

Magnesium Oil

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Magnesium is one supplement that stands apart from the others. That's because most people are deficient in this essential mineral, due to the over-processing of the foods we eat, and treatment of the water we drink. Yet the health sector is generally unaware of the important role played by a magnesium deficiency.

Magnesium is involved in over 300 metabolic processes in the body for creating energy and maintaining healthy function. It is a key co-factor for important enzymes that affect our well-being. It is essential for neuro-muscular signalling that affects our ability to think and move. It is essential for cardiac muscle activity as well as the health of our arteries. In fact, magnesium is used in virtually every activity in the human body.

The health benefits of magnesium have been studied for many years, and a deficiency is associated with a host of conditions including bone diseases, heart disease, hypertension, arrhythmias and irregular heartbeat, muscle cramping, twitching and others. Let's look at some of the more common conditions:

High Blood Pressure - Magnesium supplements have helped many people reduce high blood pressure. It is a known fact that calcium enables blood vessels to contract which thereby increases blood pressure, whereas magnesium helps blood vessels to relax which reduces blood pressure. You may be aware that there is a range of blood pressure drugs called Calcium Channel Blockers prescribed to stop the flow of calcium into the blood vessels. Magnesium similarly stops the flow of calcium into the blood vessels and has been called the 'natural' Calcium Channel Blocker.

Osteoporosis and Arthritis - Magnesium deficiencies can lead to condition such as osteoporosis and arthritis. Whilst these diseases are usually associated with calcium, there is often an underlying magnesium deficiency. If you look at the Elemental Atomic Table you will see that calcium and magnesium are in the same column immediately next to each another. In nature, calcium and magnesium go 'hand in glove'. However the diet today is heavily weighted in favour of calcium. The end result is that 'calcium associated' diseases are often 'magnesium deficiency' diseases.

Muscular Diseases - Magnesium plays a key role in relaxing the muscles, and is considered the anti-stress mineral. Magnesium has a direct effect on the heart muscle and helps to prevent arrhythmias and irregular heartbeat. A magnesium deficiency can lead to cardiovascular problems causing heart attack and stroke. A magnesium deficiency can also cause muscle cramping of the legs and arms. In regards to stress factors, magnesium deficiencies can cause migraines and muscle twitching. A most insightful book on the importance of magnesium is called *The Magnesium Factor* by Mildred S Seelig, MD.

Magnesium is an unusual mineral because the human body stores only about 20 grams (4 teaspoons) at the most. That's a small amount, and because the body uses it constantly, we need to 'top up' our reserves on a daily basis.

Natural Sources of Magnesium

So how should you get magnesium? The best solution is to eat foods rich in magnesium like whole grains, vegetables, nuts, beans, grains, seeds, fish, and other natural unprocessed foods. Be aware that with wheat and rice, most of the magnesium is contained in the bran and germ, which is removed during milling. So white flour and white rice are poor sources of magnesium, and have contributed to chronic magnesium deficiencies.

Even those who eat well are still likely to be short of magnesium, because traditionally we derived much of our magnesium from the drinking water supplied by our river systems and wells. This provided hard water rich in minerals. That situation rarely applies today, and furthermore, many people use water filters that remove minerals like magnesium. Consequently many people are getting insufficient magnesium.

Magnesium is one of the safest supplements to take, and an average size person may safely take 300mg of magnesium daily. But if you have a medical condition, always check with your health professional first. Make sure you get enough calcium in proportion to magnesium, and the recommended daily intake is a ratio of Calcium : Magnesium on a 2:1 basis. Most people generally get enough calcium due to the food that they eat, but if not, then it may be worth supplementing with calcium too. Most health food stores have a resident naturopath or nutritionist who can advise you.

One of the most versatile, but lesser known sources of magnesium supplement, is called Magnesium Oil.

Magnesium Oil

Most people are aware that sodium chloride is the predominate constituent of ocean water. However few people know that the second most prevalent element is magnesium which is in the form of magnesium chloride. It is one of the most absorbable forms of magnesium for the human body.

One of the therapeutic benefits of bathing in sea water is the natural minerals found in seawater such as magnesium. These minerals are absorbed through our skin from the sea water helping restore our mineral levels and contributing to our well-being.

So how is magnesium oil made?

The most common source is from dry salt lakes. The salt crystals from the dry lakes are put through a process, and the sodium chloride is removed, and the remaining product is a residue of magnesium chloride with a few other but lesser trace elements. This residue product can be dried and sold as Magnesium Flakes, or sold as a liquid that is called Magnesium Oil. This magnesium rich product is used in Japan as a coagulant for making [tofu](#) from soy beans and sold under the name of *Nigari*.

In more recent years we have become aware that the skin is very capable of absorption. Nicotine patches are an example of how drugs can be delivered via the skin in a manner that is safer, and also facilitates their 'slow release' over a longer period.

There is a general view that applying magnesium oil to the skin (i.e. transdermal application) is far superior to taking oral supplements. Applying magnesium oil directly onto the skin will raise magnesium levels in the body in the areas where needed. So someone suffering from foot cramps can readily obtain relief by rubbing magnesium oil onto the feet. Magnesium oil rubbed into the skin delivers high levels of magnesium to the body - whilst bypassing the digestive system - and thereby avoiding any intestinal and kidney symptoms that may be associated with magnesium tablets taken orally.

So one of the biggest benefits of transdermal application of magnesium oil via the skin, is that the intestines are not affected, thus allowing high amounts of magnesium to be safely administered without a laxative effect.

Magnesium Oil feels oily on the skin, although there is in fact no oil in the preparation at all. The oily feel is attributed to the magnesium chloride itself when dissolved in water at high concentrations.

A benefit of rubbing magnesium oil onto the skin, is that it can be applied where it is needed. For example, arthritis/rheumatism sufferers may experience relief by rubbing a few drops of magnesium oil onto the nearby skin, just prior to going to bed. The magnesium will then be absorbed over 1-2 hours and can offer excellent relief. Similarly, if someone is suffering from muscle cramping, rubbing magnesium oil directly onto the skin over the cramping area, can eliminate or dramatically reduce the symptoms. Magnesium chloride quickly passes through the skin and works immediately to reduce body pain.

When applying the oil to the skin, make sure you spend several minutes rubbing it in really well, so that the maximum amount is absorbed where it is needed.

How much magnesium oil should you apply transdermally?

One measuring teaspoon (5 ml) of magnesium oil equates to 400mg of elemental magnesium. Rubbing 1-2 teaspoons in to the skin would be ample for most people. However if you wish to rub higher amounts into the skin, that is OK, since the body will absorb only what it needs. The oil may be applied anywhere on the body, although it can cause a slight burning sensation on delicate skin for some people.

For any new product applied to the skin, it's a good idea to try a small amount first as a test. Some people have extremely sensitive skin. If the magnesium oil causes a burning or stinging sensation, then dilute it 50-50 or more with water. Some people put the magnesium oil in an aerosol bottle which they apply as a spray. Regardless of how you apply it, my suggestion is to apply it initially to your feet which are less sensitive, and then later to more sensitive areas. Some people even place it under their armpits as an effective deodorant.

For bathing applications, you can place 50ml (10 teaspoons) into the bath and soak your whole body aiming for about 30 minutes a day. It's very relaxing.

Some people apply magnesium oil transdermally, and at the same time take magnesium supplements orally. The oral supplementation can be either the tablets/capsule forms, or it can be magnesium oil dissolved in water. This approach is sometimes used in the very beginning when there is a deficiency of magnesium. While magnesium oil is well absorbed, it may be a good idea in the initial stages to take several forms for magnesium to allow maximum uptake by the body.

After your magnesium levels stabilize, you have more choice as to whether to apply magnesium oil transdermally, or to take magnesium orally. Remember that any magnesium taken orally is not absorbed as well as via transdermal application. My recommendation is transdermally apply magnesium oil regularly and see how that works. Keep some readily available to quickly reverse a deficiency if cramps occur or arthritis flares up.

One of the reasons orally-consumed magnesium of any kind is less effective, is because the body tends to eliminate some of it via the bowels. On the other hand, transdermally applied magnesium oil is absorbed directly into the muscles and other tissues, and bypasses the bowel. Another advantage of transdermal application is that the body seems to know how much to absorb, and it appears to adjust its rate of absorption depending upon its immediate needs.

How much magnesium oil can you take orally?

When you supplement orally with magnesium oil, take around 2/3 of a teaspoon of magnesium oil. That's around 250 mg of magnesium. Remember to dilute the magnesium oil in a container of water. Don't drink it straight as you would a medicine. You must always dilute the oil in water so that your digestive system is able to absorb it over time. You should dilute 2/3 of a teaspoon of magnesium oil by adding it to around 1.5L of water, and drink that throughout the day. Alternatively, you can put 3-4 drops of magnesium oil into your drinks during the day such as water, tea, coffee etc to achieve a total intake of 2/3 teaspoon equating to 250mg elemental magnesium per day. Anyone needing to take more than 250mg magnesium per day would be well advised to get the extra magnesium by applying it to the skin for transdermal absorption.

Magnesium Oil versus Magnesium Tablets

Magnesium Oil is the best way to get magnesium, because it is in the most abundant form found in nature, and the human body finds it easy to absorb via the skin.

The problem with magnesium tablets and capsules is they can have a laxative effect when taken at therapeutic doses. The dose required to correct a magnesium deficiency is 200 to 400mg of elemental magnesium daily, and in some cases up to 800mg, and this can cause watery stools.

Magnesium tablets and capsules are not very absorbable. There are many forms of magnesium tablets and they vary in their absorbability. Magnesium oxide is the cheapest form of magnesium supplement with less than 10% bioavailability, whilst the citrate and amino acid chelate version have less than 40% bioavailability.

Having said all that, there is no doubt that magnesium tablets and capsules are a very convenient form of magnesium supplement, and an excellent option if magnesium oil is not available or not convenient.

Where to buy Magnesium Oil

Magnesium oil is not a widely sold supplement and your health food store may not normally stock it. But they should be able to order it in, or otherwise you can buy it via the internet. There are a number of sources for buying magnesium oil. I use magnesium oil sold under the brand name 'Pink Lake Nigari' from Lake Crystal Pty Ltd based in Western Australia because I like to 'Buy Australian'. Their product is approved by the Biological Farmers of Australia and is deemed as a food ingredient in accordance with the BFA Organic Standard. It can be found in selected stores sold as *Nigari*. www.lakecrystal.com.au

Your health care professional

If you enjoy good health, and have no underlying medical condition, then you should be able to follow the recommended procedures for taking magnesium supplements as reviewed in this paper. Naturally if you have a medical condition or are uncertain about how to take mineral supplements, then always speak with a health care professional. It may be helpful to show him/her a copy of this paper.

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