

Magnesium: Beyond the Basics

Quick Review: The Basics of Magnesium

- An essential mineral
- 99% of magnesium in the human body is stored in the bones, muscles, and non-muscular soft tissue
- Magnesium plays a role in over 300 enzymatic reactions in the body

Periodic Table of the Elements

Atomic Number → 1
Name → Hydrogen
Symbol → H
Atomic Weight → 1.008

State of matter (color of name)
GAS LIQUID SOLID UNKNOWN

Subcategory in the metal-metalloid-nonmetal trend (color of background)
Alkaline metal, Lanthanide, Transition metal, Alkaline earth metal, Actinide, Post-transition metal, Metalloid, Polyatomic nonmetal, Diatomic nonmetal, Noble gas, Unknown chemical properties

1 H Hydrogen 1.008																	2 He Helium 4.002602	
3 Li Lithium 6.94	4 Be Beryllium											5 B Boron 10.81	6 C Carbon 12.011	7 N Nitrogen 14.007	8 O Oxygen 15.999	9 F Fluorine 18.998403163	10 Ne Neon 20.1797	
11 Na Sodium 22.98976928	12 Mg Magnesium 24.305											13 Al Aluminium 26.9815385	14 Si Silicon 28.0855	15 P Phosphorus 30.973761998	16 S Sulfur 32.06	17 Cl Chlorine 35.45	18 Ar Argon 39.948	
19 K Potassium 39.0983	20 Ca Calcium 40.078	21 Sc Scandium 44.955908	22 Ti Titanium 47.867	23 V Vanadium 50.9415	24 Cr Chromium 51.9961	25 Mn Manganese 54.938044	26 Fe Iron 55.845	27 Co Cobalt 58.933194	28 Ni Nickel 58.6934	29 Cu Copper 63.546	30 Zn Zinc 65.38	31 Ga Gallium 69.723	32 Ge Germanium 72.630	33 As Arsenic 74.921595	34 Se Selenium 78.971	35 Br Bromine 79.904	36 Kr Krypton 83.798	
37 Rb Rubidium 85.4678	38 Sr Strontium 87.62	39 Y Yttrium 88.90584	40 Zr Zirconium 91.224	41 Nb Niobium 92.90637	42 Mo Molybdenum 95.95	43 Tc Technetium (98)	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.90550	46 Pd Palladium 106.42	47 Ag Silver 107.8682	48 Cd Cadmium 112.414	49 In Indium 114.818	50 Sn Tin 118.710	51 Sb Antimony 121.760	52 Te Tellurium 127.60	53 I Iodine 126.90447	54 Xe Xenon 131.293	
55 Cs Caesium 132.90545196	56 Ba Barium 137.327	57 - 71 Lanthanoids		72 Hf Hafnium 178.49	73 Ta Tantalum 180.94788	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.217	78 Pt Platinum 195.084	79 Au Gold 196.966569	80 Hg Mercury 200.592	81 Tl Thallium 204.38	82 Pb Lead 207.2	83 Bi Bismuth 208.98040	84 Po Polonium (209)	85 At Astatine (210)	86 Rn Radon (222)
87 Fr Francium (223)	88 Ra Radium (226)	89 - 103 Actinoids		104 Rf Rutherfordium (267)	105 Db Dubnium (268)	106 Sg Seaborgium (269)	107 Bh Bohrium (270)	108 Hs Hassium (269)	109 Mt Meitnerium (278)	110 Ds Darmstadtium (281)	111 Rg Roentgenium (282)	112 Cn Copernicium (285)	113 Nh Nihonium (286)	114 Fl Flerovium (289)	115 Mc Moscovium (289)	116 Lv Livermorium (293)	117 Ts Tennessine (294)	118 Og Oganesson (294)

57 La Lanthanum 138.90547	58 Ce Cerium 140.116	59 Pr Praseodymium 140.90768	60 Nd Neodymium 144.242	61 Pm Promethium (145)	62 Sm Samarium 150.36	63 Eu Europium 151.964	64 Gd Gadolinium 157.25	65 Tb Terbium 158.92535	66 Dy Dysprosium 162.500	67 Ho Holmium 164.93033	68 Er Erbium 167.259	69 Tm Thulium 168.93422	70 Yb Ytterbium 173.045	71 Lu Lutetium 174.9668
89 Ac Actinium (227)	90 Th Thorium 232.0377	91 Pa Protactinium 231.03688	92 U Uranium 238.02891	93 Np Neptunium (237)	94 Pu Plutonium (244)	95 Am Americium (243)	96 Cm Curium (247)	97 Bk Berkelium (247)	98 Cf Californium (281)	99 Es Einsteinium (252)	100 Fm Fermium (257)	101 Md Mendelevium (258)	102 No Nobelium (259)	103 Lr Lawrencium (260)

Magnesium Intake

- **70-80% of Americans** do not get the minimum recommended daily intake of magnesium (420 mg daily for men and 320 mg daily for women)
- Food sources of magnesium
 - Nuts and seeds
 - Legumes
 - Bananas
 - Leafy green vegetables
 - Avocados
 - Dark chocolate

Magnesium Deficiency

- Signs of low magnesium levels
 - Fatigue
 - Muscle cramps or spasms
 - Muscle weakness
 - Irregular heartbeat
 - Anxiety



Organs most dependent on magnesium:

Brain

Bone

Heart

Muscles

Kidneys and Liver

Commonly Used Medications Can Deplete Magnesium

- High blood sugar: **diabetes drugs including GLP-1** drugs deplete magnesium
- Heartburn and acid reflux: Long term use of **proton pump inhibitors** – depletes magnesium
- High blood pressure: certain **diuretics** deplete magnesium

Forms of Magnesium

- Magnesium, as a dietary supplement, is found in many forms
- Many types of magnesium are poorly absorbed and in fact some of them have laxative effects
 - Magnesium citrate (magnesium + citric acid)
 - Magnesium oxide (magnesium + oxygen)
 - Magnesium hydroxide ALSO known as “Milk of Magnesia”
- **Magnesium glycinate chelate** is bound to an amino acid
 - Very well absorbed
 - No laxative effects



When to Suggest Magnesium

- Heart function
- Blood sugar
- Nerves and Nervous System
- Muscle cramps or muscle pain†
- Mental health
- PMS*

†Occasional muscle pain due to exercise or overuse

Why Add Vitamin B6 and Zinc

- Vitamin B6 can boost magnesium absorption and increase its benefits
- Zinc and magnesium work synergistically



BioActive Magnesium Complex

- **Superior absorption magnesium and zinc**
 - Chelated forms are better tolerated and minimize potential for digestive upset
- **Bioactive P-5-P: no conversion necessary**
- **Ideal for**
 - Heart and cardiovascular function
 - Nervous system function in adults and children
 - Relief of occasional muscle cramps
 - Tendon, ligament and cartilage support
 - Mood and emotional support*

Recommendations: Adults: 1 capsule daily, may be taken up to 4 times daily. Children (6-12 years): 1 capsule daily, or as recommended by your healthcare practitioner.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

Available in a
60 and 120 count



SUPPLEMENT FACTS

Serving Size: 1 Capsule

Servings Per Container: 60

Amount Per 1 Capsule (Veg):	%DV
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Vitamin B6 (as pyridoxal-5-phosphate)	10 mg	588%
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Magnesium (from magnesium bisglycinate chelate)	100 mg	24%
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Zinc (from TRAACS™ zinc bisglycinate chelate)	5 mg	45%
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IMPROVING THE HEALTH OF AMERICA

NERVE PAIN

Magnesium for Ultimate Health

If you think that you're getting enough magnesium from food sources alone, you may be mistaken. Magnesium has been depleted in the soil and is often stripped from foods during processing, so it's not as prevalent in the diet as once thought. In fact, some experts estimate that up to 80 percent of the U.S. population is deficient. And that's an alarming thought because magnesium supports a strong mind and body in virtually every way.

Promotes Calm, Alleviates Stress and Depression

Because magnesium is so closely tied to how our minds and bodies function, deficiencies can make you more susceptible to depression, and stop you from dealing with stress in a healthy way. The resulting tension can send your adrenal and pituitary glands into overdrive, and crank up cortisol and insulin levels. You end up feeling exhausted, less able to cope, and set yourself up for insulin resistance and high blood pressure, too.

Stress and magnesium deficiency can be a vicious cycle—stress can lead to

magnesium depletion and the magnesium depletion then leads to greater stress levels and risk of depression. But on a positive note, some case histories have shown that magnesium supplementation—including a glycinate form, which is the kind I prefer—can speed recovery from depression symptoms in as little as seven days.

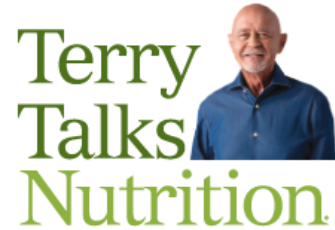
Magnesium also appears to help children who have trouble calming down and staying focused. While there are still more clinical trials needed to determine exactly how magnesium works for this, case histories support its use. And magnesium seems to have similar effects for adults.

Additionally, clinical studies have found that for children and adults, including women who suffer from menstrual migraines, preventative supplementation with magnesium significantly reduced the incidence of headaches. It is estimated that half of all migraine sufferers are magnesium deficient.

An Essential for Your Heart

If you want to keep your heart healthy and strong, you need magnesium. A study of over 9,000 participants in the Netherlands found a link between low magnesium levels, coronary heart disease risk, and cases of sudden cardiac death. They found that without enough magnesium, arteries thickened and the tone and overall health of blood vessels declined. A Finnish study reported that low magnesium is, on its own, a risk factor for heart failure in men—aside from lifestyle, blood pressure, and weight.

The good news is that it's never too late to start supplementing with magnesium. A randomized, double-blind, placebo-controlled clinical study published in the *American Journal of Clinical Nutrition* showed that after just six months of supplemental magnesium, older adults who were overweight or obese had healthier arteries. Ultimately, that means better blood pressure and less strain on the heart.



TERRY'S BOTTOM LINE

It's tough to overemphasize how much good magnesium does for us. Unfortunately, it is one of the most commonly lacking nutrients in the diet. That is why I highly recommend a magnesium supplement to:

- Help you feel clear headed and energetic
- Strengthen your heart and arteries
- Help prevent stroke
- Speed exercise recovery
- Reduce migraines
- Prevent or treat symptoms of depression

HERE IS THE FORMULA I SUGGEST:

Vitamin B6 (as pyridoxal-5-phosphate)	10 mg
Magnesium (from magnesium bisglycinate chelate)	100 mg
Zinc (from zinc bisglycinate chelate)	5 mg

Helps You Exercise Better, Recover Faster, & Relieves Cramps

Magnesium enhances physical performance. A clinical survey in Portugal found that magnesium helped elite basketball, handball and volleyball players score big in strength and movement tests, including trunk flexibility, rotation, and jumping. Magnesium relieves post-exercise pain, too, so it's a great nutrient to have on board either before

More...

Did You Know?

Cooking, freezing, canning, storing or processing foods can deplete their vitamin B6 content by as much as 50%. Additionally, as many as 30% of people have difficulty converting B vitamins from the forms typically found in food to the active form their body can use.



1 Visit TerryTalksNutrition.com to sign up for a weekly newsletter or listen to my radio show

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Build a Protocol with Magnesium

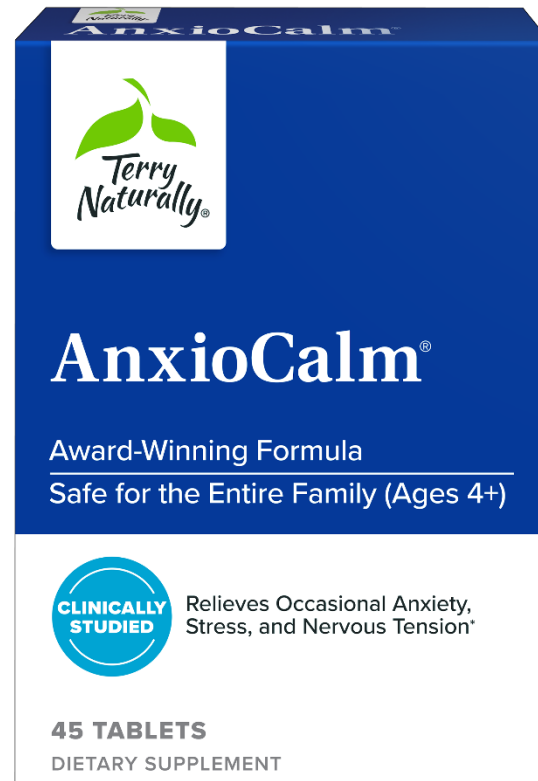
Heart



Muscle Function



Mood



Roll Call and Questions

