

The Benefits of Magnesium on the Thyroid



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According to studies done by the [American Thyroid Association](#), roughly 20 million Americans suffer from some type of thyroid disease, with 60% of this population living unaware of their disorder. Hypothyroidism is more common than hyperthyroidism, with the former being caused the thyroid gland not producing enough of its hormone. Living with hypothyroidism isn't easy but for many it is a very manageable condition when they are either put on a medication or change their lifestyle.

Typically physicians will treat hypothyroidism with a [synthetic hormone replacement](#), however, these types of medications generally treat the symptoms rather than the cause. The purpose of the

medication is to add the thyroid hormone the patient is missing back into the body, but this treatment fails to address the cause of why the thyroid isn't functioning properly in the first place. Rather than relying purely on fixing the symptoms, some doctors and other health authorities have discovered that long-term success of thyroid disease could be linked to something as simple as a magnesium deficiency.

Why is Magnesium Important?

Magnesium is an incredibly vital mineral found in the human body. Sadly other minerals like calcium and iron tend to take the spotlight, leaving many adults oblivious to how important magnesium is.

Magnesium plays an important role in a wide range of body functions. Over 300 different enzyme systems within the body rely on magnesium to function properly. Some of these important system functions include:

- Synthesis of protein
- Healthy nerve function
- Blood sugar level balance
- Regulation of blood pressure
- Energy production
- Development of bone
- Synthesis of DNA and RNA

Statistics gathered by the NIH show that otherwise healthy people typically don't show signs of a magnesium deficiency, but people that have experienced a decline in health or consume a diet habitually low in magnesium will develop symptoms. The NIH has also discovered a correlation between magnesium deficiencies and people with a gastrointestinal disease, type 2 diabetes, and alcoholism. Diet aside, another significant contributing factor of a magnesium deficiency is interference from other medications. This is a common cause of symptoms in the elderly or those on medications for other chronic diseases.

The earliest signs of a magnesium deficiency include:

- Loss of appetite or difficulty eating
- General nausea and/or vomiting
- Overall body weakness and fatigue
- Mental "fog" and difficulty focusing

If left untreated these symptoms can begin to seriously affect health. Muscle cramps and spasms, tingling or numbness in extremities, unusual heart rhythm, and even seizures can occur. Since magnesium is so important for overall body health, a deficiency can lead to other serious disorders like hypocalcemia or hypokalemia. Calcium and potassium both rely on magnesium to function, and when this cycle is interrupted it causes a negative chain reaction.

How Does Magnesium Benefit Thyroid Disorders?

Magnesium clearly affects the entire body and naturally will interact with thyroid functions, both directly and indirectly. There are three major ways magnesium directly affects the thyroid.

Firstly, there are two types of thyroid hormones – T3 and T4. The thyroid hormone T4 is an inactive hormone that the thyroid produces. When activated this T4 hormone turns into T3, which is when the thyroid hormones begin to positively impact cell functions in the body. Magnesium performs double-duty when it comes to this process. Not only does magnesium stimulate the thyroid gland to produce more T4, but it simultaneously changes T4 into T3. This is a huge reason why magnesium is so vital.

There is also a strong correlation between magnesium and the development of goiter. Goiter is simply an enlarged thyroid, commonly caused by an iodine deficiency or an overactive thyroid (hyperthyroidism). Iodine and magnesium, like so many other vitamins and minerals, work together to perform at their peak. It is possible that even if you're consuming sufficient iodine in your diet or through supplementation, your body isn't able to access it properly due to a magnesium deficiency.

As for hyperthyroidism, even though magnesium deficiencies tend to be linked to hypothyroidism (or an underactive thyroid), this mineral is still vital for overall hormone balance. When your body has the proper magnesium stores it can help produce more thyroid hormones but also prevent overproduction of thyroid hormones. Even if you're experiencing symptoms of an overactive thyroid magnesium will still help.

How Do You Improve Thyroid Function with Magnesium?

There are two ways to harness the power of magnesium to improve thyroid function – changing the diet and taking supplements. The very first step in addressing concerns involving a poorly functioning thyroid, aside from seeing a physician, is to improve the diet. The average American doesn't eat the type of diet they should be, especially when it comes to getting their recommended daily servings of

fruits and vegetables. This becomes an issue over time since a diet high in a variety of said produce is the best natural source of magnesium.

Some important dietary sources of magnesium include:

- Raw Spinach
- Soy Beans
- Brown Rice
- Avocados
- Mackerel
- Yogurt

Raw leafy greens are one of the highest sources of magnesium you can get in your diet. Kale, collard greens, and swiss chard, as well as the previously mentioned spinach, should all be consumed on a regular basis. An easy way of ensuring you get plenty of leafy greens in your diet is to do green smoothies, especially when paired with high-magnesium fruits like avocado and banana.

Changing your diet is really important but it will take time before your body's magnesium stores are filled and functioning as they should be. While you wait for the diet to take effect, it isn't a bad idea to also take a magnesium supplement. This is a good idea if you are unable to consume a proper diet on a regular basis, if you're on medications that deplete magnesium, or otherwise are concerned you may not be getting enough magnesium. While typically you can't overdose on a magnesium supplement, it is possible to experience unpleasant side-effects. Whenever you introduce a new supplement into your regimen, it's always a good idea to first consult your doctor.

As far as magnesium supplements go there are a few options, including:

- **Magnesium Chelate** – One of the best types as it replicates the magnesium naturally found in foods. For the otherwise healthy individual looking to maintain magnesium storage, this is the best supplement to go with. This option is also much gentler on the stomach.
- **Magnesium Citrate** – Often used by those pursuing magnesium supplementation for digestive ease or treating constipation. Can cause a laxative effect when taken in too high of a dose.
- **Magnesium Glycinate** – This option is most often chosen for those experiencing magnesium deficiency side effects or those with a thyroid disorder. It is easily absorbable by the body and easy on the digestive tract like magnesium chelate.
- **Magnesium Threonate** – Unfortunately this supplement is rare to find, despite seeming to be a very effective magnesium supplement. It is one of the most absorbable options as it can penetrate mitochondrial barriers.
- **Magnesium Chloride Oil** – As the name suggests this magnesium supplement is in liquid form, commonly referred to as oil. Magnesium oil can penetrate the skin and still be absorbed by the

body, though less effective. This can be useful for helping sores joints and body pain, and it also a good choice for those with very sensitive stomachs.

Magnesium supplements can be found in many stores that carry vitamins and minerals. Purchasing online is another option, and one preferred by many as higher-quality brands are more accessible and effective compared to generic options.

While more studies are being done on the link between magnesium and thyroid, so far it is clear that healthy magnesium stores are vital for overall body health, including the very important thyroid gland. Magnesium supplements are ideal for preventing a magnesium deficiency or as an additional tool for those suffering from a thyroid condition. It is usually found in thyroid support supplements along with other essentials such as [ashwagandha](#), [iodine](#), [L-tyrosine](#), and [selenium](#). If you are already on medication for a thyroid condition be sure to consult your doctor about the advantages of also taking magnesium.

Resources

- “Magnesium – Fact Sheet for Health Professionals” – National Institutes of Health
<https://ods.od.nih.gov/factsheets/Magnesium-HealthProfessional/>
- “Magnesium Metabolism in Hyperthyroidism and Hypothyroidism” – The Journal of Clinical Investigation
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC292768/>
- “Serum Magnesium in Thyroid Disease” – The Journal of Clinical Investigation
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC435195/>
- “About Hypothyroidism” – American Thyroid Association
<http://www.thyroid.org/media-main/about-hypothyroidism/>
- “Top 10 High Magnesium Foods You Can’t Miss” – HealthAliciousNess.com
<https://www.healthaliciousness.com/articles/foods-high-in-magnesium.php>