Magnesium_THE Ultimate Guide Dr. Carolyn Dean

Learn why you are likely deficient in magnesium and how taking a supplement may help you sleep better, reduce your stress, and get you off all your pills. Get advice straight from the doctor on how much to take, when to take magnesium, and what symptoms magnesium may help with.

What is magnesium? Is Magnesium a metal? *

“Magnesium, an abundant mineral in the body, is naturally present in many foods, added to other food products, available as a dietary supplement, and present in some medicines (such as antacids and laxatives)” Magnesium Fact Sheet for Consumers, National Health Institute <www.nih.gov> (March 3, 2008)

“Magnesium is the eighth most abundant element in the earth’s crust although not found in its elemental form. It is a Group 2 element (Group IIA in older labeling schemes). Group 2 elements are called alkaline earth metals” Magnesium Essentials, <http://www.webelements.com/magnesium>, Web

Where is Magnesium found in the body; why is it one of the most important minerals? *

Magnesium is a nutrient that the body needs to stay healthy. Magnesium is important for many processes in the body, including regulating muscle and nerve function, blood sugar levels, and blood pressure and making protein, bone, and DNA.

Approximately 50% of total body magnesium is found in bone. The other half is found predominantly inside cells of body tissues and organs. Only 1% of magnesium is found in blood, but the body works very hard to keep blood levels of magnesium constant. Magnesium Fact Sheet for Consumers, National Health Institute <www.nih.gov> (March 3, 2008)

In an interview with Magnesium expert, Dr. Carolyn Dean, she explained why Magnesium is one of the most important minerals for our body Here.

What does Magnesium do and what are its functions? *

According to the University of Maryland Medical Center, magnesium is a mineral used by every organ in your body, especially your heart, muscles, and kidneys. Listen here to the interview with magnesium expert, Dr. Carolyn Dean, for a simple non-technical answer.

In her book, “The Magnesium Miracle”, Dr. Carolyn Dean offers a more scientific look at the five high level functions of Magnesium:

- Catalyze most chemical reactions in the body.
- Produce and transport energy.
- Synthesize protein.
- Transmit nerve signals.
- Relax muscles.

Dr. Dean provides a more technical explanation summarized below:

- Magnesium is a cofactor for enzyme ATP, a main source of energy in our cells.
- Magnesium is an important membrane stabilizing agent.
- Magnesium is required for the structural integrity of numerous body proteins, nucleic acids.
- Magnesium is a cofactor for the enzyme guanosine triphosphatase, phospholipase C, adenylate cyclase, guanylate cyclase.
- Magnesium is required cofactor for the activity of hundreds of enzymes.
- Magnesium is a direct regulator of ion channels, most notably of the other key electrolytes, calcium, sodium, and potassium.
- Magnesium is an important intracellular signaling molecule itself.
- Magnesium is a modulator of oxidate phosphory.
Magnesium is intimately involved in nerve conduction and muscle function.

Source: Dean, The Magnesium Miracle, 3rd ed. (2014) pxv

What is Magnesium good for and what are the deficiency symptoms? *
Below is a list of thirty-six conditions that you may experience if you are low on magnesium:

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<tr>
<th>Condition</th>
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<tr>
<td>Acid reflux</td>
<td>Bowel disease</td>
<td>Hypoglycemia</td>
<td>Obstetrical and gynecological problems</td>
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<td>Adrenal fatigue</td>
<td>Brian dysfunction</td>
<td>Indigestion</td>
<td>Osteoporosis</td>
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<td>Alzheimer’s disease</td>
<td>Cholesterol elevation</td>
<td>Inflammation</td>
<td>Parking’s disease</td>
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<td>Angina</td>
<td>Cystitis</td>
<td>Insomnia</td>
<td>Raynaud’s syndrome</td>
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<td>Anxiety and Panic Attacks</td>
<td>Depression</td>
<td>Irritable bowel syndrome</td>
<td>Sports injuries</td>
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<tr>
<td>Arthritis</td>
<td>Detoxification</td>
<td>Kidney disease</td>
<td>Tooth Decay</td>
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<tr>
<td>Asthma</td>
<td>Diabetes</td>
<td>Kidney stones</td>
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<tr>
<td>Atherosclerosis with calcium deposits</td>
<td>Fatigue</td>
<td>Migraine</td>
<td></td>
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<tr>
<td>Blood Clots</td>
<td>Headsaches</td>
<td>Musculoskeletal conditions</td>
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<tr>
<td></td>
<td>Heart disease</td>
<td>Nerve problems</td>
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<td></td>
<td>Hypertension</td>
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</tbody>
</table>

Source: Dean, The Magnesium Miracle, 3rd ed. (2014)

Magnesium deficiency: How do you know if you have Magnesium deficiency? What causes low levels? Why do we have a deficiency? *

According to William Fallon from “Life Extensions Magazine”, the latest government study shows a staggering 68% of Americans don’t consume the recommended daily intake of magnesium. 19% of Americans don’t consume even half of the government’s recommended daily intake of magnesium. (Falloon, “How many Americans are Magnesium Deficient? http://www.lef.org/)

In the video interview, Dr. Carolyn Dean discussed how some moms and their babies have a deficiency at birth, which may result in a number of childhood illnesses such as asthma, body cramping, etc. Click here to find out if your child may be born with a deficiency (http://youtu.be/Tp8fXWXqzTQ?t=7m5s).

VIDEO: Get more details from the interview with Dr. Dean about the RBC test here.

Listen to Dr. Dean’s advice on how to ensure safe interactions with other medications if you are magnesium deficient (http://youtu.be/Tp8fXWXqzTQ?t=14m33s).

Dr. Carolyn Dean hypothesized that LeBron James is magnesium deficient? Find out more here and read Dr. Dean’s article on LeBron here.

BLOG: Dr. Carolyn Dean’s blog provides more information about problems with magnesium testes here: http://drcarolyndean.com/2014/05/magnesium-rbc-blood-test.

The easiest way to know if you have a deficit is to take a glance at the list from “Magnesium Miracle”. If you are taking prescription medications and need a more accurate measure, then Dr. Dean recommends an RBC blood test (http://requestatest.com/magnesium-rbc-testing). Currently, there are no over the counter or laboratory tests to measure magnesium, which is found mostly in the bone. Dr. Carolyn Dean cautions that there’s no way of knowing how many factors correlate with any one person’s magnesium deficiency, but if you find yourself with a few dozen from the list, you may want to see how your symptoms improve if you take a magnesium supplement.

<table>
<thead>
<tr>
<th>Condition</th>
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<tbody>
<tr>
<td>Alcohol intake: You drink more than 7 drinks per week</td>
<td>Apathy</td>
<td>Bowel problems: Undigested fat, constipation, diarrhea, IBS, Crohn’s, Colitis.</td>
</tr>
<tr>
<td>Anger</td>
<td>Arrhythmia of the heart</td>
<td>Brain trauma</td>
</tr>
<tr>
<td>Angina</td>
<td>Asthma</td>
<td>Chronic Bronchitis</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Blood tests with low calcium, potassium, and magnesium</td>
<td></td>
</tr>
</tbody>
</table>
Caffeine more than 3 servings a day
Chronic Fatigue Syndrome
Cold Extremities
Concentration difficulties.
Confusion
Convulsions
Depression
Diabetes
Fibromyalgia
Food Take imbalance: Limit in leafy green, seeds, and fresh fruit or high protein
Food Cravings: Carbs, Chocolate, Salt, Junk Food
Gagging or choking on Food
Headaches
Heart disease
Heart-rapid rate
High blood pressure
Homocysteinuria
Hyperactivity
Hyperventilation
Infertility
Insomnia
Irritability
Kidney Stones
Medications: Digitalis, Diuretics, antibiotics, steroids, oral contraceptives, indomethacin, cisplatin, Amphotereicin B, Cisplatin, Cholosetylramine, Synthetic estrogens
Memory impairments
Mercury amalgam dental fillings
Menstrual pains and cramps
Migraines
Mineral supplements: calcium, zinc, iron without magnesium.
Mitral valve prolapsed
Muscle cramps or spasms
Muscle twitching or tics
Muscle weakness
Numbness or hands or feet
Osteoporosis
Paranoid
Parathyroid hyperactivity
PMS
Polycystic ovarian disease
Pregnancy
Recent Radiation therapy
Raynaud’s syndrome
Restlessness
Sexual energy diminished
Shortness of breath
Smoking
Startled easily by noise
Stressful life or circumstances
Stroke
Sugar, high intake daily
Syndrome X
Thyroid hyperactivity.
Tingling of hands or feet
Transplants (Liver or Kidney)
Tremors in hands
Water that contains fluoride, chlorine, calcium
Wheezing

Make sure to check out this blog post for more information: http://drcarolyndean.com/2010/06/gauging-magnesium-deficiency-symptoms/

**How much Magnesium should I take?**

VIDEO: Want the doctor’s advice? Dr. Carolyn Dean explains more on how much you should take, and how to get started here: http://youtu.be/Tp8tXWXqzTQ?t=20m36s.

Dr. Dean explains in her book, “The Magnesium Miracle”, that it may take up to a year to build up the magnesium that is stored in your muscles and bones.

What form of Magnesium should I take?*

There are many types of magnesium that you can take.

**Magnesium glycinate** is a chelated form of magnesium that tends to provide the highest levels of absorption and bioavailability and is typically considered ideal for those who are trying to correct a deficiency.

**Magnesium oxide** is a non-chelated type of magnesium, bound to an organic acid or a fatty acid. Contains 60 percent magnesium and has stool softening properties.

**Magnesium chloride / Magnesium lactate** contain only 12 percent magnesium, but has better absorption than others, such as magnesium oxide, which contains five times more magnesium.

**Magnesium sulfate / Magnesium hydroxide** (milk of magnesia) are typically used as a laxative. Be aware that it’s easy to overdose on these, so ONLY take as directed.

**Magnesium carbonate**, which has antacid

**Magnesium taurate** contains a combination of
Magnesium citrate is magnesium with citric acid, which has laxative properties. Magnesium threonate is a newer, emerging type of magnesium supplement that appears promising, primarily due to its superior ability to penetrate the mitochondrial membrane.


VIDEO: Don’t be discouraged if you take one of the above forms and it gives you diarrhea. Dr. Dean cautions that magnesium carbonate, chloride, gluconate, and oxide (least expensive, but only 4% absorption) often cause diarrhea. That symptom just means that you should try a different form.

Dr. Carolyn Dean talks about the limitations of magnesium oxide http://youtu.be/Tp8fXWXqzTQ?t=12m49s and more about the forms of magnesium to take here (http://youtu.be/Tp8fXWXqzTQ?t=16m43s).


There are various ways to get your Magnesium fix. Supplements are commonly consumed via pill or in liquid form such as over-the-counter magnesium citrate, malate, or oxide; another oral magnesium supplement is ionic magnesium in liquid form, such as that offered by Trace Minerals Research. This is a sodium-reduced concentration of seawater from the Great Salt Lake in Utah.

Instead of oral supplements, you can also opt into a regular Epsom salt bath or footbath. Epsom salt is a magnesium sulfate that can absorb into your body through your skin. Magnesium oil (from magnesium chloride) is a spray for topical application and absorption to areas in your body experiencing muscle soreness. Dr. Dean cautions that some may experience some itchiness and that it takes a lot of spray to build up magnesium through this method.

(Above on dosage if general information, to be read once. Period. KK)

If any of the above has a laxative effect, then those under medical supervision have taken Magnesium intravenously.

You can also try Dr. Dean’s self-created formulation called ReMag.

This is the key. ReMag. http://drcarolyndean.com/natural-health-resource/

According to Dr. Carolyn Dean it doesn’t matter which supplement you choose. She recommends a combination of both oral and topical application and to keep track of how much you ingest with RBC testing. Make sure to get a baseline if you are heavily supplementing. In “The Magnesium Miracle”, Dr. Dean offers other recommended magnesium supplements here:

- Natural Clam – powdered magnesium citrate sweetened with organic Stevia.
- JigSaw Magnesium SRT is a chelated form. Chelated is supposed to offer superior absorption.
- Ancient Minerals Magnesium Oil. How much should I take?
- ReMag, Dr. Dean’s 100% absorbed, non-laxative form of picometer-ionic magnesium.

– See more at: http://www.fireitupwithcj.com/the-ultimate-guide-to-magnesium/#sthash.efn3gFGh.dpuf

When should I take Magnesium? *
Dr. Carolyn suggests 2-3 doses a day, the first when you wake up in the morning and the last at bedtime. If you choose, one can also be taken in the afternoon. Magnesium levels are generally lowest during the early morning and later in the afternoon. If you have leg cramps or restless legs then you might want to take it at night.

**[Basic easiest method to take:]

two tsps of ReMag and 1 ½ tsps ReLyte to pint bottle of water, and, sip throughout day and night. Start all over again the next morning.  Kk]

**Could you take too much or over dose on Magnesium? What are the risks of taking too much too soon?**

Dr. Dean cautions not to take enormous doses but to build using a more gradual process because magnesium saturation levels don’t increase overnight. When you take these supplements, you want to slowly awaken your body to the hundreds of metabolic processes. Overdosing may make your body tired or toxic.

Luckily, our bodies have a fail-safe mechanism that prevents us from absorbing too much magnesium. If over consumption were to happen, the body will rid itself of the excess through diarrhea. Other possible side effects are cramping and nausea. Dr. Carolyn explains more here (http://youtu.be/Tp8fXWXqzTQ?t=11m16s).

There are some special cases that Dr. Carolyn Dean details in “The Magnesium Miracle”, when you may feel worse after taking magnesium:

- You’re not taking enough
- You’re taking too much
- You have low blood pressure from long-standing magnesium deficiency and adrenal fatigue.
- You’re on heart medications, and as your health improves your meds are becoming “toxic”
- You’ve started taking iodine or thyroid medication or you have hyperthyroidism.
- You’re taking too much vitamin D
- You’re taking too much calcium and it’s pushing out your magnesium
- You’re taking fairly high doses of magnesium and not taking trace minerals or drinking enough water.
- You’re not taking enough B Vitamins
- You are mercury toxic.
- You are toxic from a bad diet

VIDEO : Hear from Dr. Dean why experiencing withdrawal symptoms from your meds may make you feel worse when you start magnesium here.

**How are Calcium and Magnesium related?**

Dr. Carolyn Dean talks about how diets are often times rich in calcium but deficient in magnesium deficient. As such, it’s important to calibrate the amount of magnesium you intake if you are also taking calcium supplements. Why so? Because if you have too much calcium and not enough magnesium, your muscles may spasm, and this negatively impacts your heart.

VIDEO: Dr. Dean explains why calcium contracts the muscles while magnesium relaxes the muscles and the resulting heart pain, high blood pressure and insomnia here (http://youtu.be/Tp8fXWXqzTQ).

BLOG: Best ratio of Calcium to Magnesium: http://www.nutritionalmagnesium.org/optimum-calcium-magnesium-ratio/

**How can Magnesium cause constipation?**

VIDEO: Constipation can happen because the muscles don’t move the content around. Tight muscles
result in a tightening of your anal sphincter. Watch here for more:  

How does Magnesium relate to sleep? *

VIDEO: It has been reported that taking a few doses of magnesium will result in your first good night’s sleep in years. A dose of Magnesium can take affect within minutes. Learn more here (http://youtu.be/Tp8fXWXqzTQ?t=6m2s).

VIDEO: Experiencing insomnia? Check out some steps you could take towards resolution here (http://youtu.be/Tp8fXWXqzTQ?t=23m8s).

Magnesium and migraines: *
VIDEO: Carolyn describes why magnesium helps with migraines and how it balances hormones and relaxes muscles (http://youtu.be/Tp8fXWXqzTQ?t=34m42s). Check out another video interview here: http://youtu.be/hluEHcpIJ-M.

BLOG:  http://drcarolyndean.com/2015/01/therapeutic-levels-of-magnesium-treat-migraines/
http://drcarolyndean.com/2014/06/magnesium-treats-migraines/

Magnesium and Anxiety: *
VIDEO: Dr. Carolyn talks about how she has helped her clients handle anxiety, even if they’ve been on anxiety pills for several years. The magnesium works on the adrenal glands and helps calm the flight or fright system that is too easily triggered. Check out more here (http://youtu.be/Tp8fXWXqzTQ?t=35m46s).


Magnesium and Cholesterol (Statin): *
Before you get a prescription of Statin for prevention, first try some natural ways of changing your situation. Dr. Dean explains that magnesium helps balance the enzyme that creates cholesterol in your body, thereby aiding in normalizing your cholesterol levels. Interestingly, and importantly, statin drugs destroy the same enzyme that magnesium balances. Magnesium deficiency is also a common symptom in diabetes, so drugs may inadvertently contribute to diabetes simply by depleting your body of magnesium.

VIDEO Dr. Carolyn Dean talks about a side effect for Statin, how it affects your hormone level, and how fluoride-based drugs can further worsen your magnesium deficiency. Get more information here (http://youtu.be/Tp8fXWXqzTQ?t=45m34s).

Dr. Dean questions the medical research on Cholesterol that was conducted with Rancid Cholesterol. Find out more here (http://youtu.be/Tp8fXWXqzTQ?t=50m46s).

Check out this video with cardiologist Dr. Sinatra talking about how cholesterol works here.

Magnesium rich foods. *
While there are foods with high magnesium (see chart below and https://www.cedars-sinai.edu/Patients/Programs-and-Services/Documents/CP0403MagnesiumRichFoods.pdf), this mineral is often not found in our foods unless farms add it to their soil. Thus, those that consume natural foods aren’t getting enough Magnesium and are at risk for deficiency.

VIDEO: Dr. Carolyn explains why foods contain less magnesium here (http://youtu.be/Tp8fXWXqzTQ?t=42m34s).
“Magnesium is farmed out of the soil much more than calcium... A hundred years ago, we would get maybe 500 milligrams of magnesium in an ordinary diet. Now we’re lucky to get 200 milligrams.”.. Dr. Carolyn Dean

### The Top 10 High Magnesium Foods by Nutrient Density (Magnesium per Gram)

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<tr>
<td><strong>#1: Rice Bran</strong></td>
<td>781mg (195% DV) per 100 grams</td>
<td>922mg (230% DV) per cup (118 grams)</td>
</tr>
<tr>
<td><strong>#2: Dried Herbs and Spices (Coriander, Dill, Sage Basil)</strong></td>
<td>694mg (174% DV) per 100 grams</td>
<td>14mg (3% DV) per tablespoon (2 grams)</td>
</tr>
<tr>
<td><strong>#3: Pumpkin &amp; Squash Seeds</strong></td>
<td>535mg (134% DV) per 100 grams</td>
<td>738mg (185% DV) per cup (138 grams)</td>
</tr>
<tr>
<td><strong>#4: Cocoa Powder</strong></td>
<td>499mg (125% DV) per 100 grams</td>
<td>25mg (6% DV) per tablespoon (5 grams)</td>
</tr>
<tr>
<td><strong>#5: Flaxseeds</strong></td>
<td>392mg (98% DV) per 100 grams</td>
<td>39mg (10% DV) per tbsp (10 grams)</td>
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<tr>
<td><strong>#6: Brazil Nuts</strong></td>
<td>376mg (94% DV) per 100 grams</td>
<td>500mg (125% DV) per cup (133 grams)</td>
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<tr>
<td><strong>#7: Tahini (Sesame Seed Paste)</strong></td>
<td>353mg (88% DV) per 100 grams</td>
<td>49mg (12% DV) per tablespoon (14 grams)</td>
</tr>
<tr>
<td><strong>#8: Sunflower Seeds</strong></td>
<td>346mg (87% DV) per 100 grams</td>
<td>14mg (3% DV) per tablespoon (4 grams)</td>
</tr>
<tr>
<td><strong>#9: Wheat Germ</strong></td>
<td>313mg (78% DV) per 100 grams</td>
<td>360mg (90% DV) per cup (115 grams)</td>
</tr>
<tr>
<td><strong>#10: Molasses</strong></td>
<td>242mg (61% DV) per 100 grams</td>
<td>48mg (12% DV) per tablespoon (20 grams)</td>
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</table>

Source: “Top 10 Foods Highest in Magnesium”.*

**How can Magnesium help you unwind from a litany of medications?** *
According to Dr. Dean, two major lifestyle factors that deplete your body of magnesium are stress and prescription drugs. Unfortunately, the conventional medical approach of prescribing medication for pretty much everything oftentimes lead to more body stress, which will ultimately make your situation progressively worse.

VIDEO: Dr. Dean explains how she’s weaned patients off of their medications here: http://youtu.be/Tp8fXWXqzTQ?t=49m49s.

Magnesium Expert – Dr. Carolyn Dean *

Dr. Dean has studied and written about magnesium for about 15 years. In January 2003, she published the first edition of *The Magnesium Miracle*, and she’s currently working on the fourth edition of this book.

Last year, she was awarded the Arrhythmia Alliance Outstanding Medical Contribution to Cardiac Rhythm Management Services Award 2012. It was given by the Heart Rhythm Society of the UK, which is a major allopathic organization.

See more at: http://www.fireitupwithcj.com/the-ultimate-guide-to-magnesium/#sthash.7woNeT8K.dpuf