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There are many benefits to adequate intake of dietary magnesium. However, supplementation may increase the risk of interactions with many drugs.

Magnesium plays many essential roles in the human body. Adequate intake can help prevent chronic ailments such as heart disease and diabetes, but its potential role in cancer prevention is unclear. Many adults may not get enough through diet, but a true deficiency most often occurs with serious illnesses. Certain medications can also cause deficiency. Magnesium products are also used as drugs for a variety of medical conditions, and treatment is carefully monitored to prevent serious side effects. There are case reports of excess levels due to supplements. Because supplements may interact with many drugs, and magnesium itself is a component of certain over-the-counter drugs, supplements should be avoided in patients with heart, kidney, or gastrointestinal disorders. You should also inform your doctor of any over-the-counter products that you are taking which could contain magnesium.

What are the potential uses and benefits?

- To reduce cancer risk
Studies on whether magnesium intake reduces cancer risk are mixed. However adequate magnesium intake, especially through diet when possible, is important.
- To prevent heart disease
Magnesium supplements may be beneficial for certain types of heart disease, but there are no studies to show that supplements prevent heart disease.
- To lower high blood pressure
Some studies and a meta-analysis suggest blood-pressure lowering effects, but additional studies are needed to confirm this.

- To prevent diabetes
Magnesium supplements have been shown to improve insulin levels in overweight non-diabetic individuals, suggesting that adequate levels may help prevent the onset of diabetes. Larger studies are needed.
- To treat depression
Studies on whether magnesium can help improve depression are conflicting.
- To help bone development or prevent weak bones
Small studies show that magnesium supplements have positive effects on bone development in adolescents and can prevent bone loss in postmenopausal women.
- To prevent fatigue
There are no studies of oral magnesium supplements for chronic fatigue. A small study suggests it may reduce fatigue in breast cancer patients with menopausal hot flashes.
- To reduce hot flashes
A small study suggests that magnesium may reduce hot flashes in breast cancer patients.
- To improve premenstrual syndrome (PMS) symptoms
It is unclear whether magnesium can help premenstrual syndrome.
- To prevent migraines
There is some evidence that magnesium can help prevent migraines, and several medical guidelines include it as a potential therapy.
- To relieve leg cramps
Some studies of moderate quality support the use of magnesium for leg cramps during pregnancy, but it does not appear to reduce leg cramps in older adults.
- To prevent asthma
Low levels of magnesium from the diet have been associated with the occurrence of asthma and a few small studies show that supplements may benefit lung function.
- To relieve acid indigestion, heartburn, sour stomach, and constipation
(Common Use)
Magnesium is an active ingredient in many over-the-counter preparations including laxatives and antacids. Many individuals may not realize that they are possibly getting magnesium from these common sources.

What are the side effects?

- Diarrhea, nausea, and mild abdominal or bone pain with high doses of magnesium.
- Although magnesium overdose is relatively rare, there have been some cases in patients with a poor health status using laxatives and with gastrointestinal or kidney problems.
- Getting magnesium through a diet rich in leafy vegetables, nuts, legumes, whole grains, fruits, and fish is not associated with any side effects.

What else do I need to know?

Patient Warnings:

Supplements, antacids or laxatives containing magnesium can interact with many drugs, including antibiotics and medications for chronic diseases such as diabetes and heart disease. Magnesium levels in the body can also be affected by numerous prescription drugs, including the long-term use of drugs commonly used to treat digestive disorders. If you are under treatment for

a medical condition, have a complicated medical history, or are in frail condition, you should discuss supplements or antacids that you are taking with your doctor.

Do Not Take if:

- You have kidney problems such as renal insufficiency or end-stage renal disease.
- You have gastrointestinal problems such as a bowel obstruction or other bowel disorders.
- You are taking antibiotics: Supplements, antacids and laxatives containing magnesium may reduce their effectiveness.
- You are a patient with heart block, a conduction disturbance in the heart.
- You are taking cardiovascular drugs for heart disease: Magnesium and other electrolyte levels should be monitored by your doctor.
- You are taking drugs for high blood pressure including calcium channel blockers: Magnesium-containing products could have an additive effect.
- You are taking sulphonylurea drugs for diabetes: Magnesium supplements or antacids may cause low blood sugar levels.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

Magnesium - Last updated on August 31, 2023

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