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magnesium-rich

Magnesium

It's the essential anti-inflammatory nutrient that's being ignored

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If you've had a massage at PalmLeaf massage, you've probably heard the advice "Relax in a bath with Epsom salt." The reason that such good advice is that Epsom salt contains magnesium which you will absorb through your skin. Magnesium is essential for the detoxification process and when you sweat—yes, you sweat underwater—you are sweating out toxins. In addition, the warm water and the magnesium are relaxing and calming, both for the muscles and the mind.

While calcium gets all the attention, magnesium is being ignored. **The truth is that calcium is pro-inflammatory and magnesium is anti-inflammatory.** Without magnesium, calcium cannot enter the bones, but instead is deposited in the arteries (hardening of the arteries), joints (arthritis), kidneys (kidney stones), muscles (cramps and tension). Too much calcium without the balancing effects of magnesium is a root cause of inflammation and muscle spasms that contribute to the diseases of modern civilization including type 2 diabetes, stroke, heart disease, high blood pressure, fibromyalgia, chronic fatigue syndrome, asthma, depression and many others.

"Addressing a magnesium deficiency can make your massage treatments even more effective."

Magnesium is essential to at least 700 enzyme systems. Magnesium is required for:

- Building strong bones and teeth
- Keeping muscles relaxed and ready to do their job
- Transmitting nerve signals
- Detoxing chemicals and heavy metals
- Producing and transporting energy
- Digesting protein and sugar (It takes 84 atoms of magnesium to digest one molecule of table sugar!)
- Production, function and transportation of insulin

*The magnesium numbers are based on 100 grams of food. Buckwheat (218 mg), Almonds (269mg), Cocoa Powder (420mg), Sunflower Seeds (359mg), Hazelnuts (140mg), and Dark Chocolate (165mg).

Unfortunately, food is deficient in magnesium causing virtually everyone to need more of this essential mineral. The food is deficient because the soil is deficient. The soil is deficient because modern farming techniques don't use mineral fertilizer and instead use pesticides that bind magnesium making it unavailable to the plants. Organic produce has been shown to have a higher nutrient content in general, but it's no guarantee of sufficient magnesium.

In addition, the stress of a modern lifestyle depletes magnesium. It's a double blow because magnesium fights stress. Lowered magnesium levels add to stress and stress lowers magnesium levels. Magnesium is also depleted by medications. Diets high in sugar and sodium cause the kidneys to excrete more magnesium in the urine. And diets high in saturated fat decrease absorption of magnesium. To make matters worse, digesting a meal high in fat and sugar requires extra magnesium.

The more calcium you get, the more magnesium you need. Because Americans get so much calcium from dairy, hard tap water, fortified foods and supplements, we have created magnesium deficiency by default. The optimal ratio is equal amounts of calcium and magnesium. (It may surprise you to find out that the World Health Organization sets the daily requirement for calcium at only 500 mg. compared to the USRDA of 1,000-1,200 mg.! Most supplements contain twice as much calcium as magnesium due to a mistranslation of a French research paper.)

Magnesium is essential to balance calcium for both proper muscle function and strong bones. Without sufficient magnesium muscles cannot relax and calcium cannot enter the bones. Magnesium is also essential for producing energy. Fatigue and muscle weakness are signs of magnesium deficiency.

Muscles that suddenly go into spasm or remain tight for prolonged periods of time indicate the need for more magnesium. Calcium is required for muscle fibers to contract and magnesium is required for them to relax. Myofascial trigger point massage is an effective technique to break up muscle adhesions that form when there is an extended period of muscle tension or disuse, but without magnesium it is impossible for muscles to relax. **Addressing a magnesium deficiency can make your massage treatments even more effective.**

Symptoms of magnesium deficiency may include:

- Pain such as fibromyalgia, menstrual cramps, migraines, tension headaches, muscle twitches and cramps, especially nighttime leg cramps and muscles that are tight or weak
- Emotional issues such as anxiety, jitteriness, depression, paranoia, irritability, restlessness and PMS
- Mental problems like difficulty concentrating, forgetfulness and dementia
- Assorted conditions including fatigue, insomnia, cold hands and feet, prickling skin, abdominal fat, insulin resistance and feeling a "lump in the throat"

How much magnesium is needed?

The US recommended daily allowance for magnesium is 320 mg for women and 420 mg for men. Pregnant and breastfeeding women need more; adults under 30 years old need slightly less. Absorption decreases as we age. The typical gap between what is ingested from all sources of food and supplements and what is recommended is 170 mg, but individual situations can vary tremendously.

Many experts believe even more is needed and recommend 3.5–4.0 mg per pound of body weight per day. For example, a person who weighs 150 pounds needs 525–675 mg of magnesium every day.

When reading supplement labels, be sure you are looking at how much elemental magnesium you are getting and make note of how many pills you have to take to get that amount. For example, 500 mg of magnesium citrate (the magnesium salt) contains 75 mg of elemental magnesium and 425 mg of citrate. It's the elemental magnesium that really counts.

If you would like to try magnesium supplementation to see if your magnesium deficiency symptoms improve, keep these points in mind:

- Magnesium is considered a safe supplement because your body is designed to eliminate any excess magnesium every day. Never the less, it's always advisable to consult with your doctor about how supplements may affect your personal situation. It is especially important to talk to your doctor about the possible need to reduce your medications as your magnesium level increases. Before surgery, tell your anesthesiologist about magnesium supplements; you may need less muscle relaxant.
- **Do not take magnesium supplements if you have kidney failure, myasthenia gravis, excessively slow heart rate or bowel obstruction.** Talk to your doctor or a dietitian about safe ways to increase your magnesium.
- The magnesium RBC test and the EXATest are more reliable indicators of magnesium status than the serum magnesium test. The optimum level is 6.0–6.5 mg/dL.
- It is advisable to ramp up slowly to allow your body time to adjust.

Types of magnesium supplements

Magnesium content of selected supplements

| Type of magnesium salt | Amount of elemental magnesium in 500 mg of magnesium salt | Benefits |
|------------------------|---|---|
| Dimagnesium Malate | 95 mg | Malate fights fatigue, insomnia and muscle pain |
| Magnesium Malate | 75 mg | |
| Magnesium Citrate | 75 mg | Inexpensive, powder is good for those who have trouble with pills |
| Magnesium Chloride | 60 mg | Chloride aids digestion and absorption |
| Magnesium Taurate | 50 mg | Taurate benefits the heart |

- Magnesium citrate is inexpensive and easy to find at drugstores and health food stores. It is the most widely used form of magnesium and is available as pills or a powder that can be stirred into water or juice.
- Magnesium chloride is available as pills or powder. The chloride molecules can improve absorption. To overcome the bitterness, stir the powder into citrus juice or water with a drop of citrus oil in it.
- Magnesium malate, dimagnesium malate and magnesium taurate are well absorbed and may have less of a laxative effect other forms of magnesium, but individual reactions vary. Dimagnesium malate is the most concentrated which should mean smaller, easier-to-swallow pills.
- Magnesium malate and dimagnesium malate are good forms of magnesium for people with fibromyalgia because, in addition to the magnesium, the malate (malic acid) helps with insomnia, fatigue and pain. Fruits and vegetables, especially apples, also contain malic acid.
- Magnesium taurate is especially beneficial for people with heart disease. The magnesium and the taurate (taurine) work together to stabilize cell membranes and calm the nervous system.
- Magnesium oxide is only 4% absorbed and therefore, is not recommended.
- Do not take magnesium glutamate or magnesium aspartate; they breakdown into substances called neurotoxins that kill brain cells. Magnesium glutamate becomes glutamic acid (also found in monosodium glutamate or MSG) and magnesium aspartate becomes aspartic acid (also found in aspartame, Equal and NutraSweet).

There are ways to reduce the laxative effect:

- Spread out your doses. Taking your supplemental magnesium two or three times a day, instead of once a day, will increase absorption and decrease the laxative effect.
- Magnesium oil is magnesium chloride dissolved in water (not an oil) that is absorbed through the skin. To use, spray it on your skin, allow it sit for 20–30 minutes, then wash off the white crystals that are left. There is no laxative effect since it is not ingested, however, it may sting a little.
- ReMag is a specially formulated magnesium that is absorbed at the cellular level. It is taken orally, but is also absorbed through the skin. Since it is 100% absorbed, it cannot cause a laxative effect. You can buy ReMag at www.drcarolyndean.com.
- Soak for 20–40 minutes in a bath with two cups of Epsom salt (magnesium sulfate). Oils and soaps interfere with absorption. People with diabetes are cautioned against soaking in an Epsom salt bath.
- Reduce your need for supplements by eating more magnesium containing foods. One reason that a whole-foods, plant-based diet improves health is because the magnesium levels are higher than the standard American diet. The best food sources are organic nuts and seeds, beans and legumes, whole grains, leafy greens, sea vegetables (think sushi), tofu (made with magnesium chloride) and blackstrap molasses. Cocoa powder and chocolate are high in magnesium, but the high sugar and fat content make them less desirable sources of dietary magnesium. 50% of the magnesium in food and water is absorbed. Magnesium is water soluble, so steaming vegetables preserves more magnesium than boiling them. For more information about a whole-foods, plant-based diet, read the article “Eat the PalmLeaf Way.” at <http://palmleafmassage.com/reduce-inflammation-eat-the-palmleaf-way/>
- Cardia Salt is a salt substitute that can improve the balance of minerals by decreasing sodium intake and increasing the intake of both magnesium and potassium. Cardia Salt is especially beneficial for people with high blood pressure, but be aware that the potassium it contains can interact with some medications causing potassium to get too high. Cardia Salt is available on Amazon.com.

For more information, read the book “The Magnesium Miracle” by Carolyn Dean, M.D., N.D. Some of the information in the book is available on the author’s website, www.drcarolyndean.com, where you may also buy her products, including ReMag. This article contains a fraction of the information in the book.

Sources:

The Magnesium Miracle, by Carolyn Dean, M.D., N.D.
www.drcarolyndean.com
www.nutritionalmagnesium.org



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For more resources and more about PalmLeaf Massage Clinic, please visit PalmLeafMassage.com

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