

## Ancient Minerals Magnesium Oil

Ancient Minerals Magnesium Oil is an exceptionally pure source of magnesium chloride (MgCl<sub>2</sub>). Magnesium oil is a concentrated, aqueous solution containing high levels of magnesium and many trace minerals. When used transdermally (i.e., across the skin), magnesium oil is rapidly absorbed, thereby quickly boosting magnesium levels in the body. This effect not only can restore healthy levels of magnesium to muscles (and ultimately to cells throughout the body), but also thereby can provide the body with all the benefits associated with high levels of magnesium. Benefits may include the relief of aches and pains (e.g., as in fibromyalgia), increased energy (as magnesium is involved in the production of ATP), support of cardiac tissues and the cardiovascular system (magnesium being a natural muscle nourisher and relaxant), support of processes of detoxification, support of brain function (which depends upon ATP), improvement of mood and reduction of tension-related stress, support for healthy skin, and numerous other health benefits. Ultra Pure Ancient Minerals is the “Best Magnesium Oil” for Oral Applications and Transdermal Magnesium Therapy. In fact, Ancient Minerals is the magnesium recommended most by health professionals and respected researchers, including Daniel Reed and Dr. Mark Sircus.

Ancient Minerals Is Recommended by [MagnesiumForLife.com](http://MagnesiumForLife.com)

Website of Magnesium Expert Dr. Mark Sircus!

Author of Transdermal Magnesium Therapy

Founder of International Medical Veritas Assn (IMVA)

ANCIENT MINERALS MAGNESIUM OIL is an ultra-pure, highly-concentrated form of magnesium chloride (MgCl<sub>2</sub>) derived from the ancient Zechstein seabed in northern Europe. This magnesium oil is extremely pure because the seabed lies 1,600 to 2,000 meters beneath the surface of the earth, where it has been protected for 250 million years. The oil thereby provides high levels of magnesium and trace elements from pure, unpolluted deposits found in this ancient sea.

This extremely pure magnesium oil offers a very low sodium content. Note: Magnesium oil is actually not an oil, but instead is a high-density solution of concentrated magnesium chloride (33%) and trace minerals suspended in pure water. The texture of this mineral-saturated solution is slippery and often is described as “oil-like.” This health-giving solution thereby aptly is called “magnesium oil.” This solution is excellent for use directly upon skin because transdermal application offers a safe and effective means to raise and replenish magnesium levels in the body.

Ancient Minerals Magnesium Oil is ideal for use transdermally (i.e., acting across the skin surface) enabling the body to absorb as much magnesium as it may require. Unlike oral magnesium supplementation (which is characterized by certain limits on the rate and amount of uptake and assimilation), magnesium topically applied directly on skin (i.e., transdermal application) can rapidly and effectively raise tissue (and cellular) levels of magnesium. Topical application of magnesium oil simultaneously provides energy and relaxes muscles. This means you will be primed for peak performance, being relaxed and energized. You also will likely experience deeper, more restful sleep, and awaken surprisingly refreshed, ready for a new day.

## MAGNESIUM CHLORIDE (MgCl<sub>2</sub>)

### SOME BENEFITS / APPLICATIONS

- INCREASES ENERGY BY GREATER PRODUCTION OF ATP (ADENOSINE TRIPHOSPHATE) IN CELLS
- RELAXES MUSCLES / REDUCES MUSCLE TENSION
- BOOSTS VITALITY, ENDURANCE, AND STRENGTH
- IMPROVES CARDIOVASCULAR / HEART HEALTH (RELAXES CARDIAC MUSCLE)
- RELIEVES PAIN, INCLUDING CHRONIC PAIN
- IDEAL FOR ARTHRITIS / FIBROMYALGIA / JOINT PAIN
- IMPROVES HEALTH OF SKIN AND MUCOUS MEMBRANES
- USE ORALLY FOR STRONG TEETH AND HEALTHY GUMS
- EASES HEADACHES AND MIGRAINE HEADACHES
- IN SPORTS MEDICINE — REPLENISHES MG LEVELS FOR ENERGY (COMBATS FATIGUE, AND SOOTHES PAIN AND SORE MUSCLES)
- TOTAL BODY TONIC — REVITALIZES AND REJUVENATES BODY (PROVIDES RAPIDLY ABSORBED MG TO RESTORE LEVELS NEEDED FOR OPTIMAL CELL PHYSIOLOGY AND FUNCTION)
- IMPROVES MOOD AND REDUCES STRESS
- INCREASES MEMORY AND COGNITIVE FUNCTIONS
- BOOSTS IMMUNE SYSTEM

- IMPROVES ASSIMILATION OF CALCIUM / BUILDS STRONGER BONES
- BALANCES CALCIUM AND MAGNESIUM LEVELS IN CELLS
- PROVEN ANTIMICROBIAL AND ANTISEPTIC
- RAISES DHEA (DEHYDROEPIANDROSTERONE) LEVELS NATURALLY
- EASES MENOPAUSE AND PREMENSTRUAL SYNDROME (PMS)
- SUPPORTS HEALTHY LIBIDO (AND ENDOCRINE SYSTEM)
- ANTI-AGING, REJUVENATING, REVITALIZING
- KEEPS CELL MEMBRANES FLEXIBLE
- CONTROLS CHOLESTEROL PRODUCTION AND PREVENTS OVERPRODUCTION OF CHOLESTEROL IN THE BODY
- REGULATES BLOOD SUGAR LEVELS / NEEDED FOR INSULIN PRODUCTION, TRANSPORT, AND FUNCTION IN CELLS
- SUPPORTS ANTIOXIDANT SYSTEMS
- AND MAGNESIUM DOES A LOT MORE FOR HEALTH!

Source: Transdermal Magnesium Therapy (2007)

Whereas there exist different types and brands of magnesium oil, Ancient Minerals is the purest among them because it is sourced from very deep within the earth. It consequently tends to be far less irritating to skin than other brands due to the purity of the minerals. This relative mildness is especially noticeable when it is used topically, whether applied full strength (i.e., undiluted) or diluted with water, but possibly also when added to lotions or baths.

While magnesium oil is ideal for transdermal application, certain sources indicate that magnesium oil can be very beneficial when taken orally in small quantities. Oral magnesium administration or supplementation is quite common (for example, in capsule form or when consuming “epsom salts”), but magnesium oil offers a safe, effective, and convenient form for oral usage. Individuals considering oral intake of natural magnesium oil may wish to choose an ultra pure, ancient source in order to ensure the highest purity and best results.

Ancient Minerals meets the need for an ultra-high purity magnesium oil that may safely be taken orally (when used appropriately). While Ancient Minerals magnesium oil is highly concentrated, its mineral content retains the purity of ancient seawater (but has much lower levels of sodium). Seawater, for example, is renowned for its health-giving properties, many of which relate to its magnesium content. Magnesium oil delivers magnesium in a pure, concentrated form for

maximum therapeutic and tonifying benefits. Small quantities can yield significant benefits.

We therefore recommend Ancient Minerals magnesium oil for applications requiring direct use on skin (e.g., transdermal magnesium therapy) or when ultra-high purity is desired (e.g., for oral consumption). This is the best choice for most types of applications (oral use, direct use on skin, and in lotions, baths, foot baths). It is noticeably less irritating or “stinging” to the skin than other magnesium oil formulas. Many health care professionals and health-conscious individuals interested in magnesium oil for health prefer Ancient Minerals to all other magnesium formulas or supplements because of its unique and exceptionally high level of purity. Ancient Minerals is simply the purest magnesium oil available today!

## CONSIDERATIONS AND APPLICATIONS

Magnesium oil is the preferred form of magnesium used in transdermal magnesium therapy, a widely-known yet rapidly expanding modality for the maintenance of health. New (and established) studies show that the effectiveness of magnesium oil used transdermally is the safest and most effective means for increasing magnesium levels in the body. Transdermal magnesium therapy using ANCIENT MINERALS is safe, convenient, and effective—and offers the purity and potency of magnesium sourced from an untouched, unpolluted ancient seabed lying deep below the earth’s surface for 250 million years.

## MANY BENEFITS OF USING MAGNESIUM CHLORIDE

While magnesium oil used transdermally is an effective means for safely increasing magnesium levels the body, it is particularly useful for relieving sore muscles and joints, and reducing pain related to functional magnesium deficiency. It is also proven for use in helping to calm ‘nerves’ and reduce systemic bodily stress. Because the magnesium in magnesium oil targets muscle tissues (i.e., it is rapidly absorbed by muscles), it is thereby especially useful for replenishing depleted soft tissues and helping restore proper function that may be reduced by less than adequate magnesium stores.

Magnesium is necessary for the production of energy (ATP or Adenosine Triphosphate) in the body. When the body receives adequate amounts of magnesium, it can produce the levels of energy required to sustain the body and enable it to thrive. It is precisely because energy (as ATP) is required for the health of human organism that the critical role magnesium plays in energy production is gaining increased recognition by individuals interested in nutrition and natural health. All organ systems depend on energy. A mineral nutrient (i.e., magnesium)

that can increase cellular energy thereby has the capacity to improve the health of the entire human body (i.e., all organ systems) via providing the energy for sustaining them all.

Magnesium, therefore, provides powerful benefits to many tissues and organs, including the heart (cardiac muscle), brain, blood vessels, skin, etc. Protocols have been developed for successfully using magnesium oil to help prevent and support conditions as diverse as heart disease, diabetes, cancer, neurological diseases, and strokes. Beyond major degenerative conditions, magnesium oil is proven for use in a variety of general applications, including bruises, cramps (and muscle tension), and migraine headaches.

Magnesium is critical for cell metabolism. It helps to transport other minerals across cell membranes and affects cell mechanisms controlling muscle and nerve cell activity. Research suggests cardiac muscle is more sensitive to magnesium intake than skeletal muscle.

Magnesium specifically is important for the metabolism of many biologically-active nutrients and substances, including calcium, potassium, phosphorus, zinc, copper, sodium, lead, cadmium, hydrochloric acid (HCl), acetylcholine, and nitric oxide (NO). It is required for more than 325 magnesium-dependent enzymes, cellular homeostasis, and activation of the B vitamin thiamin. It mediates the functions of the nervous and endocrine systems, supports proper muscle and nerve function, stabilizes heart rhythm, helps to regulate blood sugar levels, and supports normal blood pressure. As noted, magnesium is important in energy metabolism and the synthesis of proteins. The majority of magnesium within the nucleus of cells is closely connected with nucleic acids and mono-nucleotides. In fact, magnesium helps to maintain the structural integrity of DNA.

Magnesium is naturally present in water and foods in varying amounts. The US Daily Value for magnesium is approximately 320 mg per day for women and more than 400 mg per day for men. Yet, studies show that most people regularly take in only about half this amount, or less. And now, new research reveals that this lack of magnesium may put your heart — and your health — at significant risk. Research indicates that most people are lacking in magnesium and that many health issues are related to magnesium deficiency.

One reason for such low magnesium intake is the mineral depletion of our soils. It may take decades (or centuries) to replenish magnesium levels in the soil. The decreased levels of magnesium found in food crops is typically then lowered further by destructive processing methods used, for example, to “refine” grains.

Consuming organically-grown whole foods is part of the solution, and magnesium supplements also can play an important role. Yet, adequately replenishing magnesium levels in your body using diet and oral supplementation alone can take months or years. Magnesium oil acts far more quickly when used transdermally (i.e., across the skin) than most other methods (except perhaps direct injection into the body) to raise magnesium levels. In this way, magnesium levels in the body can be restored rapidly by using ultra-pure, ANCIENT MINERALS magnesium oil in baths, foot baths, lotions, and directly on the skin.

## MAGNESIUM FOR EFFECTIVE PAIN RELIEF

One of the most significant benefits of using magnesium oil is the relief of pain. Magnesium both works to block pain reception and also can act on the sources of pain. It thereby can positively affect the causes of pain, rather than merely relieving the symptoms of it. Such causes of pain may relate to inflammation, toxicity, cell wall rigidity, mineral deficiencies or imbalances, etc. Some specialists in chronic pain estimate, for example, that approximately 70% of cases in which individuals suffer from muscle pain, cramps, and/or fatigue that is associated with the symptoms as varied fibromyalgia, migraines, and constipation, are showing signs of magnesium deficiency. Indeed, Dr. Mildred Seelig, a pioneering magnesium researcher at the University of North Carolina, has asserted that magnesium deficiency causes much needless suffering from pain, including the pain associated with fibromyalgia, muscle cramps, and migraine headaches (Transdermal Magnesium Therapy 279).

It is relevant to note that muscle, joint, and connective tissue pain can be exacerbated by higher intakes of calcium, and especially when large amounts of additional calcium are taken for the purpose of strengthening these tissues. An overabundance of calcium flushes magnesium out of cells, reducing its availability for reducing pain. In addition, this mineral imbalance can significantly compromise the effectiveness both of calcium and magnesium (i.e., because magnesium is needed for the proper uptake and assimilation of calcium) (see more below). If there already exists a state of magnesium depletion in the body (e.g., due to endemically low levels in the diet), then magnesium levels may drop to exceedingly low levels. In such extreme states of deficiency, magnesium simply is not available to block pain effectively, or to fulfill properly its many roles in the body.

Perhaps the primary reason that magnesium is highly effective for relieving pain is that it is a non-competitive antagonist of the N-Methyl-D-Aspartate (NMDA) receptor site. The NMDA receptor plays a critical role in the bodily mechanisms

relating to central sensitization in the spinal cord. This sensitization is involved in the establishment of chronic neuropathic pain. It is notable that a centrally-positioned magnesium ion has the ability to block the NMDA receptor site. Dr. Sircus states that NMDA receptor activation and release of pro-pain substances including substance P, nerve growth factor, brain derived nerve factor, and nitric oxide are believed to “drive the process of central sensitization” in the spinal cord (Transdermal 281). Transdermally-absorbed magnesium increases the magnesium concentration gradient between cell membranes and extracellular fluid, and thereby blocks the NMDA receptor. This is one of the mechanisms that allows magnesium to bring immediate pain relief.

The corollary to the fact that a centrally-positioned magnesium ion can block the NMDA receptor site is that reduced levels of magnesium inhibit the body’s capacity to block the NMDA receptor site. When the NMDA receptor site is not adequately blocked, one result can be higher levels of pain in the body. In addition, when low levels of magnesium result in reduced capacity to block the NMDA receptor site, central sensitization of the spinal cord is more likely to occur. Under such circumstances, wherein the NMDA receptor site is not blocked adequately, it is evident that low magnesium status not only can contribute to higher levels of acute or immediate pain, but can also lead to the establishment of chronic neuropathic pain. Abundant magnesium levels in the body provide for the relief of pain and for prevention (or mitigation) of chronic neuropathic pain by preventing central sensitization of the spinal cord. In this way, magnesium helps lessen and prevent acute and chronic pain. Transdermal magnesium therapy rapidly increases magnesium concentration between extracellular fluid and cell membranes, thereby enabling blockage of the NMDA receptor, and bringing relief from pain.

It is equally notable that magnesium not only can block pain at the receptor site, but it also can function to partly or completely act against the source of pain. As Dr. Sircus notes, these sources of pain may relate to inflammation, cell wall rigidity, lack of energy (ATP), or a lack of enzymes (i.e., magnesium is needed for enzyme function throughout the body). He finds magnesium chloride (i.e., magnesium oil) therefore to be an ideal solution for natural pain relief. The dual characteristics of magnesium in reducing symptoms of pain and acting against sources of pain means that transdermal magnesium therapy is a unique modality that heals the body while offering relief from suffering caused by acute or chronic pain.

Transdermal magnesium therapy elevates the concentration gradient of magnesium between cell membranes and the extracellular fluid to levels necessary both to block pain reception and to affect positively calcium-magnesium ratios in cells. Dr.

Sircus notes that only transdermal (or intravenous) magnesium administration can rapidly elevate magnesium levels in the body in quantities large enough to relieve pain. Given the safety and effectiveness of transdermal application of magnesium chloride, and the ability of individuals to administer magnesium transdermally at home, and in a cost effective way, Dr. Sircus hardly stands alone in his firm belief in the powers of magnesium chloride for pain relief and healing.

## MAGNESIUM IMPROVES CALCIUM ASSIMILATION

Ever more scientific evidence points to the importance of magnesium for the uptake and assimilation of calcium. That is, whereas the proper ratio of calcium to magnesium intake once was believed to be 4:1 or 2:1, new evidence suggests that this ratio may be 1:1 or even 1:2 in order to facilitate higher assimilation of calcium. Yet, researchers estimate that the ratio of calcium to magnesium intake is fast approaching 6:1, which represents an all-time high whose cause is our perpetually increasing calcium intakes relative to declining (or static) magnesium intakes (Transdermal 52). In fact, calcium intake continues to rise even while magnesium deficiency grows more widespread in the US and the world. It is notable that high calcium intakes contribute to mineral imbalances, complications from the deposition of excess calcium in body tissues, and to magnesium deficiencies, especially because magnesium intakes rarely meet or exceed calcium intakes.

Magnesium is not only essential for proper calcium absorption, but it is also an important mineral in bone matrix (Transdermal 57). The bottom line is that magnesium is a rate-limiting factor for the uptake of calcium. A higher intake of magnesium therefore likely would increase your absorption of calcium, and thereby allow this calcium to be used, for example, to build stronger bones in your body. Magnesium oil applied transdermally is more rapidly and effectively assimilated than oral forms of magnesium. The application of magnesium oil transdermally, therefore, is an ideal method for improving the health of connective tissues and the skeletal system through greater assimilation of nutrients (e.g., calcium) needed for the maintenance of their structural integrity. ANCIENT MINERALS magnesium oil thereby can help to build, support, and maintain stronger, healthier bones and to increase bone density—at any age!

One of the reasons for the powerful effect of magnesium on calcium is that magnesium balances calcium in the body. So not only will proper levels of magnesium assist the body in assimilating calcium, but magnesium is needed to balance the effects of calcium throughout the body. In relation to the commonly-observed phenomenon of osteoporosis in modern, western society, Dr. Mark Sircus notes that it is magnesium, not calcium, that is the key to preventing and reversing this problem of epidemic proportions among women, and especially older women.

For without adequate magnesium levels, the body cannot properly process or absorb calcium, and therefore calcium may be sequestered in the body as calcifications or calcium deposits (i.e., rather than helping bones to become stronger or more dense). These calcifications potentially can be dangerous, and represent an inadvertent consequence of an overabundance of calcium in the diet (through milk or other dairy products, calcium supplements, etc.) relative to the intake of magnesium. Moreover, calcium deposits in the body result not only from overabundance of calcium intake relative to magnesium intake, but also from magnesium deficiencies caused by chronic overconsumption of calcium.

Chronic magnesium deficiency accelerates deposition of unabsorbed calcium in the body. When magnesium no longer is available to fulfill its role in providing energy for ATPase (the enzyme that uses energy (as ATP) to pump excess calcium from cells), then calcium accumulates in cells, tissues, and organs. As cells undergo calcification, the capacity of ATPase to remove calcium is overwhelmed by an overabundance of calcium ions. ATPase function then declines and magnesium is blocked from transport into cells. Cell membranes calcify and become rigid, blocking both transport of magnesium (and other nutrients) into cells and preventing removal of toxins (e.g., heavy metals) out from cells. The body normally maintains a concentration of magnesium within cells that is approximately 10,000 times greater than calcium (Seelig 15). After an overabundance of calcium ions enters cells, magnesium ion concentration can precipitously decline. This describes the process of calcification of cells caused by overabundance of calcium relative to magnesium. The process may be characterized as a positive feedback loop whereby increasing levels of calcium lead to reduced cellular energy production, ineffective cell transport systems, and reduced levels of magnesium, which is then replaced by additional calcium. As the presence of calcium increases to levels beyond the capacities for cells to remove it, deposits form that can appear anywhere in the body. This process of calcification has negative impacts upon health, including significant adverse effects on detoxification systems, antioxidant systems, cellular energy production, glucose metabolism, nervous system excitation, and acceleration of the aging process.

Abnormal deposits of calcium have significant negative consequences for health. This is because calcium that is not absorbed can freely lodge anywhere in the body and provoke a range of health conditions (Transdermal 54). When unabsorbed calcium lodges in the heart, for example, it can lead to arterial lesions. When it lodges in bones or joints it may lead to arthritic conditions. Depending upon where in the body excess calcium is deposited, other adverse effects can include high blood calcium levels (hypercalcemia) (itself a known cause of magnesium deficiency), kidney stones, kidney complications, hypertension, stroke,

gastrointestinal disorders, chronic fatigue syndrome, depression, mood disorders, mineral imbalances (e.g., imbalances with zinc, iron, phosphorus, and other minerals), and many other health-related conditions (Transdermal 60). In addition, elevated calcium levels interfere with the activity of Vitamin D and thereby can inhibit its protective effects in cancer (Transdermal 60).

It is well known that the tendency of the mineral calcium in the body is to rigidify or to make muscles and cellular structures more rigid, whereas the tendency of the mineral magnesium is to relax muscles or cause cellular structures to become more flexible. Too much calcium rigidifies the body, and without the moderating and balancing effects of magnesium, may lead to a loss of proper cell function, or certainly to a less than optimal balance of calcium to magnesium (and subsequently to diminished cellular viability). In addition, a high-blood level of calcium (hypercalcemia) is closely associated with various disease states, and its primary origin most likely is a deficiency in magnesium (Transdermal 56).

It is also generally known that mineral imbalances can have significant consequences for health and well-being. While calcium is a mineral very important for health, the public (and doctors, nutritionists, and health care professionals) have not adequately been made aware of the roles magnesium plays, and especially its complex interrelationships with calcium. This lack of awareness is tantamount to a disservice to public health when it leads to ever more calls for increased calcium intake (without comparable recommendations for increasing intake of magnesium) because the evidence shows that increasing calcium by itself is not the solution to osteoporosis.

If increased calcium intake by itself were the solution to osteoporosis, then it would not continue to remain such a widespread problem, particularly for women. Magnesium, including magnesium chloride in the form of magnesium oil, can play a significant role in helping health-conscious individuals to improve their bone density and to prevent or mitigate the processes leading to osteoporosis and less than optimal skeletal health.

According to one study, higher magnesium intakes through diet and supplementation were positively associated with higher total body bone mineral density (BMD) both in men and women. It was shown that every 100 mg per day increase in magnesium results in approximately a 2% increase in whole body bone mineral density (Transdermal 57). These results are not surprising given the fact that magnesium is known to strengthen bones and teeth.

As much as half of the body's stores of magnesium are found in bones. Dr. Alan Gaby has noted the association between a lack of magnesium with abnormal calcium crystals in bones (and adequate magnesium levels with normal calcium crystals in bones). He also finds that low magnesium levels can cause abnormalities of calcium metabolism resulting in the formation of calcium deposits in the body (e.g., within soft tissues) where calcium is not supposed to accumulate.

Higher magnesium intakes therefore are warranted for nearly all adults, and especially for women, who by age seventy may only absorb two-thirds of the amount of dietary magnesium as they did earlier in adulthood. At least one study shows that the majority of women over age forty are low in magnesium.

Human bones and teeth contain about 1% phosphate of magnesium. Elephant tusks contain 2% phosphate of magnesium, and the teeth of carnivores (that require exceptional hardness for crushing the bones of their prey) average nearly 5% phosphate of magnesium (Transdermal 57). It may therefore be seen that the hardness not only of bones but also of teeth depends critically upon an adequate supply of magnesium, and upon an appropriate balance between magnesium and calcium.

Magnesium also is needed for the activation of alkaline phosphatase, which is an enzyme involved in the formation of calcium crystals within bone, as well as for converting Vitamin D into its biologically-active form (Transdermal 60). It therefore may be seen that the mechanisms by which magnesium strengthens bones and teeth, connective tissues, and joints, as well as improves the health of skin, are complex and relate both to its unique relationship to calcium, and also to its relationships with many other minerals, including potassium, selenium, and zinc.

Not only does magnesium play an important role for proper calcium assimilation, it also prevents abnormal calcification of tissues. Calcification of tissues (including calcium deposits in soft tissues) has become a persistent problem partly because of increased calcium consumption in Western society. While increased calcium consumption (whether via dairy products or nutritional supplements) is primarily a result of efforts to increase bone density and prevent osteopenia and osteoporosis, the cumulative effect of greater calcium intake without correspondingly higher magnesium intake is weaker bones and abnormal calcification of tissues. This unintended consequence therefore relates directly to a mineral balance that overly favors calcium relative to magnesium.

The mechanisms behind the failure of increased intake of calcium to strengthen bones relates not only to the ability of magnesium to increase calcium uptake into bone tissue, but also to the role of magnesium in providing energy (ATP) to cells.

Magnesium is required to provide ATP to pump excess calcium from cells. When ATP levels drop and remain too low, then a lack of energy can contribute to a lower rate of calcium removal from cells. In this scenario, a positive feedback loop becomes established whereby increasingly high calcium levels reduce the uptake of magnesium. As magnesium levels gradually decrease, ATP levels can fall in lockstep, ultimately reducing the capacity of the cell to pump away excess calcium (Transdermal 96-97). When pumping capacities of cells become compromised due to lack of energy, the body loses its ability to remove excess calcium, whereupon calcium accumulates within cells causing rigidification of cellular membranes. Cells no longer can function properly, and when this scenario is repeated over time within hundreds of thousands or millions of cells, deposits of calcium can inevitably form clusters within soft tissues throughout the body. Such deposits can constitute a significant health risk and contribute to suffering, for example, when they prevent proper movement of joints or cause fusions in skeletal components, like vertebrae.

Another significant ramification of the loss of pumping capacity within cells during magnesium deficiency (or relative overabundance of calcium) is that heavy metals (e.g., lead, mercury, arsenic) are less effectively removed from cells. These toxic metals then bioaccumulate within cells. In this way, magnesium supports detoxification of toxic heavy metals via its role in the production of cellular energy. When calcium levels reach the threshold where they inhibit uptake of magnesium, for example, the result is reduced production of ATP and lessened pumping capacity within cells. Thereafter, the body cannot reverse the process of calcification (and rigidification) of cell membranes and reduced capacity to detoxify heavy metals, at least until adequate magnesium levels are restored.

## MAGNESIUM CHLORIDE FOR HEALTHIER HEARTS

Beyond the roles played by magnesium in helping to prevent osteoporosis and to increase bone density, Dr. Mark Sircus notes that cultures in which the ratio of calcium to magnesium intake is low (e.g., Japan) enjoy superior cardiovascular health and a relatively low rates of cardiac death. Conversely, cultures consuming the highest ratios of calcium to magnesium (e.g., Australia, USA, and Scandinavian countries) exhibit among the highest rates of cardiovascular diseases in the world. It is clear to Dr. Sircus and others that cultures (and individuals) maintaining high magnesium intakes generally do not suffer from heart-related diseases to anywhere near the same degree in comparison to cultures (and individuals) not maintaining high intakes (i.e., those consuming relatively lower intakes of magnesium). He notes that the Japanese, for example, derive most of their magnesium from consuming sea vegetables and single-cell algae (e.g., chlorella and spirulina), and a wide variety of ocean-related food sources. The

daily intake of magnesium in Japan may be as high as 560 milligrams. It is also worth noting that the Japanese have among the lowest intakes of calcium from dairy products and exhibit one of the lowest mortality rates in the world. Magnesium is required for healthy heart function. The rapid assimilation afforded by magnesium chloride “oil” provides immediate cardiovascular benefits and when used regularly can offer sustained high-levels of magnesium available to your heart and circulatory system!

Moreover, it is notable that the Japanese consume magnesium chloride in the form of nigari, a white powder that is created from seawater after the sodium chloride has been removed, and the seawater is evaporated. The Chinese consume a similar culinary item known as lushui. Nigari and lushui consist primarily of magnesium chloride and include some trace minerals. Nigari and lushui are added to drinking water, miso soups, steamed vegetables, etc. These ocean-derived mineral condiments are also used as coagulants in the production of tofu. It may be seen that traditional cultures whose diets include an abundance of magnesium chloride do not appear to suffer from the high incidences of diseases of the heart that are witnessed in cultures or among peoples where modern western diets are predominant, or in places where the consumption of over processed, nutritionally-depleted (and magnesium-depleted) food sources has become prevalent, that is, throughout much of the civilized world. Providing sufficient magnesium to the body is one of the best ways to achieve and maintain optimal cardiovascular health. Using magnesium chloride transdermally (i.e., across the skin) is the most convenient and effective way to boost magnesium levels, thereby making it available for improving the health of your heart!

It is also notable that in North America, for example, tofu commonly is coagulated with calcium chloride (not magnesium chloride). Manufacturers typically tout the nutritional benefits of the calcium contained in tofu. The historical and overarching emphasis (by many industries and organizations) on a single mineral (i.e., calcium) not only reflects a long-term failure to consider the wider, yet well-known interrelationships among minerals, but consequently also contributes to perpetuating the types of conditions (e.g., osteoporosis) it claims to address or mitigate. In this regard, consuming magnesium chloride would be desirable, whether in the form of a powder (such as nigari) or in the form of pure magnesium oil, as a means to balance calcium intake with adequate magnesium. Transdermal application of magnesium chloride (as magnesium oil), however, may present the simplest and most highly effective means for most people to quickly and easily obtain optimal amounts of magnesium they require for abundant health. Magnesium is our heart’s best friend. Providing it with an easily assimilated form

of magnesium (the mineral most needed for sustaining cardiovascular health) best promotes a heart-healthy lifestyle!

Specific beneficial effects of magnesium chloride on cardiovascular health are well known to researchers and to health care professionals. Beneficial effects include preventing or reducing spasms within blood vessels in the heart, reducing calcium deposits in arteries (a known risk factor for artery blockages and thromboses), fighting inflammation in blood vessels (as measured by reduced levels of C-reactive protein), reducing homocysteine levels, and regulating the synthesis of cholesterol (by inhibiting the enzyme required for cholesterol synthesis). In particular, magnesium can raise HDL cholesterol and lower LDL cholesterol (Seelig 126). Transdermal magnesium therapy can boost your “good” cholesterol and lower your “bad” cholesterol! Magnesium chloride works effectively by multiple modes of action to preserve and protect your cardiovascular health!!

### MAGNESIUM REGULATES CHOLESTEROL LEVELS

Magnesium regulates blood cholesterol by playing a pivotal role in the function of the enzyme responsible for its synthesis in the body. This enzyme is known as HMG-CoA reductase (3-hydroxy-3-methyl-glutaryl-CoA reductase). Magnesium deactivates this enzyme, which is the rate-limiting enzyme controlling the conversion of HMG-CoA (3-hydroxy-3-methyl-glutaryl-CoA) into the compound mevalonate (a fatty acid derivative). When this first step in the mevalonate pathway is inhibited by the deactivation of HMG-CoA reductase by magnesium and ATP (magnesium-ATP complex), then cholesterol production correspondingly is reduced (Seelig 127). The final result is less formation of cholesterol.

Magnesium regulates cholesterol synthesis by deactivating the enzyme necessary for producing it.

When magnesium levels remain sufficiently high, then the body can inhibit the enzyme HMG-CoA reductase whenever necessary. However, when there is magnesium deficiency, cholesterol synthesis increases because the conversion of HMG-CoA to mevalonate is enhanced (i.e., lacking inhibition of the enzyme HMG-CoA reductase by magnesium). Without the presence of sufficient magnesium, the body cannot prevent the synthesis of cholesterol from proceeding beyond amounts normally required for synthesizing important steroid hormones (estrogen, progesterone, testosterone, glucocorticoids, etc.) and Vitamin D. In these circumstances, cholesterol synthesis proceeds uninhibited by enzyme deactivation (i.e., at a greater rate than would be possible if adequate levels of magnesium were available to deactivate the enzyme HMG-CoA reductase and thereby block conversion of mevalonate into cholesterol). When magnesium levels are too low, your body loses the ability to inhibit cholesterol production, which boosts your synthesis of cholesterol. Maintaining optimum levels of magnesium has the

opposite effect...your cholesterol production is regulated, controlled, and selectively inhibited, as needed!

It may be noted that having adequate magnesium levels (i.e., magnesium sufficiency) does not prevent the synthesis of cholesterol needed for health (e.g., inactivated HMG-CoA reductase can be reactivated by other enzymes, some of which require magnesium for proper function). Yet, by selectively inhibiting the enzyme HMG-CoA reductase, magnesium-ATP complex can prevent the overproduction of cholesterol, a known risk factor in cardiovascular health conditions. Moreover, through its role in reducing homocysteine levels, magnesium helps prevent the oxidation of cholesterol. Oxidized cholesterol is a major problem for cardiovascular health. Given that magnesium both regulates synthesis of cholesterol itself and reduces levels of the amino acid homocysteine (thereby lowering the oxidation of cholesterol), magnesium may be regarded as an essential nutrient for optimal health of the cardiovascular system. Magnesium inhibits oxidation and overproduction of cholesterol--naturally! It works 'round-the-clock to support your heart's health. In fact, this "must have" heart-healthy mineral helps ensure the best health for your entire cardiovascular system!

#### MAGNESIUM CHLORIDE AND STROKE

According to Dr. Carolyn Dean, author of *The Magnesium Miracle* (2007), "Magnesium is important in lowering blood pressure, keeping the heart muscle from going into spasm, and lowering cholesterol, but it can help heal the damage in the brain caused by a stroke." Dr. Sircus states that magnesium may reduce ischemic injury by increasing regional blood flow, antagonizing voltage-sensitive calcium channels, and blocking the N-methyl-D-aspartate (NMDA) receptor. As a non-competitive NMDA receptor blocker, magnesium inhibits the release of excitatory neurotransmitters at the presynaptic level and blocks voltage-gated calcium channels. Magnesium simultaneously exerts vascular effects, including increased vasodilation and cardiac output, and prevents cerebral vasospasm (Transdermal 168).

Dr. Sircus points out that transdermally applied magnesium chloride offers advantages over other neuroprotective agents (such as intravenously administered magnesium sulfate) for preventing strokes. These advantages include lower cost, ease of use, and lack of side effects. He not only asserts that a gallon and a half of low cost magnesium chloride "would do more to prevent strokes safely without side effects, than any other single medicine," but also that when "used transdermally after a stroke will reduce disability; and when combined with acupuncture and other nutritional and herbal interventions will prove to be the treatment of choice" (Transdermal 169).

## MAGNESIUM PROVIDES ANTI-AGING EFFECTS INCREASES DHEA LEVELS NATURALLY

The synthesis of cholesterol depends on magnesium, as noted. Despite health conditions related to its overproduction, cholesterol is a vital component of many hormones. For example, magnesium is needed for the production of aldosterone, which notably regulates the balance of magnesium and other minerals in the body (Transdermal 237). It therefore may be seen that cholesterol is the mother of hormones produced in the adrenal cortex, including cortisone, hydrocortisone, aldosterone, and DHEA (dehydroepiandrosterone).

It is known that reduced levels of the natural steroid DHEA (also known as the “youth and health hormone” and the “mother of all steroid hormones”) relate directly to magnesium deficiency. DHEA is considered a multi-functional steroid because it is involved in an extremely broad range of health-related biological processes, including supporting optimal metabolism, endocrine function, immune function, and stress response (Shealy 23). The great importance of DHEA for human health is indicated by the fact that it is one of the most abundant steroids in the body and exerts antioxidant activity in vivo (Shealy 22). DHEA helps aging men and women improve muscle strength, lean body mass, retain youthful vitality, and feel better (Transdermal 237).

DHEA is produced by the adrenal glands, ovaries (in women), and is synthesized in small quantities de novo in the brain. DHEA is known to act directly upon androgen receptors. DHEA also acts upon androgen receptors via its metabolites (i.e., androstenediol and androstendione) that the body ultimately converts to testosterone, estrone, and estradiol. DHEA is therefore a pro-hormone for natural sex steroids. Among other symptoms of deficiency, low levels of DHEA-S (dehydroepiandrosterone sulfate, the sulfate ester of DHEA) in men is associated with sexual dysfunction (Transdermal 237). DHEA-S has been shown to improve sexual desire and overall quality of life (237).

While synthetic DHEA is a popular nutritional supplement, evidence points to the greater safety and effectiveness of naturally-produced (i.e., endogenous) DHEA, including lower risks from adverse effects (Transdermal 238). Enhanced natural production of DHEA is associated with physical exercise, adequate sleep (in accordance with circadian rhythms), stress reduction programs, meditation, certain types of acupuncture, caloric restriction, and natural progesterone supplementation (Shealy 28). In addition, magnesium chloride contributes to increased DHEA production in the body. However, unlike synthetic DHEA, the natural DHEA produced in the body when magnesium levels are high will not carry the risk factors associated with synthetic DHEA. Use of magnesium chloride transdermally

is an indirect, yet very effective means of increasing DHEA levels in the body. This is the safest, most natural way to boost and maintain DHEA levels.

Dr. Norman Shealy reports that magnesium chloride gradually increases natural DHEA levels, especially when applied transdermally. He suggests that when the body is provided with adequate levels of magnesium at the cellular level, it naturally begins to produce higher levels of DHEA and DHEA-S (Transdermal 238-39). Because the body can convert DHEA to testosterone, many benefits of increased DHEA production likely are due to the effects of testosterone. Optimal testosterone levels play an important role in many body functions, including maintaining muscle mass and bone density, regulation of blood sugar, uptake of oxygen by cells, immune system function, red blood cell production, maintaining cardiac muscle, neurological function, and sexual desire (and performance) (Transdermal 240). Testosterone, for example, is the hormone most closely associated with healthy sex drive in men and women. Increased libido in women is among the reported effects of transdermal magnesium therapy.

DHEA protects the entire body against the aging process. Low levels of DHEA are linked to aging and difficulties maintaining good health. Deficiencies of DHEA are known to correlate with maladies as diverse as chronic inflammation, immune dysfunction, depression, rheumatoid arthritis, type-II diabetic complications, excess body fat, cognitive decline, heart disease, and osteoporosis (Transdermal 241). Dr. Sircus asserts that the role magnesium plays in the transmission of hormones (insulin, thyroid, estrogen, testosterone, DHEA), neurotransmitters (dopamine, serotonin) and mineral electrolytes is significant. That is, studies show that magnesium status is the factor that controls the potential of cell membranes. Therefore, it is the status of magnesium that controls uptake and release of hormones, nutrients, and neurotransmitters (242). Because DHEA is one of the primary biomarkers of aging, the long-term effects of large amounts of magnesium (administered in a readily-usable form such as transdermal magnesium chloride) is the significant elevation of DHEA levels and the reversal of many of the symptoms of aging. DHEA provides natural protection from age-related conditions and from premature aging due to hormone imbalances. It is notable that DHEA (like magnesium) is depleted by chronic stress. It is important that high levels of magnesium be sustained in order to gain the optimum benefits it provides in terms of DHEA production and balance in the endocrine system. Maintaining high magnesium status is the best way to ensure healthy levels of DHEA (and other hormones) naturally! Transdermal magnesium therapy is an effective, natural modality that can ensure high levels of magnesium are available for production of hormones, including DHEA.

When the body is provided with an abundant supply of essential nutrients (including magnesium) that it needs to produce, regulate, and balance its own hormones (and that are known to support healthy endocrine function), then it is more likely that irregularities and deficiencies and the health-related problems that accompany them will decline or disappear. That is, proper nutrition that supports healthy endocrine function provides a foundation upon which good hormonal and reproductive health can be established and maintained. Studies indicate the importance of magnesium for reproductive health not only in supporting reproductive organs and systems throughout life (for both genders), but also its importance in healthy pregnancy (from conception to birth) for mother and child, and maintaining the health of the reproductive system into middle age and beyond (236). The body requires sufficient levels of magnesium in order to achieve optimal health during the entire life cycle. Magnesium chloride supports the endocrine system (i.e., the hormonal system) in ways that synthetic hormones cannot. Transdermally applied magnesium helps the body by allowing it to determine when and how it synthesizes its own hormones! Plentiful amounts of magnesium help ensure a smooth-running endocrine system, which is a major contributor to vibrant, healthy living, greater longevity, and high quality-of-life! Given the fact that natural DHEA synthesis (i.e., endogenous production) in the body declines with advancing age (and the association of low DHEA levels with various health-related conditions, including diminished sex drive and performance), it appears that providing the body with the nutrients it requires to ensure optimal DHEA synthesis is a highly useful adjunct for supporting good health. Magnesium chloride applied transdermally is an ideal means to provide the body with abundant levels of magnesium required to ensure optimal DHEA production. In turn, optimal DHEA production provides for natural synthesis of sex hormones and wide-ranging benefits throughout the body.

#### MAGNESIUM CHLORIDE A PROVEN ANTISEPTIC

Unlike any other form of magnesium, magnesium chloride is a known infection fighter. As early as 1915, the French surgeon, professor of clinical surgery, and French Academy of Sciences member Dr. Pierre Delbet (1861-1957) used magnesium chloride solution to cleanse wounds in soldiers injured during the First World War. He had searched for an antiseptic that could disinfect wounds, but would not damage tissue (and thereby encourage mortification) as did other antiseptics then available. He reported that magnesium chloride was superior to traditional antiseptics not only in its effectiveness in treating wounds, but also because it did not harm body tissues.

Dr. Delbet discovered that magnesium chloride solution increased leucocyte activity and phagocytosis (i.e., the destruction of pathogenic microbes) when

applied externally (i.e., used transdermally). He performed numerous in vitro and in vivo studies using magnesium chloride solution. These experiments led to his discovery that magnesium chloride was a potent immune stimulant whether applied externally (i.e., transdermal application), injected intravenously, or taken by mouth (i.e., consumed orally). He termed this immunity boosting effect “cytophilaxis” (a cytophylactic is a substance that protects cells and encourages their healthy growth). In this regard, he observed increased phagocytosis (the engulfing of pathogens by white blood cells) by up to 300 percent. That is, white blood cells were three times more effective at destroying microbes than before administration of magnesium chloride.

Dr. Delbet’s discovery that magnesium chloride solution has tonic effects when consumed orally eventually led him to conclude that magnesium chloride has numerous beneficial effects on the whole organism. He went on to use magnesium chloride successfully in the treatment of a wide variety of conditions. These included colitis, bladder problems, tremors and muscle cramps, Parkinson’s disease, acne, eczema, psoriasis, prostatic hypertrophy, cerebral and circulatory problems, asthma, hay fever, urticaria, and anaphylaxis. He also notes that hair and nails become healthier. Dr. Delbet later investigated the use of magnesium chloride on abnormal tissue growth. He ultimately wrote several books, including *Politique Préventive du Cancer* (1944), in which he presents the results of his studies on magnesium chloride. Dr. Delbet considered magnesium a “miracle mineral.” He is remembered today for his groundbreaking studies of magnesium chloride and its health benefits, as well as for his advocacy of using it to improve health.

The pioneering efforts of Dr. Delbet were followed in the 1940s by fellow French physician Dr. A. Neveu. Dr. Neveu confirmed the immuno-stimulant effects of magnesium chloride, and he successfully tested magnesium therapy for wide range of conditions. These conditions included colds and flu, throat infections of the tonsils and pharynx, lung and respiratory conditions, gastrointestinal inflammation (stomach flu), skin infections, septic wounds, and many common childhood conditions. More recently, other physicians such as Dr. Raul Vergini in Italy have confirmed the results reported earlier by Dr. Delbet and Dr. Neveu. Dr. Vergini reports excellent results using small quantities of orally-administered magnesium chloride solution (2.5 percent magnesium chloride) both for proven applications developed by Dr. Delbert and Dr. Neveu, and for a broad range of other health conditions.

## MORE BENEFITS OF MAGNESIUM CHLORIDE

Additional benefits of magnesium oil include greater energy, more relaxed muscles (and stronger connective tissues), better sleep, improved mental function, headaches reduced (or eliminated), arterial health, better reproductive function, and

better hormonal balance for men and women (and reduced PMS). In addition, magnesium maintains the flexibility of cell membranes for improved intercellular communication, greater uptake of bioactive substances (e.g., micronutrients, neurotransmitters, and hormones), and detoxification of toxins and metabolic waste products. Magnesium oil also acts as an effective full body tonic. Dr. Sircus asserts that transdermal magnesium therapy is among the very best ways to improve human health. Given the powerful evidence of the benefits of magnesium oil, it is no wonder that transdermal magnesium therapy is one of the fastest growing modalities for the maintenance of health.

#### MAGNESIUM CHLORIDE SUPPORTS POWERFUL HEALTH according to Dr. Mark Sircus, Ac., OMD

“Magnesium chloride, when used correctly, is the best weapon we have to defend the body, not only from infectious diseases of both viral and bacterial origin, but also from the deluge of toxic chemicals that invade our body every day. Between its power to stimulate white blood cells and glutathione, we have a heavyweight non-toxic medicinal nutrient that we can use without a prescription, because it is actually an essential food that the human body requires to function properly.”

- Transdermal Magnesium Therapy 44

#### TRANSDERMAL MAGNESIUM THERAPY IS SAFE, PRACTICAL, AND COST EFFECTIVE

Magnesium (chloride and sulfate forms) has been used in the US for more than a century by the medical establishment in a wide variety of applications (e.g., intravenous magnesium sulfate solutions for heart conditions), in sports medicine, e.g., epsom salt (magnesium sulfate) soaks, by alternative practitioners (e.g., transdermal magnesium and various seawater therapies), and by many individuals interested in greater health. Transdermal magnesium therapy is experiencing a revival as a natural, practical, simple, and safe magnesium therapy due to its effectiveness in enabling the body rapidly and safely to absorb the amount of magnesium it may require, especially under increasingly common states of magnesium depletion.

Transdermal magnesium therapy allows the body to absorb only as much as it requires. When magnesium levels in tissues reach a sufficient level, the body simply stops absorbing it (and thereby avoiding any problem of over absorption). In the regard, the body knows best how much to absorb, largely because your cells know the amount they require. Magnesium oil offers an easily applied and assimilated form of pure magnesium. It may be just what you need to restore your magnesium levels. Doctors, chiropractors, acupuncturists, massage therapists, body workers, natural healers, athletes, and weekend warriors love ANCIENT

MINERALS magnesium oil because almost everyone gains benefits from using it. There is simply nothing else that so quickly, easily, and safely raises magnesium levels in the body.

COMPOSITION: Pure water, high-purity magnesium chloride and trace minerals extracted from deposits in the ancient Zechstein seabed in Europe. The Zechstein seabed is a pristine source of magnesium, and has been protected deep beneath the earth for 250 million years. One (1) fluid ounce contains approximately 21 grams of magnesium chloride and numerous trace elements from ancient seawater.

## **Ancient Minerals Magnesium Oil Directions**

For transdermal magnesium supplementation and relief of aches, pain, soreness and stress, we recommend you put 4-8 tablespoons (2-4 ounces) or more in the bathtub or foot bath, and then soak for a minimum of 20 minutes. We recommend soaking in your magnesium bath on a regular basis for best supplementation. While 2 ounces is a desirable starting level, higher doses (4-16 ounces) used in a bath may produce better results. While you may use the spray pump (16 pumps equals approx. 1,000 mg of magnesium), for baths and foot baths it may be easier to uncap the bottle and pour the magnesium oil either into a measuring cup or directly into bath water.

You can also rub magnesium oil directly onto your skin and into sore muscles. Start with palm-sized amount (1 oz) per day (in a single application or divided applications) and then adjust your dosage as needed. Again, for transdermal magnesium supplementation, we recommend daily usage (or at least until the magnesium levels in the body fully are restored). If using the spray pump, try using 8 pumps for your upper body and 8 pumps for your lower body. Eight pumps (1/4 teaspoon) provide about 500 mg of magnesium.

Individuals vary in their requirements for supplemental magnesium due to biochemical individuality. Therefore, we suggest starting with up to 1 oz per day (for full-strength topical application) and increasing the amount applied until you discover the dosage that best suits your body's needs. After 30 to 45 days of daily usage, or after cellular magnesium levels are restored or attain a high level, you may find that you can apply it less frequently, perhaps 2-4 times per week (or whenever necessary).

Try adding magnesium oil to your favorite skin lotion. Some individuals report favorable results (and less skin irritation) when using magnesium oil in a lotion. An excellent body lotion may be made using 1/3 magnesium oil, 1/3 organic coconut oil, and 1/3 organic aloe vera gel (whole leaf). Mix these in equal parts into a shaker bottle. Shake well. Apply liberally to skin whenever desired.

Note: Dr. Mark Sircus highly recommends Nascent Iodine, which works together with magnesium oil in creating health, supporting detoxification, boosting energy levels, and providing essential nutrients that redress deficiencies pervasive in modern diets. Nascent Iodine can increase energy, block uptake of toxic halides (chlorine, fluoride, bromine) and hasten detoxification of these poisons from the body, support thyroid function, improve immune function, and offer greater protection against numerous conditions relating to iodine deficiency. Nascent Iodine works well with magnesium oil because they both are involved in energy (ATP) production, are potent detoxifiers, and are required for good health (yet most Americans are deficient in both nutrients). Nascent Iodine therefore acts synergistically with magnesium chloride, powerfully supporting the natural processes leading to optimal health and well-being.

## **Ancient Minerals — Frequently Asked Questions (FAQs)**

Q: What Is Magnesium Oil?

Answer: Magnesium oil isn't actually an "oil" after all, but instead was coined as such due to the high saturation of magnesium chloride in water, which presents itself in an "oil-like" texture.

Q: Where Does Ancient Minerals Magnesium Oil Come From?

Answer: Ancient Minerals Magnesium Oil is an ultra pure magnesium oil extracted from the ancient Zechstein seabed in Europe, lying 1600 to 2000 meters deep in the interior of the earth. Well protected for the last 250 million years in deposits beneath the surface of the planet, Zechstein is the purest magnesium oil in the world. Indeed, Zechstein is a mark of purity on every bottle of Ancient Minerals.

Q: How do I use Ancient Minerals Magnesium Oil?

Answer: Ancient Minerals Magnesium Oil can be used in several ways:

1. **DIRECTLY ON THE SKIN.** Rubbing Ancient Minerals directly into the skin in concentrated form is the most economical method of application and offers the most benefits. It is also effective as a massage oil. You can use 1 oz per day (or more) directly on the skin, depending on your needs. This is the fastest, most effective method of using magnesium oil.

Try adding Ancient Minerals magnesium oil into your favorite skin lotion. We also recommend making your own skin lotion. You can mix 1/3 magnesium oil, 1/3 organic sweet almond oil (or organic coconut oil), and 1/3 organic aloe vera gel in a small bottle or dispenser. Shake frequently for best results. This makes an excellent massage lotion and is very convenient for use anytime. Also excellent for travelers or individuals 'on-the-go.'

2. **WARM BATH.** Added to a relaxing warm bath, the addition of Ancient Minerals provides a relaxing and health enhancing "magnesium soak." Add 2 to 4 oz (or

more) to a bath. Larger amounts (4-16 oz) typically produce better results, especially when there is great deficiency or a state of depletion in the body. One advantage to a warm bath is that the warm water relaxes muscles and opens pores. This method of administration works particularly well for sore, aching muscles, for example, after strenuous physical exercise. When taking a bath, add some magnesium oil to gain some significant benefits. You will feel the difference.

Helpful Tip: For best results using magnesium oil (or magnesium flakes) in a bath, the water should be warm, but not hot. The use of hot water (i.e., over 105 degrees) encourages excretion rather than absorption. We recommend starting with warm water between 101 degrees and 105 degrees (Fahrenheit). A warm (or even a lukewarm) bath best ensures efficient absorption of magnesium into your body. Some customers report excellent results by taking two or more baths (or dips) into a single bath during the course of the day. Others re-use bathwater to soak feet or for bathing pets. Use your imagination!

3. FOOT SOAK. As a foot soak, Ancient Minerals provides many of the same benefits as a full tub bath. Add 2 to 4 ounces (or more) to a foot bath of warm-to-hot water. This method of use may take longer to raise magnesium levels than directly spraying or rubbing onto the skin, but can raise magnesium levels faster than a full bath if there is a high concentration of magnesium oil in the water. Soak feet for 30 minutes or longer. Using greater amounts (or taking more frequent foot baths) typically produces better results. If taking multiple foot baths per day, you can save and re-use the water, and/or re-charge the foot bath by adding more magnesium oil.

(Note: While magnesium oil is highly effective for direct application on skin and other applications, magnesium flakes are an excellent and very cost-effective option for full body baths and foot baths.)

4. ORAL CONSUMPTION. Magnesium oil is a very concentrated form of magnesium, and is approximately twice as concentrated as our Trace Mineral Drops. You can take a small quantity daily, e.g., 1/4 to 1/2 teaspoon (20-40 drops), or more if desired. If the taste is too strong for you, try diluting the magnesium oil in water, or adding it to juices, blender drinks, smoothies, or your favorite beverages. The spray pump is ideal for oral administration.

Tip: Experiment with oral dosages until you find what works best for you. Start with drops, not ounces, then gradually increase your intake. You may notice greater benefits at higher dosage levels. A tincture or dropper bottle works nicely when you are traveling or on-the-go. Or just use the convenient 8-ounce spray bottle. (Many customers initially purchase the 8-oz spray bottle and then refill it using the large 64-ounce container.) Start gaining benefits from internal use of magnesium oil today!

## Feedback from Very Satisfied Customers

April 09, 2008

I am already impressed with your Ancient Minerals magnesium oil! I have grade 1 congestive heart failure (CHF). I spray the oil directly on the skin over my heart area whenever I experience palpitations. Within minutes my heart rate returns to normal. I am amazed and thankful that your magnesium oil is helping my pounding heart! — GH, Canoga Park, CA

April 14, 2008

I am so glad I discovered your magnesium oil. It amazingly loosens my tightest muscles, which are knotted from scoliosis and from injuries caused by several automobile accidents. After rubbing the oil on hotspots where I experience the greatest tension, I feel my muscles melt and the ligaments move toward their proper positions. Magnesium oil has been more effective for me than many years of visiting chiropractors and massage therapists.

Thank you! — MI, Portland, ME

April 29, 2008

Thank you for recommending the Ancient Minerals magnesium oil. It really worked like you said it would! It got rid of the deep, persistent pain in my legs that would not go away. I was taking pain pills before I put the magnesium oil on my legs. After I put it on there, I didn't have to take the pain pills anymore.

Thank you! — RC, Green Valley, AZ

May 20, 2008

I have been soaking my feet in a foot bath with Ancient Minerals. It has been impossible for me to walk without pain since I had five foot surgeries and four knee surgeries, including an ACL reconstruction and a knee replacement. The Ancient Minerals magnesium oil brings immediate relief. I also suffer from osteoarthritis and fibromyalgia. Rubbing the magnesium oil directly into my upper chest, shoulders, arms, and muscle attachments near my collarbone greatly helps to ease my pain in these areas. I am so grateful my doctor recommended I try magnesium oil. — TJ, Abilene, TX

March 15, 2009

Thank you for sending out my order so quickly and adding samples of the Ancient Minerals gel and purse size bottles of the oil. I have used the Ancient Minerals magnesium oil spray and am very pleased that it has already given me some relief from painful muscles that I have been having. Though not a cure, as I have to see what is causing the pain, it is quite helpful as it eases the pain I am having and gives me a boost of energy. Thank you.

Sincerely, — CS, Prescott, AZ

#### ADDITIONAL INFORMATION

For more information, please see Dr. Mark Sircus's *Transdermal Magnesium Therapy: A New Modality for the Maintenance of Health* (Phaelos Books 2007). This authoritative work is a valuable source of information about magnesium and transdermal magnesium therapy, and also is an excellent, informative guide for using magnesium oil. It is one of few books currently available providing a comprehensive, scientific, and naturally-oriented discussion of the use of magnesium for human health, accessible both to health care professionals and individuals interested in improving their health and well-being. Also visit Dr. Sircus's website: <http://www.MagnesiumForLife.com> for information, product analyses, and recommendations for applying transdermal magnesium therapy.

Additional resources include Dr. Carolyn Dean's *The Magnesium Miracle* (2007 ed.), Dr. Mildred Seelig's and Dr. Andrea Rosanoff's *The Magnesium Factor* (2003), and Dr. C. Normal Shealy's *DHEA: The Youth and Health Hormone* (1999 ed.). These works provide useful information regarding therapeutic benefits of magnesium.

To order Ancient Minerals Magnesium Oil (and/or Nascent Iodine) call: (800) 247-3315 (please tell them The Road To Health, Inc. sent you). Or order on line by clicking here: [AMMO](#)