

# MAGNESIUM



UNITED STATES  
OLYMPIC & PARALYMPIC  
COMMITTEE

## Magnesium in the Body

Magnesium is a mineral found in a wide range of plant and animal foods, as well as beverages. Magnesium is a cofactor for over 300 enzymatic reactions in the body and plays many important roles throughout the body. Magnesium helps regulate protein synthesis, muscle and nerve function, antioxidant production, bone development and regulation of blood glucose and blood pressure. It's also needed for energy production!



## Magnesium Benefits

Magnesium is an essential mineral, meaning we need to consume it in order to avoid deficiency and carry on the many bodily functions in the body that rely on magnesium. Magnesium intake can benefit bone health and heart health. A number of research studies have been conducted to see if magnesium intake has a benefit to athletic performance. So far, most research has not shown an performance enhancing benefits, but more research is needed.

## Magnesium Deficiency (Hypomagnesemia)

Mg deficiency is uncommon, and symptomatic Mg deficiency is even rarer. Symptoms include:

- Fatigue and Weakness
- Loss of Appetite
- Nausea and Vomiting
- Low calcium and potassium
- Severe: muscle contractions and numbness

### What puts you at risk for low Mg?

Common causes of low Mg include:

- Chronic alcohol use
- Chronic diarrhea
- Excessive urination
- Malabsorption syndromes (such as Celiac Disease or Irritable Bowel Disease)
- Malnutrition

If you are experiencing any of these symptoms, please contact your sport dietitian or sports medicine doctor.

## Magnesium Recommendations

### NIH Recommendations

19 - 30 years of age:

- Female: 310 mg/day
- Male: 400 mg/day

31 - 50 years age:

- Female: 320 mg/day
- Male: 420 mg/day

### Magnesium Assessments

There are a variety of tests that can be used to measure Mg levels in the body. The most common is a **blood test**. Others include:

- Comprehensive Metabolic Panel
- Urine Mg test
- Calcium blood test
- Potassium blood test



## Dietary Sources of Magnesium

Food Type	Food	Serving Size	Magnesium (mg)
Nuts, Beans & Seeds	Pumpkin Seeds	1 oz	156
	Chia Seeds	1 oz	111
	Almonds	1 oz	80
	Cashews	1 oz	74
	Peanut Butter	2 tbsp	49
	Black Beans	1/2 cup	60
	Edamame	1/2 cup	50
Grains	Oatmeal	1 packet	36
	Breakfast Cereal	1 serving	42
Fruits & Vegetables	Banana	1 medium	32
	Raisins	1/2 cup	23
	Spinach, Cooked	1/2 cup	78
	Avocado	1/2 cup	22
Protein	Chicken Breast	3 oz	20
	Salmon	3 oz	26
	Yogurt	8 oz	42

## What about Mg supplementation?

There are various forms of Mg supplementation on the market. The most common forms are:

1. Magnesium Oxide
2. Magnesium Citrate
3. Magnesium Chloride
4. Magnesium Glycinate

The body will absorb the different forms of magnesium in varying amounts. Taking a Mg supplement is only recommended for those who might be deficient or have a health condition that would benefit from it.

