

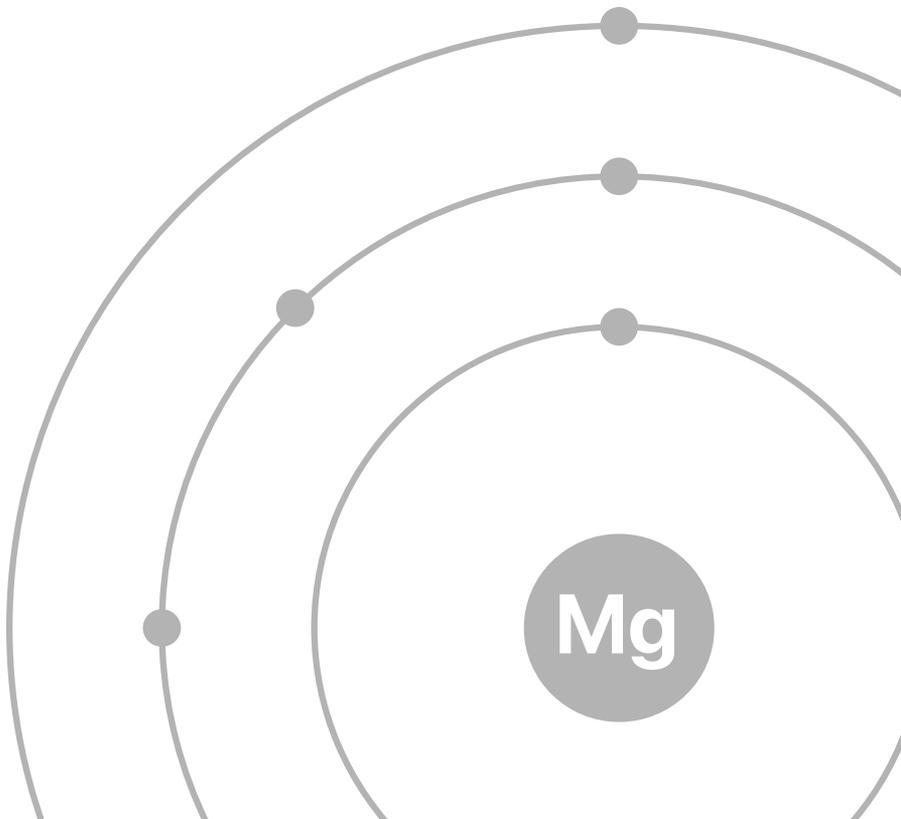
THE CONSUMER GUIDE TO

Magnesium Supplements

Mg

 **Jigsaw**[®]
HEALTH

It's fun to feel good.



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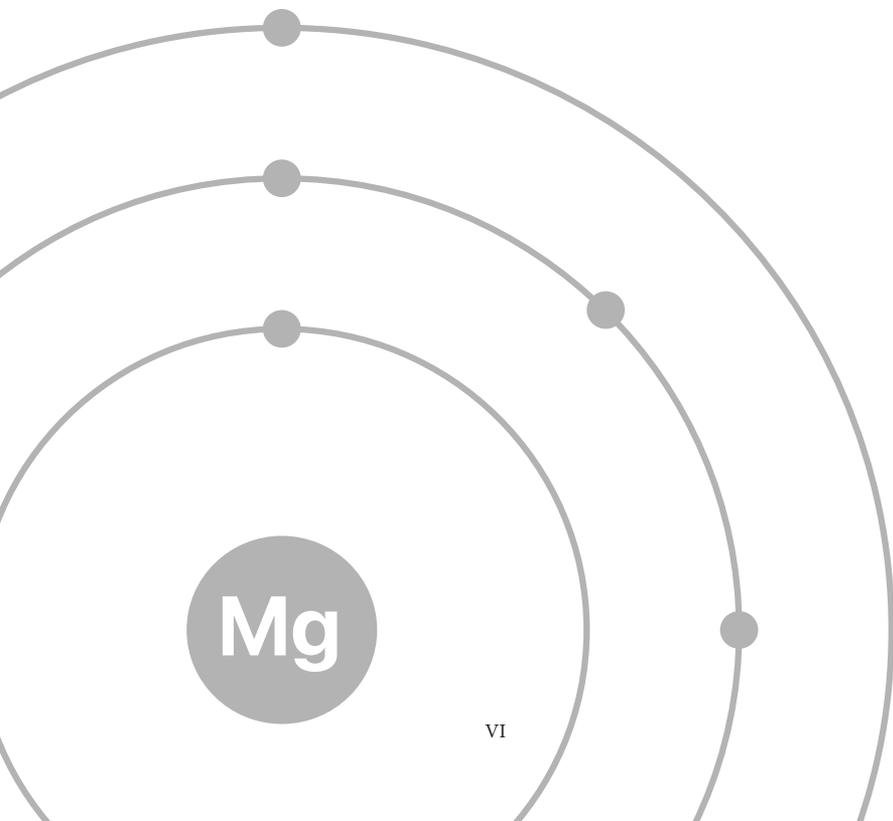
Portions of this book are works of non-fiction. Certain names and identifying characteristics have been changed.

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VI

FORWARD

An Important Message For You

Hello!

I'm Patrick Sullivan, Jr., Co-Founder & Chief Entertainment Officer (CEO) of Jigsaw Health. My Dad and I started this company together in 2005, and we've had the honor to serve well over 100,000 customers.

We started Jigsaw Health because my Dad struggled on and off with various health challenges for over 30 years — low energy, trouble sleeping, gastrointestinal problems and mood swings. All difficult to overcome. But he never gave up on his mission to discover solutions that would help him feel good again — if there is an effect, then there must be a cause!

Along the way, he found answers and began to feel the powerful benefits of feeding his body with the right kinds of nutrients — especially magnesium!

“Figuring out causes of my own health problems always felt like solving a puzzle. Thus the company name, Jigsaw Health.”

— Pat Sullivan Sr.

You see, nearly 80% of the population is deficient in Magnesium. And we believe the reason is due to lack of education on what Magnesium does and its essential role in the body. So, we’ve made a promise to continuously research, uncover, and share with you, our customers, and our families, the world’s best health solutions in a variety of ways that we hope you’ll find educational and entertaining – or as we like to say, “edu-taining.”

I hope you enjoy this Consumer Guide to Magnesium Supplements.

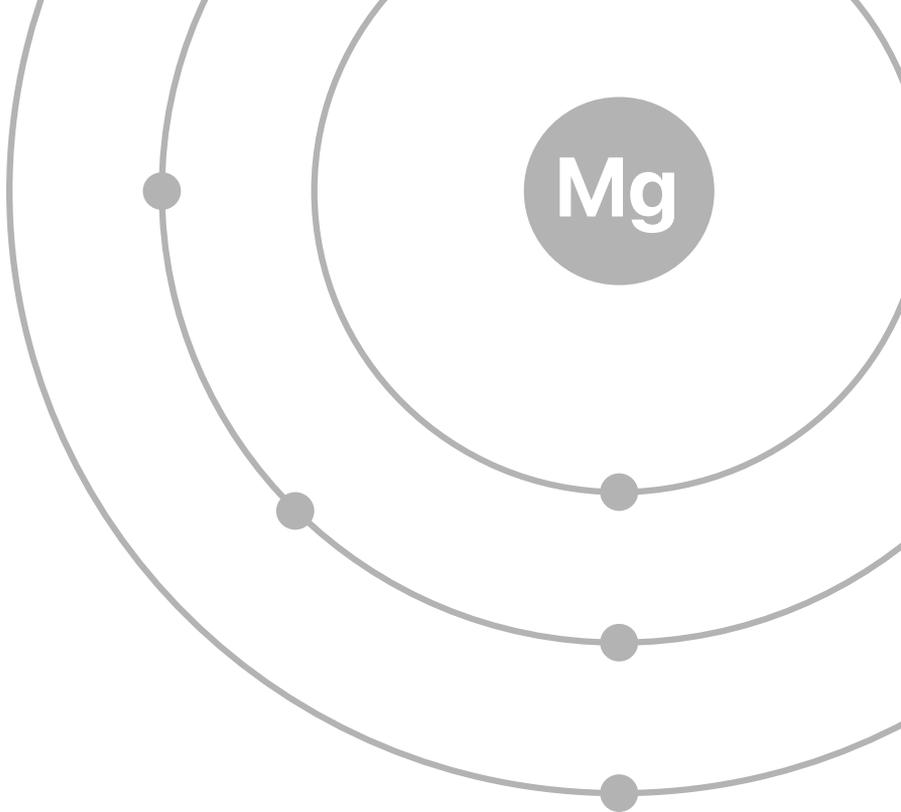
It’s fun to feel good. We can help with that! ;-)

Cheers!!

Patrick

Patrick Sullivan Jr







INTRODUCTION

Magnesium is Born in Stars

It is the eighth most abundant element in the universe, and the third most plentiful element dissolved in seawater, according to the U.S. Geological Survey.

But, who thinks about magnesium? We've been bombarded with warnings about getting enough Vitamin D and calcium. Bombarded with all the health benefits of exotic herbs that were supposedly plucked from the Garden of Eden or a secret compost pile in outer space.

Rarely do you hear about magnesium. But unlike unpredictable herbs or even vitamins your body can't absorb, when you nourish your body with the right type of magnesium, within 2—4 weeks you'll notice you finally feel...good!

We wrote this Guide to help answer your questions about magnesium and to share with you the exciting reasons why

daily magnesium can make a real difference for your energy level, mood, aches, heart, bones, and sleep. Even hot flashes and night sweats.*

In fact, you're about to discover why magnesium has been nicknamed, "The miracle mineral."

“As a heart specialist, I feel that the treasures held within magnesium have yet to be embraced by the medical community.”

Dennis Goodman, M.D.

Of course, there's no reason to take a magnesium supplement if you don't need it! Please read on if you're dealing with one or more of these symptoms:

- leg cramps at night*
- aching muscles*
- feeling anxious*
- foggy brain, no focus*
- cravings for carbs and chocolate*
- gastrointestinal issues*
- unhealthy blood pressure levels*
- sleepless nights*
- fading desire*
- that sluggish, no energy feeling*

How do I know which form of magnesium to take?

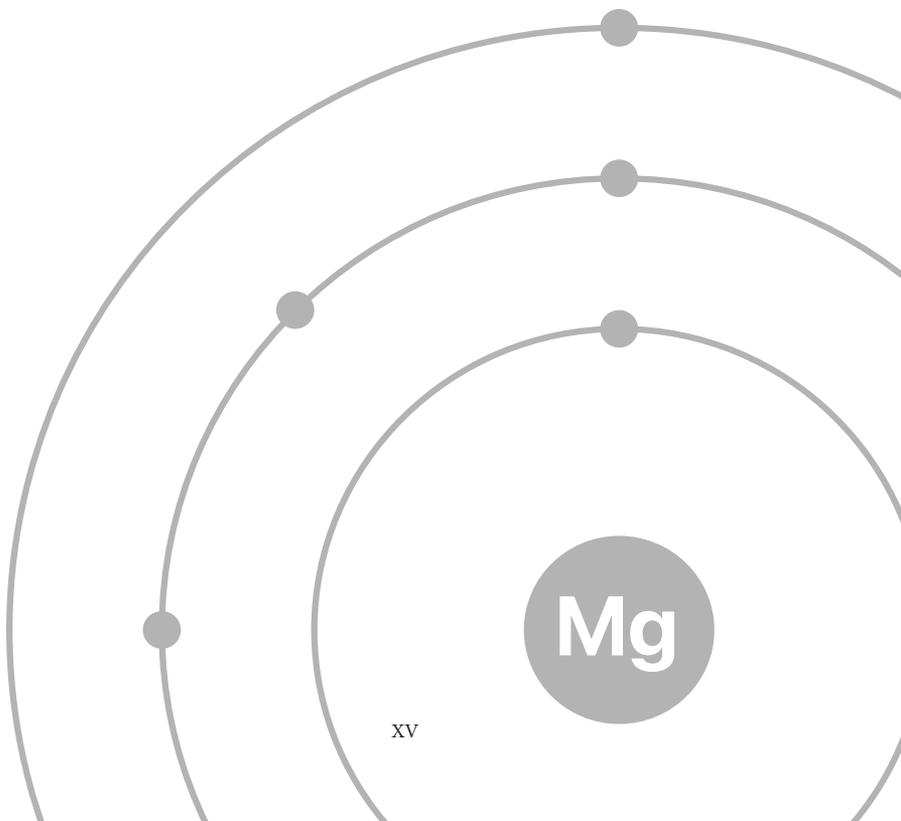
Search for magnesium on Amazon, and you'll get over 9,000 results. Plus, as you can see in the chart on the following page, there are nine different forms of magnesium, each with specific benefits. How do you know which one will actually work for you?

In the following chapters we'll include a recommended form of magnesium that will be the most helpful for your specific concern.



The different forms of Magnesium and how they compare to one another:

| FORM | PROS | CONS |
|-------------------------------------|--|---|
| Magnesium Chloride | Supports your body's natural ability to detox.* | Low absorption |
| Magnesium Citrate | Used as a laxative.* | Not recommended - Low absorption, reduces ceruloplasmin levels, and can lead to excessive dehydration |
| Magnesium Glycinate | Good absorption, relaxing, and easy on the digestive system.* | |
| Magnesium L-Threonate | Good absorption, enhances memory and learning abilities.* | |
| Magnesium Malate | Good absorption, supports energy production, excretes heavy metals from your body* | |
| Magnesium Orotate | Used to support cardiovascular health.* | Poor bioavailability |
| Magnesium Oxide | Used as a Laxative* | Low absorption |
| Magnesium Sulfate (AKA: Epsom Salt) | Used in baths and foot soaks, promotes relaxation, soothes sore muscles.* | Should only be used in small amounts. |
| Magnesium Taurate | Used for its calming effect on the mind and supports cardiovascular health* | Can cause GI upset and diarrhea and create complications with insulin response. |





CHAPTER ONE

Magnesium Deficiency

When it comes to the importance of magnesium for complete health, there's another living thing you share surprising similarities with. Plants!

As we conducted the research for this Guide, we personally found it easier to understand the importance of magnesium for humans after discovering how it works for plants. We'd like to share that with you now.

Magnesium and Plants

Magnesium is a macronutrient (which means it is required in greater quantities) and is the powerhouse behind photosynthesis in plants. Without magnesium, chlorophyll cannot capture energy from the sun.

Magnesium is an essential element for growth, and many enzymes in plant cells require magnesium in order to perform

properly. Magnesium also makes it possible for plants to absorb and use other essential elements, such as the macronutrients nitrogen, sulfur, and phosphorus.

Magnesium and You: The Building Blocks of Life

Magnesium is one of the eleven elements found in your body. While magnesium represents only 0.1% of your total body weight, it is the powerhouse behind your health and growth.*

A 2012 breakthrough study reported there are 3,751 human proteins that require magnesium to bind to them in order to build, repair, and maintain your body's cells.*

Magnesium also acts as a helper molecule with the biochemical reactions continuously performed by enzymes, allowing you to function on a daily basis, and is involved in more than 600 reactions in your body and brain.*

- Magnesium plays a key role in energy production, activating ATP, the energy molecule that fuels your body's cells*
- Regulates the transport of calcium, potassium, and other essential minerals, helping muscles and nerves function properly, and maintaining heart rhythm*
- Regulates blood pressure*
- Regulates cholesterol production*

- Regulates blood sugar levels*
- Supports bone development and helps guard against bone loss*
- Helps maintain fluid balances in your body*
- Helps create and repair DNA and RNA*
- Helps regulate neurotransmitters, which send messages throughout your brain and nervous system*

What happens when a plant doesn't get enough magnesium

Signs of magnesium deficiency in plants first appear in older leaves. The symptoms show up as yellowing around the edges of the leaves, leaving a green, arrowhead-shaped area in the center of the leaves. The leaves may eventually turn red or purple. In serious magnesium deficiencies, the leaves become brown and brittle, and drop from the plant.

You can alleviate the symptoms of magnesium deficiency by spraying the foliage with an Epsom salt solution, repeated weekly until the symptoms disappear. Although this corrects the symptoms, it doesn't correct the cause, which is a deficiency of magnesium in the soil. Symptoms will return unless you add magnesium to the source of the deficiency – the soil.

What happens when you don't get enough magnesium

According to Martha Shrubsole, PhD, a research professor of medicine at Vanderbilt University Medical Center, “Up to 80 percent of people do not consume enough magnesium in a day to meet the recommended dietary allowance.”

When the daily requirement for magnesium isn't attained – and it's not how much you swallow, it's how much your body absorbs and stores – you'll begin to notice you're tired all the time, your muscles ache, your mood is off, your head hurts, it takes forever to fall asleep because your brain won't calm down, leg cramps are also making it impossible to fall asleep, you have bloat, gas, or constipation, you crave carbs, you suffer with hot flashes, and even your desire may be fading.*

You just don't feel...good.

These symptoms are often attributed to other health issues, and like plants, when you treat the symptom, everything looks and feels like it's better for a while, but very quickly you're plagued with these symptoms again.

Why? It's Liebig's Law of the Minimum applied to humans, and quite frankly, we love its simplicity and that it paints such an elegant picture of why magnesium is so important for your health.

The Law of the Minimum

Liebig's Law of the Minimum concept was originally applied to plant or crop growth, where it was found that increasing the amount of plentiful nutrients did not increase plant growth. Only by increasing the amount of the limiting nutrient (the one most scarce in relation to "need") was the growth of a plant or crop improved.

When your levels of magnesium are too low, your health is put on hold.

- Without enough magnesium, the 3,751 proteins that build, repair, and maintain your body's cells can't work.*
- Without enough magnesium, the 600+ reactions in your body and brain can't work.*
- Without enough magnesium, the biochemical reactions continuously performed by enzymes that allow you to function on a daily basis can't work... and you don't function.*
- Magnesium helps protect, support, calm, and defend every system in your body!*

So, why are so many of us low on magnesium?

Magnesium is not produced in your body the way certain vitamins are. You have to get magnesium through food or water.

That used to be possible, but a landmark study published in the 2004 edition of the Journal of the American College of Nutrition, discovered that between 1950 and 1999, over-farming and topsoil depletion has led to nutrient reductions of up to 38% in 43 of the most common fruits and vegetables.

In addition, many widely prescribed medications, as well as popular over-the-counter drugs, drain your body of magnesium, including: diuretics (like Lasix) and other blood pressure drugs (ACE inhibitors), protein pump inhibitors (like Prilosec, Nexium, and Zantac), antacids (like Maalox and Tums), antibiotics (Amoxicillin, the Z-Pak, Cipro, and Keflex), corticosteroids (like Flonase), oral contraceptives, hormone replacement therapy medications, even the popular Ritalin prescribed for adults and children.

Stress constantly steals magnesium

Stress is one of the biggest thieves of magnesium...and your health.*

“Fight-or-flight” is an evolutionary design that protected us from things that wanted to kill and eat us. That’s pretty useful.

But fight-or-flight is now triggered by every situation that you find stressful: emotional, social or psychological. This constant release of stress hormones draws upon and depletes your magnesium stores, making it impossible for your body to

carry out the biological symphony that keeps you healthy and energized.*

Even if every leaf of spinach had optimal levels of magnesium... even if every medication was magnesium-sparing...even if we weren't upset by rush hour, paying bills, or deadlines...there's a reason for low magnesium levels that you and I can't avoid.*

You see, magnesium absorption from the gut decreases, and your kidneys flush out more magnesium, as you get older.*

It's no wonder that 8 out of 10 Americans have seriously low levels of magnesium!*

Is there a test for magnesium levels?

The medical test most commonly ordered is the serum magnesium test. This test only evaluates the amount of free magnesium in your blood serum – the plasma, antibodies, and non-clotting proteins found in your blood.

But as you may know, serum contains less than 1% of your total magnesium.

Most of your magnesium exists inside your cells. According to a recent, scholarly article published in *Clinical Chemistry and Laboratory Medicine*,

“An important cause for under diagnosis of deficiency is that serum magnesium, the most

commonly used test, can be found normal despite negative body stores.”

This article went on to warn that,

“A health warning is therefore warranted regarding potential misuse of ‘normal’ serum magnesium because restoration of magnesium stores in deficient patients is simple, tolerable, inexpensive and can be clinically beneficial.”

Is there a better test?

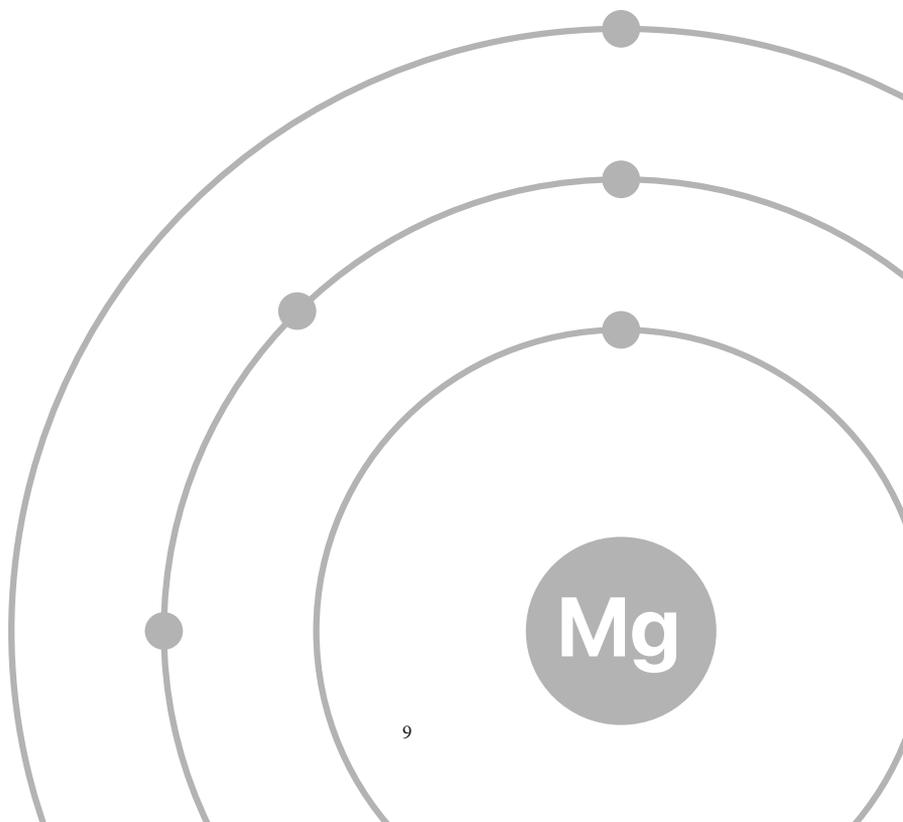
Yes! It’s called the RBC (red blood cell) Magnesium Test.

This is also a blood test but with one major difference: **it checks the magnesium levels inside your red blood cells.**

This test is considered more accurate than the serum test because when you’re low in magnesium your body takes it from cells for use elsewhere. So, if your red blood cells are lacking magnesium, you have a valid, reliable early indicator of too little magnesium.

Magnesium Recommendation for General Health and Energy:

✓ *Magnesium Malate*





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CHAPTER TWO

Sleep and Magnesium

If you suffer with nightly leg cramps, have stopped sleeping soundly, or find that every little thing is haunting you at night and making it impossible to fall asleep, you may have tried prescription sleep aids or melatonin. Both are solutions that work but are not good long-term solutions. What your body really needs may be...magnesium.*

Signs you may not be sleeping well.

According to Johns Hopkins Medicine, you need 7-9 hours of sleep every night. What's intruding on a good night's sleep?

- 1 in 3 adults has trouble falling asleep;
- 1 in 4 has a serious snoring problem;
- 1 in 8 suffers with nighttime leg cramps.

Thank goodness there's been so much attention on sleep! Even English Premiere soccer clubs and the Washington Redskins

recognize that sleep, rest, and relaxation are the key to keeping players healthier and more focused.

Not to mention that sleeping poorly can also make you look older. That's because it's during a good night's sleep that your body releases the human growth hormone that repairs skin and other tissue.

Magnesium is the nutritional diamond in Mother Nature's medicine cabinet.*

A 2012 breakthrough study reported there are 3,751 human proteins that require magnesium to bind to them in order to build, repair, and maintain your body's cells.*

Magnesium also acts as a helper molecule with the biochemical reactions continuously performed by enzymes, allowing you to function on a daily basis, and is involved in more than 600 reactions in your body and brain.*

And, most important, magnesium is essential for sound, restful sleep.*

A drastic way to get a "good night's sleep."*

I had lunch with a friend the other day. He mentioned he had just scheduled his second colonoscopy. And he was excited about it.

"What the heck?!" I asked.

He said the best part of a colonoscopy is the anesthesia. You go gently to sleep, and when you wake up, it's as if you had slept all night long and you feel totally refreshed. He doesn't sleep well anymore, so he was really looking forward to feeling that...good...once again.

You don't have to schedule a colonoscopy!

But, chances are, if you've mentioned that you're not sleeping well, your friends may suggest you take melatonin, and your doctor may suggest you take a nightly sedative-hypnotic.

Neither is as safe or healthy as you may think. In fact, melatonin has an unpleasant little secret.

Disturbing side effects of America's #1 prescription sleep aid.

The sedative-hypnotic class of drugs (like Zolpidem/Ambien) work by activating the neurotransmitter GABA in your brain and binding it to the GABA receptors in the same location in your brain as Xanax and Valium. It slows down your brain, and does help you fall asleep.

But, they're a temporary band-aid, not a solution, and not safe enough to be taken longer than one-or-two weeks at most. How dangerous? Sharing these drugs is against the law.

They also have pretty vicious side effects, including dizziness, daytime drowsiness, memory loss, thoughts of suicide, sleep-driving, sleep-walking, and trouble breathing. A class action

suit against Sanofi (Ambien's French manufacturer) revealed that users had been sleep driving, and eating things like buttered cigarettes and eggs, complete with the shells, while under the influence.

What's hiding in your melatonin supplement?

Melatonin supplements are very popular, and sound like they should be a good, natural solution.

But “natural” melatonin has a secret.

Imagine you're on a farm. In one pen are young, healthy pigs.

In another pen are elderly pigs. Old and frail. After these pigs are slaughtered, melatonin is extracted from their brains... and ends up in your drugstore melatonin supplement.

Or, your melatonin is chemically synthesized from a compound called indole. Indole occurs naturally in human feces and has an intense fecal smell.

Is your melatonin contaminated with a controlled substance?

The Journal of Clinical Sleep Medicine recently published a study on melatonin supplements.

30 different melatonin supplements, in a variety of brands and forms, were evaluated:

- **71%** of the supplements did not contain the amount of melatonin indicated on the label, and the amounts present ranged from 83% below label claim to 478% above.
- **Serotonin** (5-hydroxytryptamine) a controlled substance used in the treatment of severe neurological disorders, was found in 26% of the supplements at shockingly high levels.

Magnesium: Mother Nature's designated mineral for better sleep.*

As you may know, melatonin is a hormone produced in your brain that regulates your sleep-wake cycles and encourages sleep. There are 4 different steps your body takes to metabolize melatonin and make it usable, and all 4 steps require the presence of magnesium.*

That's why when you need sleep, you need magnesium!*

An important study involved 100 men and women between the ages of 51 and 85, all of whom suffered from poor-quality sleep.

Half of the group was given a daily magnesium supplement of 320mg, while the other half was given a placebo.

At the end of the study, participants in the (lucky) magnesium group **experienced improved sleep.**

A double-blind, clinical study of 43 elderly people in Tehran were randomly assigned to receive either 500 milligrams of magnesium or a placebo for eight weeks.

Those who received magnesium had statistically significant **increases in sleep time, slept better, fell asleep faster and spent more of their time in bed asleep.***

Can't turn your brain off at night? Help your brain go to sleep so you can, too, with magnesium.*

GABA is a neurotransmitter produced naturally in your brain to promote sleep. It helps you relax, helps you be less affected by stress, and provides a more calm and balanced mood.

If you're lying in bed, and your brain won't calm down, that's usually an indication that your levels of GABA are too low.

Magnesium helps you maintain healthy levels of GABA, encouraging relaxation as well as sleep.*

That's why magnesium is often referred to as "the original chill pill."*

The right magnesium matters.

As a general rule, minerals in nature do not like to be by themselves. In fact, except for calcium, sodium and potassium, minerals without the proper biological partner can be toxic.

The biological partner for magnesium that enhances magnesium's unique ability to calm your muscles and brain is the amino acid glycine.

When glycine bonds to magnesium it forms a biologically active ring structure similar to how magnesium is bonded in foods. This is key, because when your body identifies it as a safe food source, it is easily and immediately absorbed by your small intestine and moves freely through your cells.*

The glycinate also protects magnesium from being highjacked by phosphates, phytates, tannins, and roughage. Once highjacked, it is no longer usable for nutrition purposes.*

Magnesium glycinate is truly "bio-available."*

Glycine is another one of Mother Nature's health gems.*

Your body uses glycine to form collagen which helps support healthy muscles and bones. It plays an important role in your central nervous system, your immune system, and energy production. It helps keep your brain healthy.*

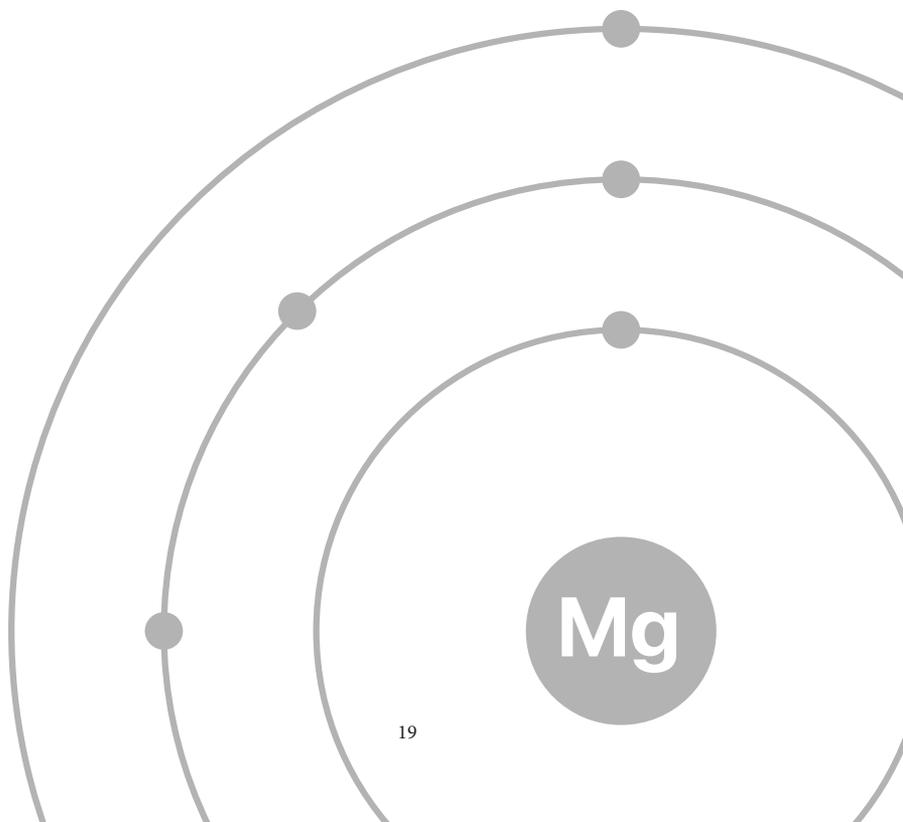
And, glycine contributes to a good night's sleep.*

In fact, studies show that glycine plays a significant role in helping you fall asleep more quickly and improving your sleep quality.*

- The effects of glycine on sleep quality were examined in a randomized, double-blind, cross-over trial, published in Sleep and Biological Rhythms in 2006. The volunteers, with complaints about the quality of their sleep, ingested either glycine or placebo before bedtime. Those fortunate to have received the glycine reported **significant improvements in fatigue, liveliness and peppiness, and next morning clear-headedness.***

Magnesium Recommendation for Better Sleep:

✓ *Magnesium Glycinate*





CHAPTER THREE

Nighttime Leg Cramps and Magnesium*

*When you need relief from nighttime leg cramps, you need magnesium!**

You're exhausted. You crawl into bed. You start to relax...and then – boom! – that horrible twitching, irritable feeling in your legs starts happening.

Or, you've gone to sleep and are dreaming pleasant dreams when – boom! – a leg cramp (charley horse) makes you sit up and scream.

Magnesium to the rescue! You see, there's an entire chemical process that happens each time you move your leg. And remember, even when you're asleep, your legs move.

First, your brain sends an electrical signal to your leg muscles that tells them to let Calcium inside your cells. When Calcium enters, your muscles clench. All as it should be.

But when your muscles are ready to relax, your cells need Magnesium to push the Calcium out.*

When you have more Calcium than Magnesium in your cells, excess Calcium gets stuck inside your cell wall creating a near constant state of clenching – which you experience as muscle cramps.

*An important study illuminated the importance of magnesium for well-rested sleep.**

10 patients suffering from poor sleep because of Periodic Limb Movements during sleep, with or without leg cramps, participated in a clinical study.

Magnesium was given in the evening for 4-6 weeks.

Periodic Limb Movements **decreased significantly...sleep efficiency improved significantly...**and for those patients who had previously also suffered with leg cramps, the benefits of magnesium were even more pronounced!*

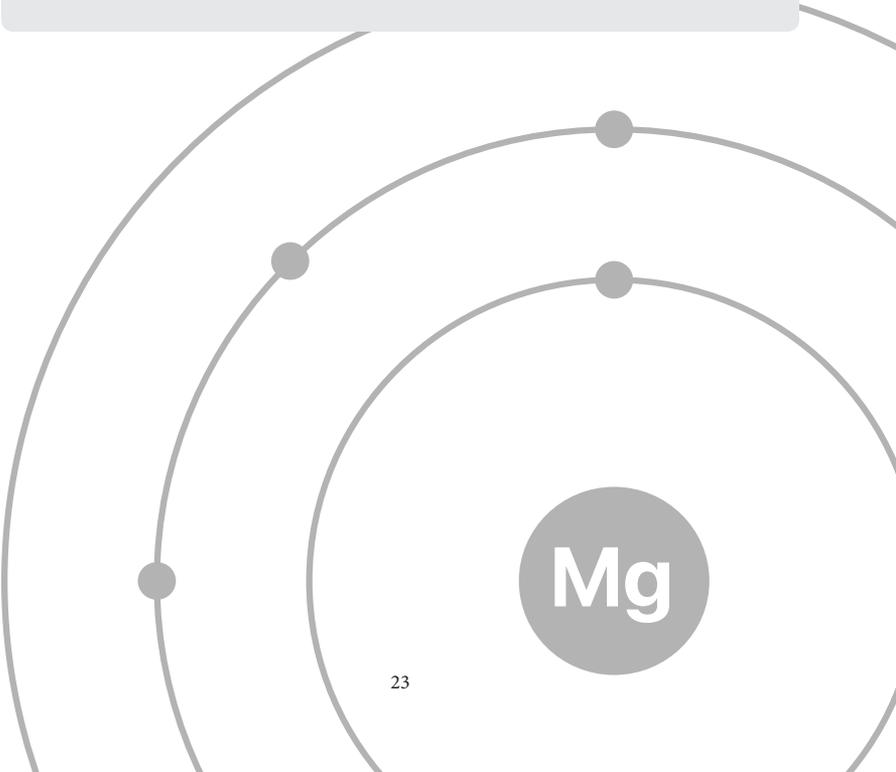
A double-blinded, placebo-controlled study was conducted with 80 pregnant women who were suffering with leg cramps at least twice a week.

One group received magnesium glycinate and the other received placebo.

The women who received magnesium glycinate enjoyed a **50% higher reduction in leg cramp frequency and intensity with no nausea or diarrhea.**

Magnesium Recommendation for Nighttime Leg Cramps:

✓ *Magnesium Glycinate*



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CHAPTER FOUR

Menopause and Magnesium

*Magnesium helps calm hot flashes and night sweats.**

Surprise! While many women suffer through hot flashes and night sweats waiting for black cohosh or another herb (or even synthetic hormones) to give them relief, magnesium would have already done the job!*

That's why Dr. Michael Breus, the Sleep Doctor, considers magnesium to be the sleep boosting supplement that also helps with menopause.*

*Greater than 50% reduction in hot flashes**

In a pilot phase 2 trial, patients with at least 14 hot flashes a week received 400mg of magnesium for 4 weeks.

The average age was 53.5 years; 8 were taking tamoxifen, 9 were on aromatase inhibitors, and 14 were on antidepressants. (Those medications can cause hot flashes).

24 patients were post-menopausal and 15 had been dealing with hot flash symptoms longer than 18 months.

Good news! Of 24 patients, 14 experienced a greater than 50% reduction in hot flash score, and 19 had a 25% reduction at the end of 4 weeks. The average hot flash frequency per week was reduced by 41.4%. Low energy, sweating, and distress were also significantly reduced.*

Compliance was excellent (pretty unusual) and many patients continued taking magnesium after the trial was completed.

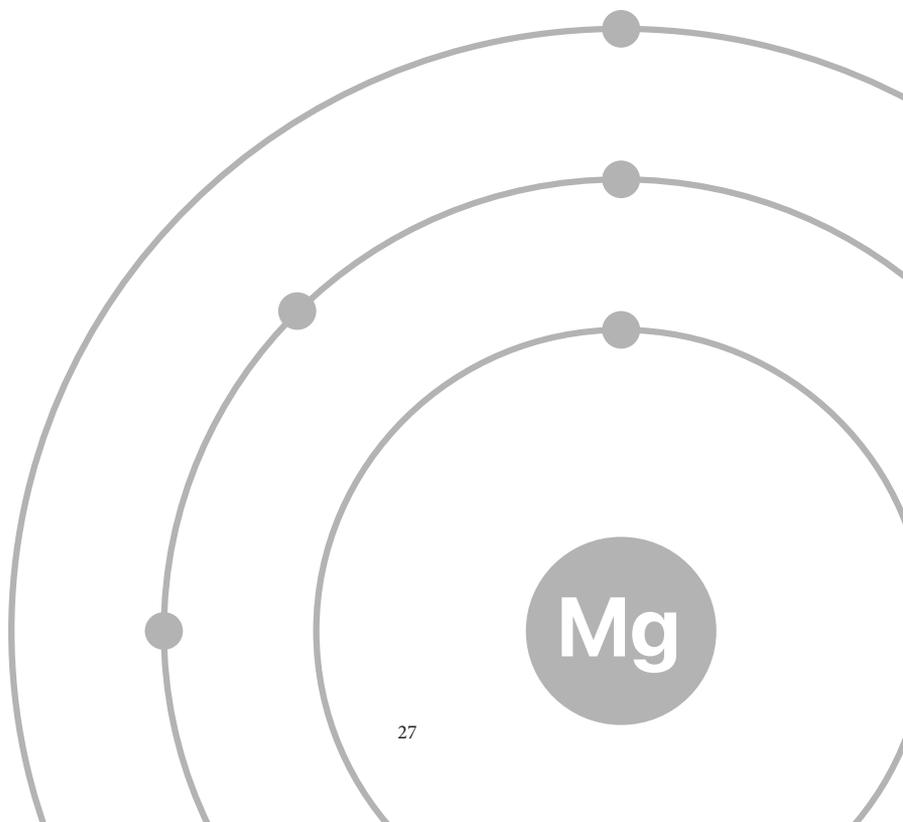
But magnesium does more during menopause than help you sleep better.*

Maintaining healthy magnesium levels helps protect metabolic health, stabilize mood, soothe stress, and contribute to heart and bone health.*

Magnesium helps to relax muscles and soothe muscle and joint discomfort, especially at night. (See page 21)*

Magnesium Recommendation:

✓ *Magnesium Glycinate*





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CHAPTER FIVE

Menstrual Health and Magnesium

Women who suffer every month with terrible cramping, bloating, and mood swings could definitely benefit from... magnesium.*

Fluctuating sex hormones (estrogen, progesterone, testosterone) affect magnesium levels, and women often have lower levels of magnesium than men as a result.*

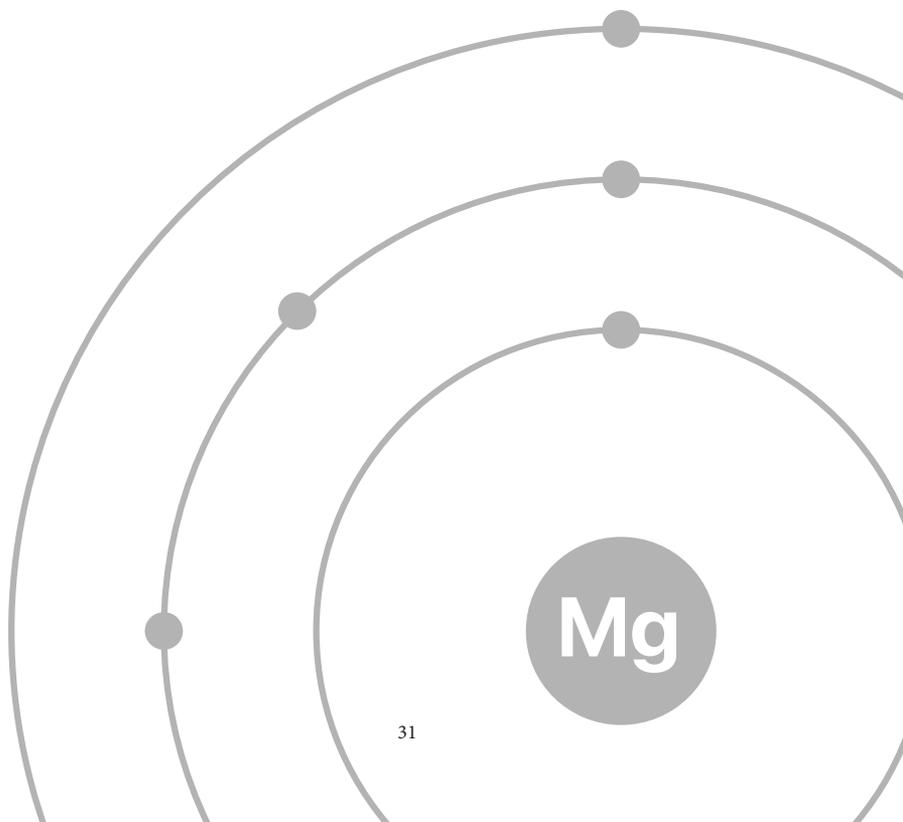
Laura Briden, ND, in her book, *Period Repair Manual*, calls magnesium the “miracle mineral for periods,” and says she prescribes magnesium, “for almost every patient and for almost every period problem.”*

A 2017 scientific review of studies examining the effects of magnesium on mood and menstrual distress revealed that four out of seven studies reported positive effects of magnesium on

mood, feeling stressed, and cravings. These positive results were noticed after two or three months (we feel it's important to share that supplementing with magnesium can have terrific results, but because many people are already dealing with low levels of magnesium, it does take time for your body to stabilize, so please be patient!).*

Magnesium Recommendation:

✓ *Magnesium Glycinate*





CHAPTER SIX

Your Bones, Calcium, and Magnesium*

*Bone Health Surprise: It's the Magnesium that helps protect your bones**

New research conducted by scientists from the University of Bristol in the United Kingdom and the University of Eastern Finland in Kuopio suggests that low levels of magnesium may increase your risk of bone fractures, and that higher levels may help protect your bones.*

This is directly related to the Law of Minimum from Chapter One. If levels of magnesium are too low, neither Vitamin D nor calcium can do their job.*

The findings were published in the European Journal of Epidemiology:

Researchers at the Universities of Bristol and Eastern Finland followed 2,245 middle-aged men over a 20-year period.

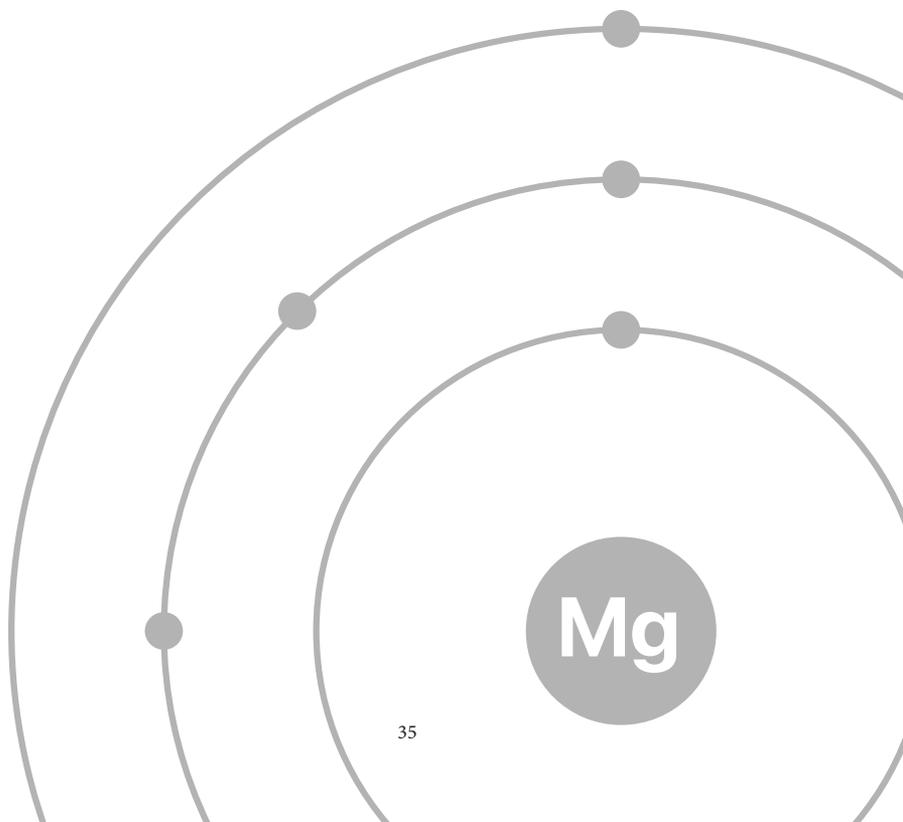
Men with lower blood levels of magnesium had an increased risk of fractures, particularly fractures of the hip.

The risk of having a fracture was reduced by 44% in men with higher blood levels of magnesium.

Professor Jari Laukkanen from the University of Eastern Finland and principal investigator said, “The overall evidence suggests that increasing serum magnesium concentrations may protect against the future risk of fractures...”

Magnesium Recommendation:

✓ *Magnesium Glycinate*



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Detox and Magnesium

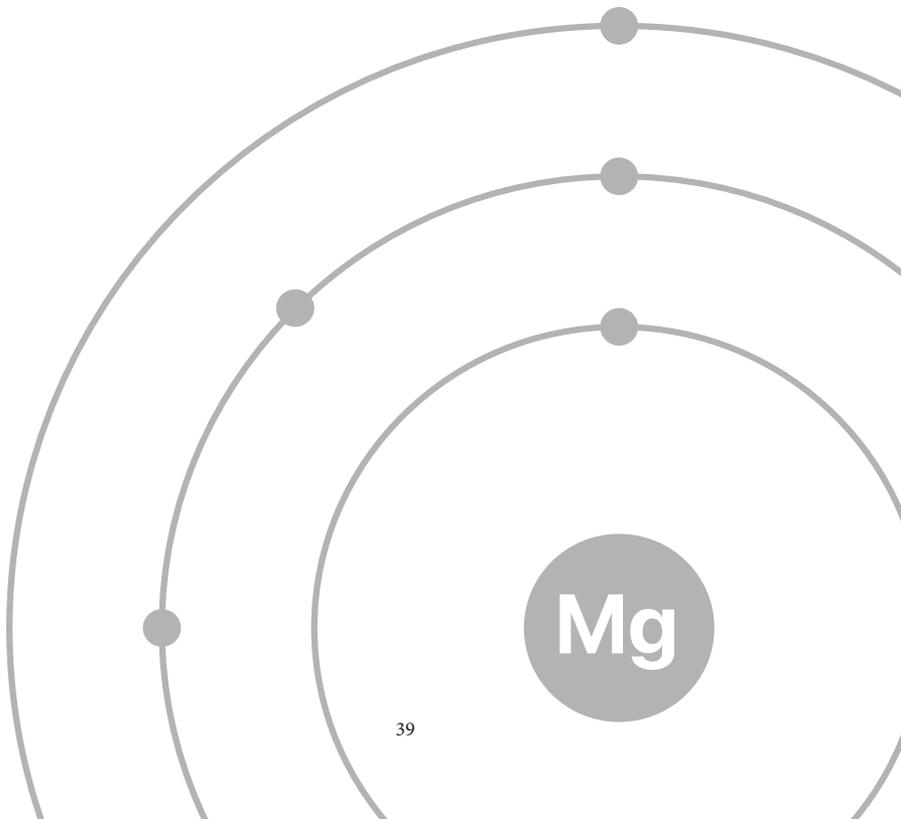
*Magnesium is Mother Nature's secret weapon for Detox**

Detox is hot right now. But, Mother Nature knew the importance of detox millions of years ago, and provided the solution! Yes, magnesium.*

- Magnesium (specifically the malate form) binds to heavy metals such as aluminum and lead and removes them from your body.*
- Magnesium supports healthy bowel movements (specifically the malate form) to remove toxic waste from your body.*
- Magnesium is an important component of your entire liver detoxification process to help eliminate harmful toxins.*

Magnesium Recommendation: _____

✓ *Magnesium Malate*





CHAPTER EIGHT

Your Heart and Magnesium

Unlike other organs and muscles in your body, your heart has its own “electrical generator” – a specialized group of cells located in your heart’s upper right chamber (right atrium). This group of cells creates a series of electrical impulses that make your heart pump blood in an even, continuous flow.

Adenosine triphosphate (ATP) is a central metabolite that plays fundamental roles in converting proteins, carbohydrates, and fats into the energy that fuels your generator. But, ATP must bind to magnesium in order to be biologically active. ATP is essential for life, and magnesium is what brings ATP to life. So, without adequate levels of magnesium, your body simply cannot meet all of its energy needs.*

That’s why magnesium is the most essential nutrient for promoting and maintaining heart and cardiovascular health.*

According to Dennis Goodman, M.D., a Clinical Associate Professor of Medicine at New York University, and the Director of Integrative Medicine at New York Medical Associates in Manhattan, “Research shows that...magnesium is the most essential nutrient for promoting and maintaining proper heart function.”*

A 2018 review of studies, randomized controlled trials, and meta-analyses, published in the February 2018 journal *Nutrients*, concluded that, “...higher (magnesium) Mg intake, either dietary or via supplements, is associated with a protection against cardiovascular (health) risk factors...”*

Important Heart Health Warning:

Are you taking loads of Vitamin D and calcium to support your bone health?

Without Magnesium, Vitamin D and calcium can be dangerous for your heart.*

If you’ve reached a certain age, you’ve most likely been advised to take your calcium and Vitamin D.

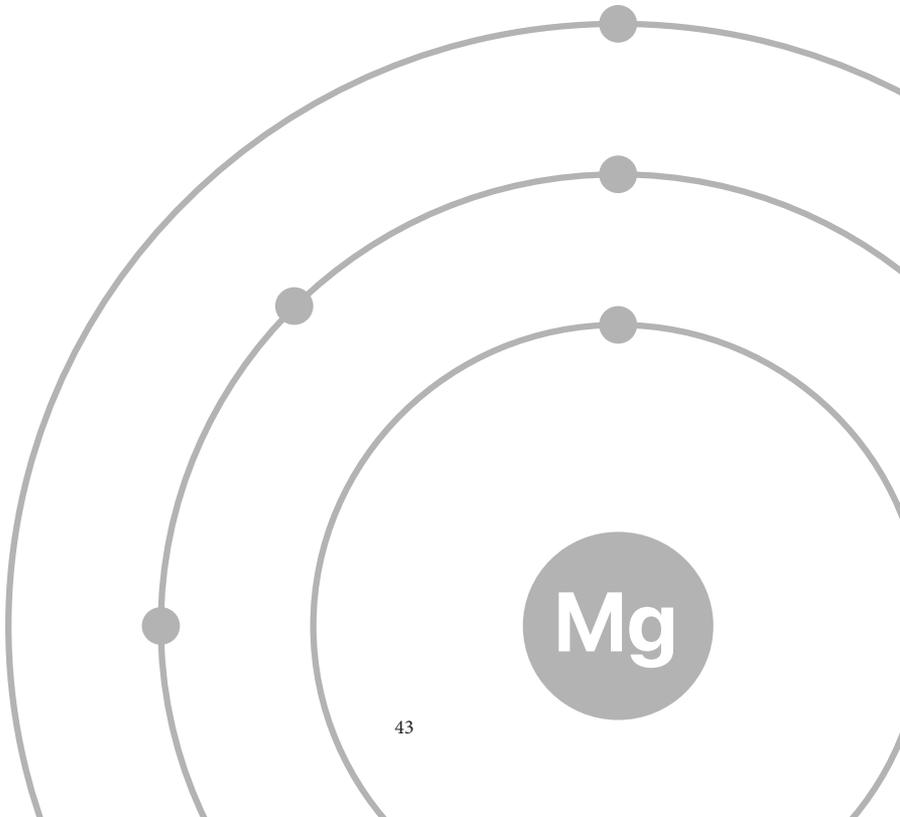
You probably won’t hear this from your doctor, but if you’re not also taking magnesium, you could be creating a dangerous health situation.

A review published in *The Journal of the American Osteopathic Association* found that Vitamin D can’t be metabolized

without sufficient magnesium levels. It's essentially useless. Unfortunately, the useless Vitamin D isn't flushed from your body. It's stored. This, in turn, can increase calcium and phosphate levels, possibly leading to vascular calcification.*

Magnesium Recommendation: _____

✓ *Magnesium Glycinate*





INTELLECTUAL
VISION

COMPARISON

CAUSALITY

EVENTUALITY

LOCALITY

TIME

INDIVIDUALITY

LANGUAGE

CODE

LANGUAGE

CHAPTER NINE

Your Brain and Magnesium

Whole body health is pretty important. After all, who wants a tip-top body without a tip-top brain?

You may think your brain is being nourished and protected because you're doing a good job of supporting your body with nutrients, but that may not be so.

You see, the blood-brain barrier (BBB) is like a fortress, blocking most blood-borne materials from leaking into your brain tissue.

That's why over 95% of drugs are blocked!

But your brain needs certain nutrients to function properly and battle aging. Magnesium is a critical mineral for learning and short and long-term memory. Scientists have recently been surprised by the discovery that magnesium also plays

an essential role in supporting brain plasticity – your brain’s ability to change at any age.*

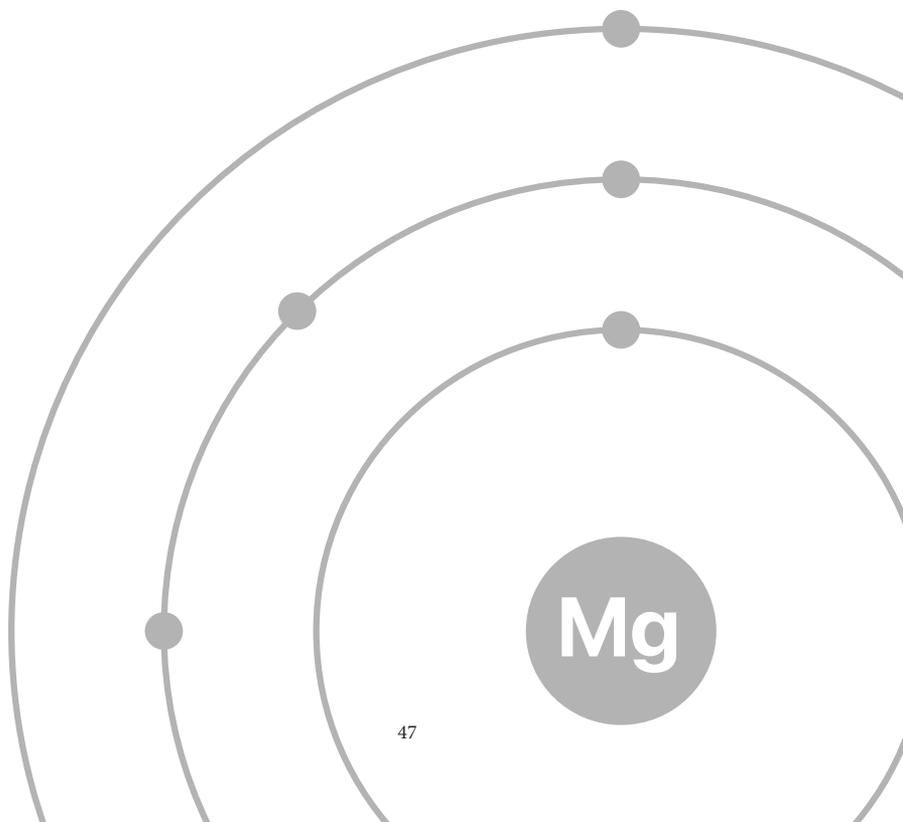
According to Dr. Inna Slutsky of Tel Aviv University’s Sackler School of Medicine, a study recently published in the scientific journal *Neuron* made it clear that “...today’s over-the-counter magnesium supplements don’t really work (in that) they do not get into the brain.”

Is there a magnesium that is allowed to cross the BBB? Yes. It’s called Magnesium L-Threonate, and was discovered by a group of scientists from MIT, including a Nobel Prize laureate.

Numerous animal and human clinical studies have demonstrated that Magnesium L-Threonate permeates the BBB, enhancing the receptors involved in supporting healthy short-term and long-term memory and improving learning abilities.*

Magnesium Recommendation:

✓ *Magnesium L-Threonate*





CHAPTER TEN

Children and Magnesium

Unlike adults who primarily want to prevent health issues or recover better and stronger from a health issue, children need a safe, nutritional foundation to help them develop, grow, and thrive.

Two important pillars of that foundation are sleep and poop.

The American Academy of Pediatrics (AAP) supports the American Academy of Sleep Medicine (AASM) guidelines outlining recommended sleep duration for children from infants to teens.

They recommend the following sleep hours:

- Infants 4 months to 12 months should sleep 12 to 16 hours per 24 hours (including naps) on a regular basis to promote optimal health.

- Children 1 to 2 years of age should sleep 11 to 14 hours per 24 hours (including naps) on a regular basis to promote optimal health.
- Children 3 to 5 years of age should sleep 10 to 13 hours per 24 hours (including naps) on a regular basis to promote optimal health.
- Children 6 to 12 years of age should sleep 9 to 12 hours per 24 hours on a regular basis to promote optimal health.
- Teenagers 13 to 18 years of age should sleep 8 to 10 hours per 24 hours on a regular basis to promote optimal health.

The AAP found that adequate sleep duration for age on a regular basis leads to improved attention, behavior, learning, memory, emotional regulation, quality of life, and mental and physical health.

Occasionally, children have trouble calming themselves enough to fall asleep in a reasonable amount of time. But when this becomes a nightly event, it's not only difficult for the child and parents, it can also be quite serious in terms of the child's health. According to the AAP, "Not getting enough sleep each night is associated with an increase in injuries, hypertension, weight gain, and dark moods, especially for teens..."

Are Belly Cramps interfering with sleep?

Reader's Digest article recently shared the nutrients top pediatricians recommend and give their own kids. Magnesium was at the top:

“The typical American diet is low in magnesium, and can lead to difficulty relaxing, muscle tension, constipation, and headaches,” says Dr. McAllister. “Magnesium helps soothe and relax the gastrointestinal tract, which makes it an excellent remedy for occasional constipation. This is why so many over-the-counter constipation remedies include magnesium, such as Milk of Magnesia and magnesium citrate.”*

But are laxatives safe for children?

In 2015, the FDA released information that very small amounts of ethylene glycol and diethylene glycol have been found in some samples of laxatives that are comprised of PEG 3350 (the active ingredient in Miralax and other generic laxatives).

Mother Nature's Solution for a Calmer Nighttime, a Calmer Belly, and Regular Poops.

Magnesium can be a safe solution – as long as you're giving your child the right type of magnesium in the appropriate amount for their age.*

Recommended Daily Intake for Magnesium by Age

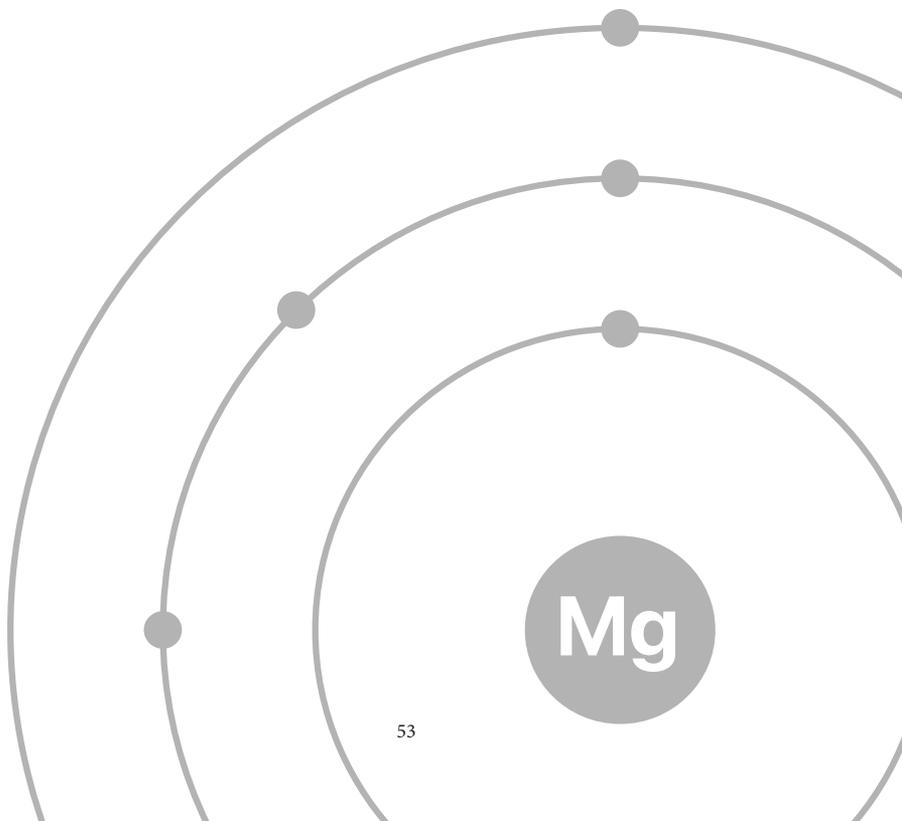
| Life Stage | Men | Women | Pregnancy | Lactation |
|------------|-------|-------|-----------|-----------|
| Ages 1-3 | 80mg | 80mg | - | - |
| Ages 4-8 | 130mg | 130mg | - | - |
| Ages 9-13 | 240mg | 240mg | - | - |
| Ages 14-18 | 410mg | 360mg | 400mg | 360mg |
| Ages 19-30 | 400mg | 310mg | 350mg | 310mg |
| Ages 31+ | 420mg | 320mg | 360mg | 320mg |

Please do not give your child magnesium oxide (the ingredient in Milk of Magnesia). It's harsh and can cause diarrhea, especially dangerous in small children. And, it's not recommended for regular use.

Magnesium glycinate is calming, helps with cramps and tummy issues, and gently helps with daily poops. Your child wants to be regular and magnesium glycinate can help with that.*

Magnesium Recommendation: _____

✓ *Magnesium Glycinate*





Best Sources of Magnesium

Magnesium is not produced in your body the way certain vitamins are. You have to get magnesium through food or water.

That used to be possible, but a landmark study published in the 2004 edition of the *Journal of the American College of Nutrition*, discovered that between 1950 and 1999, over-farming and topsoil depletion has led to nutrient reductions of up to 38% in 43 of the most common fruits and vegetables.

In addition, many widely prescribed medications, as well as popular over-the-counter drugs, drain your body of magnesium, including: diuretics (like Lasix) and other blood pressure drugs (ACE inhibitors), protein pump inhibitors (like Prilosec, Nexium, and Zantac), antacids (like Maalox and Tums), antibiotics (Amoxicillin, the Z-Pak, Cipro, and Keflex), corticosteroids (like Flonase), oral contraceptives, hormone

replacement therapy medications, even the popular Ritalin prescribed for adults and children.*

There are always almonds...but...

A 1-ounce serving of almonds is about 23 almonds and provides 60 mg of magnesium. There are 164 calories per serving. Women would need 6 servings, and that equals 984 calories. Men need 7 servings, and that equals 1,148 calories. Every day. In addition to your normal meals!

Adding that many extra calories each day means you'll probably gain unwanted weight.

But even if you could eat all those almonds every day, even if every medication was magnesium-sparing, even if you weren't stressed out by paying bills or looming deadlines, there's a reason for low magnesium levels that you and I can't avoid.

Getting older. You see, magnesium absorption from your gut decreases and your kidneys flush out more magnesium as you get older.*

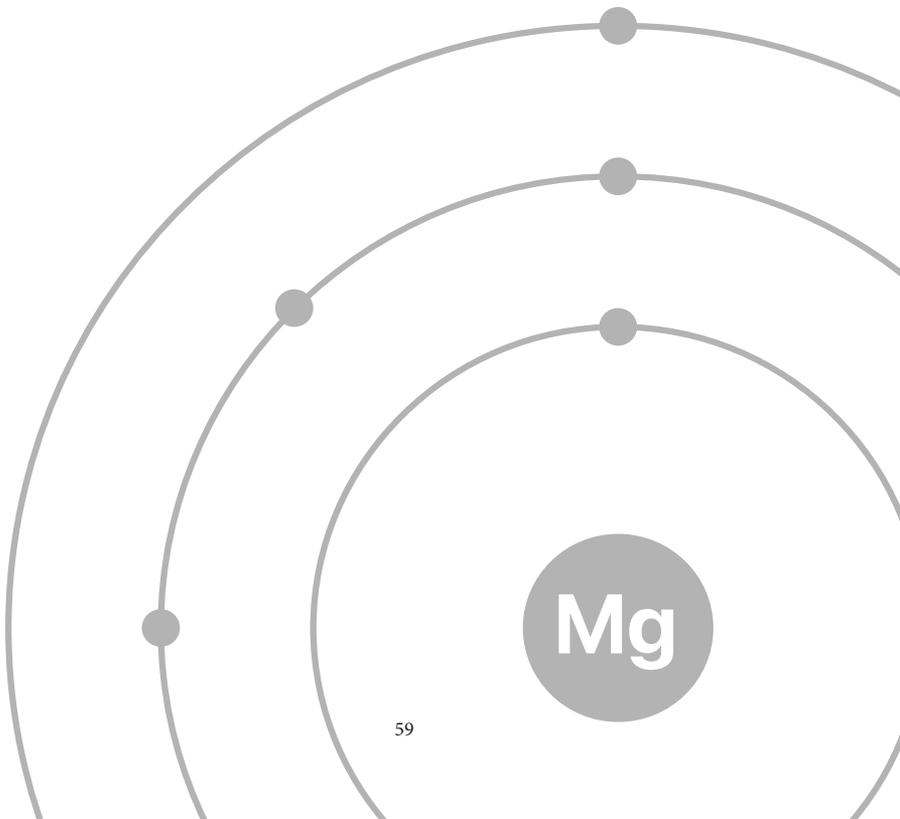
That's why many doctors and cardiologists recommend taking a daily magnesium supplement.

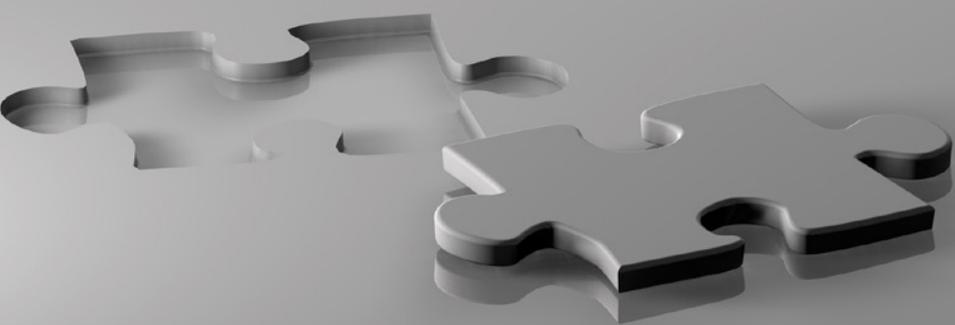
Here are the top 5 things you need to know before buying a magnesium supplement.

1. Magnesium oxide is often used in many multivitamin and mineral formulas because it's cheap and it's easy to add to a pill. But that's the same type of magnesium in Milk of Magnesia – you don't absorb it well and it can cause explosive diarrhea.*
2. The most absorbable forms of magnesium end with an -ate, such as magnesium malate, magnesium glycinate, and magnesium L-Threonate.*
3. Many magnesium supplements are just pixie dust and fillers. Some contain toxic heavy metals because they're made outside the USA. Want to be sure your magnesium supplement is pure? Look for one that's been label claim verified by a 3rd party lab – that's the only way to know that what's on the label is in each pill and nothing else.
4. The #1 way to improve your magnesium levels is with a magnesium that ends with -ate and also provides a gentle, timed release. That way your body absorbs it without all the drama of diarrhea.*
5. Magnesium is recommended for everyone over the age of 18 months. Here is the recommended daily intake:

Recommended Daily Intake for Magnesium by Age

| Life Stage | Men | Women | Pregnancy | Lactation |
|------------|-------|-------|-----------|-----------|
| Ages 1-3 | 80mg | 80mg | - | - |
| Ages 4-8 | 130mg | 130mg | - | - |
| Ages 9-13 | 240mg | 240mg | - | - |
| Ages 14-18 | 410mg | 360mg | 400mg | 360mg |
| Ages 19-30 | 400mg | 310mg | 350mg | 310mg |
| Ages 31+ | 420mg | 320mg | 360mg | 320mg |





For More Information

We hope this Guide has been a helpful source of information on the best form of magnesium to take, depending on the health concerns you're dealing with.

To learn more about magnesium:

Magnesium Advocacy Group – The Root Cause Protocol

<https://therootcauseprotocol.com/about/>

Magnificent Magnesium by Dennis Goodman, M.D.

<http://www.dennisgoodmanmd.com>



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1-888-352-5050 (TOLL-FREE)

Mg

Do you want to start taking Magnesium?

If you'd like to purchase the types of magnesium discussed in this book — *Magnesium Malate, Magnesium Glycinate, and Magnesium L-Threonate* — simply go to **JigsawHealth.com** or call **1-888-352-5050 (TOLL-FREE)**.

As our gift and acknowledgement to you for reading this guide, and taking action to improve your magnesium levels, please use the code below and **take \$10 off your entire order!**

COUPON CODE:

MagBook10

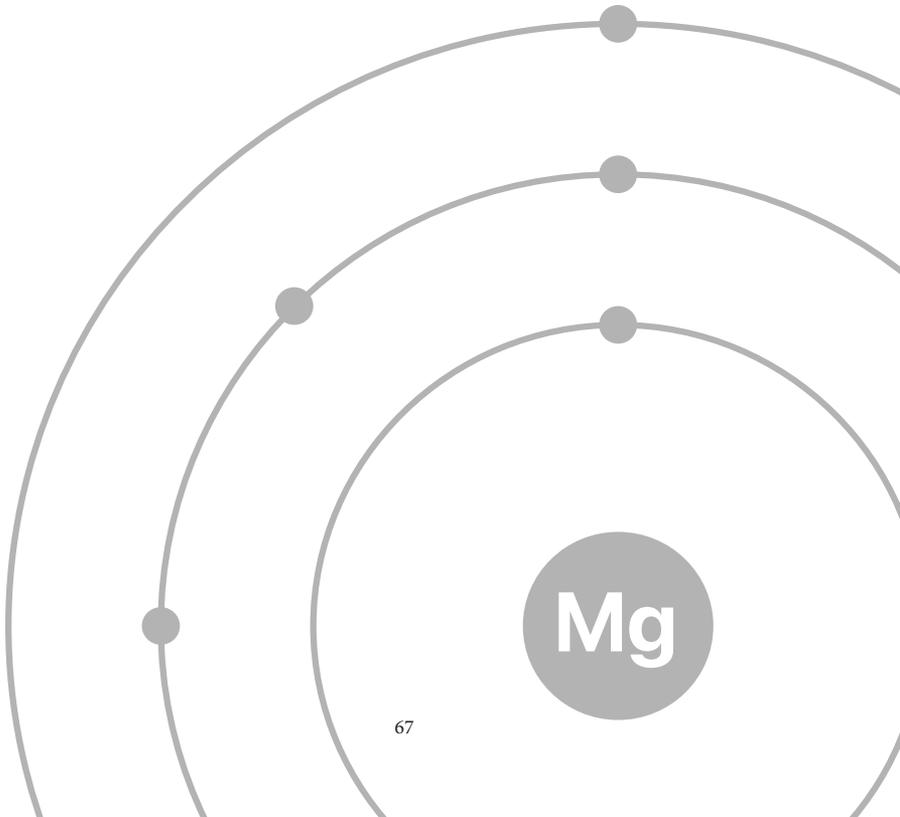
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