

Magnesium

What is magnesium?

Magnesium is a mineral found in bones and muscles that regulates nerve and muscle function. It is also important for maintaining bone structure, cardiac health and many enzyme-dependent reactions. Magnesium is measured in the blood.



What causes low magnesium levels?

Blood levels may be low due to many factors:

- Low dietary intake
- Diarrhea
- Certain chemotherapies
- Certain medications

The normal range for magnesium is 1.8–2.4 mg/dL.

Your magnesium level on _____ was _____ mg/dL.

What can I do to increase my magnesium level?

- Magnesium needs are different for each person. You need _____ mg of magnesium each day. The guidelines below can help you make food choices to best meet your goals.
- If you need to raise your magnesium level, include high magnesium foods at each meal and snack. Your doctor may also prescribe supplements.

Supplements

Eating magnesium-rich foods is not always enough to correct a low blood magnesium level, especially if you are taking tacrolimus or cyclosporine. Intravenous magnesium or oral magnesium supplements may be needed. Oral supplements may cause gas or looser stools and should be increased gradually for best tolerance. Compared to magnesium-rich foods, supplements can provide considerably more magnesium which is beneficial if your level is very low due to medication.

Commonly used magnesium supplements include:

- Magnesium oxide: 400 milligram tabs.
- Magnesium Plus Protein®: 133 milligram tabs.
- Magnesium citrate: 100 milligram tabs.

Tips for optimal absorption of magnesium supplements:

- Take with meals.
- Take separate from calcium and phosphorus supplements.
- Distribute throughout the day, rather than taking once or twice daily.

Food sources of magnesium (milligrams per 3.5 ounces or 100 grams)

High magnesium foods (>100+ mg per serving)		
<ul style="list-style-type: none">• Beet greens• Black-eyed peas• Blackstrap molasses• Brewer's yeast• Buckwheat• Flax seeds	<ul style="list-style-type: none">• Nuts: peanuts, almonds, cashews, brazil nuts, pecans• Pumpkin seeds• Soy cheese• Sunflower seeds (no shells)• Sunflower butter	<ul style="list-style-type: none">• Wheat bran flake cereal• Wheat germ
Medium magnesium foods (50-100 mg per serving)		
<ul style="list-style-type: none">• Apricots, dried• Beans/legumes: black, lima, white, navy, adzuki, pinto• Brown rice• Coconut meat	<ul style="list-style-type: none">• Collard leaves• Dates• Figs• Peanut butter• Salmon• Shrimp	<ul style="list-style-type: none">• Spinach• Soy nuts• Soy yogurt• Swiss Chard• Tofu• Quinoa
Low magnesium foods (25-50 mg per serving)		
<ul style="list-style-type: none">• Avocado• Barley• Beans• Beets• Blackberry• Cheese	<ul style="list-style-type: none">• Corn• Crab• Potato with skin• Prunes• Raisins• Seaweed	<ul style="list-style-type: none">• Split peas• Sweet potato

Resources

National Institute of Health, Office of Dietary Supplements: ods.od.nih.gov/factsheets/magnesium-HealthProfessional and U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2020-2025. 9th Edition. December 2020. [DietaryGuidelines.gov](https://www.dietaryguidelines.gov)

This education resource was intended to be given as a part of a nutrition consult by a Fred Hutchinson Cancer Center dietitian. Questions? Ask a Fred Hutch dietitian at nutrition@seattlecca.org.