calories 170 Calories from Fat 25

% Daily Value

**Total Fat 3g** 5%

Saturated Fat 1.5g 8%

Trans Fat 0g

**Cholesterol 5mg** 2%

**Sodium 150mg** 6%

**Total Carbohydrate 26g** 9%

Dietary Fiber 0g 0%

Sugars 25g

**Protein 9g** 14%

Vitamin A 10% Vitamin C 6%

Calcium 30% Iron 0%

% Daily Value does not pertain to elite athletes.

Too much cholesterol can contribute to high blood cholesterol levels and be detrimental to health and performance.

Lean protein is necessary for muscle recovery after hard training sessions.

Vitamin and mineral dense foods are important during high intensity training.

## Example

### Nutrition Facts SKIM MILK

Serving Size 1 cup (247g)

Servings Per Container: 1

Amount per serving

Calories 83 Calories from Fat 2

% Daily Value

**Total Fat 0g** 0%

**Saturated Fat 0g** 1%

**Trans Fat 0g**

**Cholesterol 5mg** 2%

**Sodium 103mg** 4%

**Total Carbohydrate 12g** 4%

Dietary Fiber 0g

Sugars 12g

**Protein 8g**

Vitamin A 10% Vitamin C 4%

Calcium 30% Iron 1%

VS

### Nutrition Facts 2% MILK

Serving Size 1 cup (247g)

Servings Per Container: 1

Amount per serving

Calories 122 Calories from Fat 43

% Daily Value

**Total Fat 5g** 7%

**Saturated Fat 3g** 15%

**Trans Fat 0g**

**Cholesterol 20mg** 7%

**Sodium 100mg** 4%

**Total Carbohydrate 11g** 4%

Dietary Fiber 0g

Sugars 12g

**Protein 8g**

Vitamin A 9% Vitamin C 1%

Calcium 29% Iron 0%

More calories

Higher fat and cholesterol

Same protein and calcium



# Athlete Eating Guidelines

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## Information

A proper eating program is just as important to an elite athlete's success as is a training program. Think of your body as a car and food and drink as the fuel. Elite athletes are like finely tuned cars that require high quality fuel to achieve optimal performance.

Putting low quality fuel into your body can lead to compromised health and decreased performance.

## Application

- Focus on the following nutrition principles year-round:
  - ✓ **Stay hydrated.** Your body is more than 50% water and your muscles depend on water to function properly. A dehydrated body cannot train or compete at its peak. Drink enough so that your urine color is pale lemonade to clear and so that you are urinating frequently throughout the day.
  - ✓ **Fuel up before training.** Focus on eating lean proteins, fruits and vegetables and whole grains to ensure that your body is prepared for training. Try not to go into a training session with an empty fuel tank. Eat a meal 3-4 hours or a snack 1-2 hours before exercise.
  - ✓ **Boost your immune system.** Choose foods that are high in antioxidants such as fruits and vegetables to help keep your immune system healthy and reduce the amount of free radicals that your body builds up during high intensity training. Choose more colorful fruits and vegetables such as blueberries, strawberries, oranges, broccoli, asparagus and sweet potatoes.
  - ✓ **Limit fats.** Saturated and trans fats can cause inflammation which is the exact opposite of what elite athletes need. Stay away from foods that are processed or fried or higher fat meats and choose non-inflammatory unsaturated fats such as olives, avocados, nuts, seeds, and salmon.
  - ✓ **Eat to recover.** Choose carbohydrate rich foods with some protein within 30-60 minutes of finishing a training session to help your body recover faster. Whole grains including bread, pasta, rice and potatoes, fruits and lowfat milk and yogurt are good choices after workouts.
  - ✓ **Energy products.** Energy bars, gels and drinks do have their place in an elite athlete's eating program; however, be sure to not abuse these types of products as they can deter body weight goals and can replace more beneficial calories from whole foods. Limit these to before, during or immediately after practice depending on your sport needs.



# *Performance*

Eating a diet high in saturated or trans fats will promote inflammation which is detrimental to recovery. These types of fat are found in higher fat dairy products, meats, fried foods and processed foods/snacks.

Sodium promotes better hydration before, during and after training or competition. Endurance athletes may require more sodium than non-endurance athletes but remember that too much sodium can have a negative impact on health and could contribute to high blood pressure in athletes who are salt-sensitive.

Eating protein during the day will help replenish stores that are lost during higher intensity or longer duration training. In addition, eating protein with carbohydrate immediately following workouts will help speed recovery. Choose sources such as lean meats, dairy products and soy products.

Vitamins and minerals are always important for elite athletes but even more so during higher volume and intensity training times of the year. Foods that are rich in vitamins and minerals also contain antioxidants which are important for elite athletes. Antioxidant rich foods such as fruits and vegetables will keep the immune system in top shape for performance.

# *Weight Management*

Eating complex carbohydrates and at least 25 grams of fiber each day will help stabilize insulin levels and help maintain a good performance body composition. Be sure to eat frequently throughout the day and focus on fiber-rich foods such as whole grains and fruits and vegetables.

% Daily Value is based on 2000 or 2500 calorie meal plans and is not applicable to elite athletes. Calories consumed should vary based on weight and body composition goals and training cycle.

For athletes wanting to reduce body fat, it is important to eat more frequently throughout the day. Eating every 3-4 hours and focusing on lean protein, fruits and vegetables and whole grains will help improve body composition.



# Breakfast

## Information

- ✓ Breakfast is important for performance and health. It is an early-morning refueling stop for your body. After 8-12 hours without a meal or snack, your body needs to be replenished with fuel and fluid.
- ✓ Here are some facts about the importance of eating breakfast:
  - Breakfast is a refueling stop for your body - replenish glucose (blood sugar levels) & fluid.
  - Breakfast eaters tend to have more strength and endurance.
  - Breakfast improves alertness, concentration, mental performance, motivation and memory.
  - Breakfast can benefit an athlete's mood.
  - Breakfast decreases the chances of inappropriate snacking, which can result in a higher intake of fat and therefore weight gain.
  - Breakfast provides a jump start to your daily requirements of fluid, fiber, vitamins and minerals.
  - Breakfast sustains you through training and decreases the ravenous hunger feeling you may experience during the day.
  - Breakfast eaters make better food choices during the rest of the day.

## Application

- ✓ Here are some great options to include breakfast into your daily eating program:
  - Whole-grain cereal with fruit and milk/yogurt.
  - Waffles with peanut butter and a fruit smoothie.
  - Oatmeal made with milk and dried fruit/nuts.
  - Eggs (not fried) and toast; 1 to 2 ratio; with fruit
  - Smoothie with milk, fruit, yogurt, honey, oats, ground flax, peanut butter, etc.
  - Pancakes with fruit, maple syrup and a glass of milk.
  - Bagel with peanut butter, small fruit smoothie.
  - English muffins topped with melted cheese and tomato.
  - Omelet made with vegetables.



# Daily Hydration

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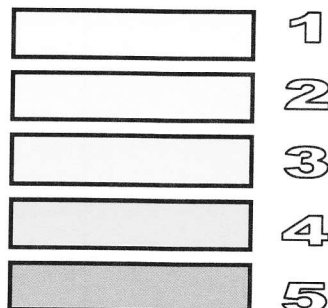
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## Information

- ✓ Water is one of the most important nutrients in an elite athlete's eating program. Drinking too little water or losing too much through sweating can inhibit your ability to train hard and recover properly.
- ✓ Water provides much more to the body than just hydration. Specific to elite athletes water:
  - Acts as a transporter to supply working muscles with the nutrients they need during training
  - Gets rid of the waste products resulting from high intensity training
  - Helps keep you cool by dissipating heat through sweat.
- ✓ Losing even a small amount of fluid from training or entering a workout dehydrated can have a negative impact on performance. Fluid losses of 2-3% of an elite athlete's body weight can lead to:
  - Decreased ability to concentrate
  - Decreased recovery
  - Fatigue
  - Impaired physical performance

## Application

- ✓ An easy yet effective method of determining your hydration status is by the color of your urine. Using the chart below, aim for a urine color throughout the day of #1-3, or lemonade colored. Anything above a #3 indicates that you are not hydrating yourself properly and your performance will decline quickly. Remember, vitamin/mineral supplements can skew the color of your urine as will your first bathroom break of the day. It's always a good idea to start off your day, whether training or not, with a glass of water.



*Urine Color Chart*