



ARTHRITIS – RHEUMATOID AND OSTEO

Millions of people suffer from some form of arthritis. Because arthritis is commonly believed to be incurable, the standard medical response has been simply to prescribe medication to reduce the symptoms. Substantial evidence, however, now shows that the pain and disability caused by arthritis can be alleviated, and even prevented, through diet, nutritional supplementation, environmental medicine, bodywork, stress reduction, and other alternative therapies.

Table of Contents:	ARTHRITIS EXPLAINED IN ALTERNATIVE MEDICINE
	ARTHRITIS FACTS
	ARTHRITIS AND DAIRY
	INORGANIC MINERALS, JUICES, AND FOODS
	LEAKY GUT SYNDROME
	ARTHRITIS – OSTEOARTHRITIS AND MSM

See also:

- Autoimmune Diseases**
- Uric Acid**
- Hard Water and Inorganic Calcium**
- MSM – *The Miracle of MSM* by Dr. Stanley Jacob, M.D.**
- Cetyl myristoleate**
- Flax**
- Omega-3 Fatty Acids**

Books:

- [The Miracle of MSM by Stanley W. Jacob, M.D.](#)**
- [Conscious Eating by Gabriel Cousens, M.D.](#)**
- [The Tao of Sex, Health, and Longevity by Daniel P. Reid](#)**
- [Fasting and Eating for Health by Dr. Joel Fuhrman, M.D.](#)**
- [Leaky Gut Syndrome by Elizabeth Lipski](#)**
- [Rainbow Green Live Food Cuisine by Dr. Gabriel Cousens, M.D.](#)**

Articles: **[http://drmcDougall.com/med hot arthritis diet.html](http://drmcDougall.com/med_hot_arthritis_diet.html)**

Websites:

Audio/Video:

Publications:

Organizations:

People: Dr. Stanley Jacob, MD

Integral Nutrition: MSM
Vitalzym or Vitalzym X
Flax Oil/Omega-3
Celery/Apple Juice
Grapefruit Juice
Cherries
Glucosamine
Phase 1 or 1.5 diet in *Rainbow Green Live Food Cuisine*

Conventional: Ibuprofen
Aspirin
Cortisone
Vicodin
NSAIDs

Terms: Osteoarthritis, Chondrocytes, Collagen, Rheumatoid arthritis (RA),

ARTHRITIS EXPLAINED IN ALTERNATIVE MEDICINE

Source: [Alternative Medicine: The Definitive Guide](#) (533-546)



THE TERM *arthritis* is used loosely as if it encompassed one entity, although over 100 types of arthritis have been identified. Arthritis is an aggregate of illnesses whose common features include an inflammation of the joints, surrounding tendons, ligaments, and cartilage. Among the oldest known afflictions of human beings, it can affect virtually every part of the body: from the feet to the knees, back, shoulders, and fingers. For millions of Americans, arthritis limits everyday movements such as walking, standing, or even holding a pencil. According to the National Institutes of Health (NIH), the effects of arthritis range from slight pain, stiffness, and swelling of the joints, to crippling and disability. Arthritis affects people of all ages. The NIH reports that about 15% of the U.S. population have arthritis or a related disorder and 200,000 children in the U.S. have some form of the disease.[1]

Conventional medicine prescribes a whole "laundry list" of pharmaceutical drugs for arthritis. Many of these drugs block the pain, often very quickly and with little effort on the part of the patients or doctors. While pain relief is important, conventional drugs merely hide the symptoms and ignore the underlying causes of the disease. According to the alternative medicine approach, arthritis is a disease that results from multiple causes, many of them with a less-than-obvious connection to the disease

and many causes are not easily detectable. "A number of underlying imbalances, with accompanying physical, mental, and environmental factors, contribute to all forms of arthritis," says Eugene Zampieron, N.D., A.H.G., of Woodbury, Connecticut, co-author of *Arthritis: An Alternative Medicine Definitive Guide*. **"When arthritis is viewed through alternative medicine, it becomes a correctable disease that requires adjustments to specific organ systems, diet, and lifestyle."**

There are a variety of arthritic conditions, with the three most common forms of the disease being osteoarthritis, rheumatoid arthritis, and gout. Less prevalent types of arthritis include psoriatic arthritis, ankylosing spondylitis, and infectious arthritis.

Osteoarthritis

Osteoarthritis (OA) is by far the most prevalent form of arthritis. The disease affects an estimated 20.7 million Americans. Under the age of 45, more men than women are diagnosed with OA, often due to accidents and injuries. The disease becomes three times more prevalent in women than in men after the age of 45.[2] About a third of adults in the U.S. have X-ray evidence of osteoarthritis in the hand, foot, knee, or hip, and by age 65 as many as 75% of the population have evidence of the disease in at least one of these sites.[3]

Osteoarthritis is the breakdown of cartilage, the smooth, gelatinous tissue that protects the ends of bones from rubbing against each other. Healthy cartilage shields bones against being worn down by friction, but in OA the cartilage is worn away, allowing bone ends to make direct contact. As the disease progresses, direct contact creates bone spurs and abnormal bone hardening, and leads to inflammation and severe pain as bones continue to rub together without proper cushioning. As a result, bones may become more brittle and subject to fracture.

There are two types of osteoarthritis: primary and secondary. Primary OA is considered "wear and tear" arthritis due to an unhealthy aging process. The onset of primary OA is gradual as the disease usually progresses over the course of many years. Secondary osteoarthritis is the less common of the two types but has a more apparent, direct cause: trauma, injury, previous inflammation (even from rheumatoid arthritis), congenital joint misalignment, infection, surgery, or prolonged use of medications.[4]

The symptoms of osteoarthritis include mild early-morning stiffness, stiffness following periods of rest, pain that worsens on joint use, loss of joint function, local tenderness, soft tissue swelling, creaking and cracking of joints on movement, bony swelling, and restricted mobility.

ARTHRITIS: THE BREAKING DOWN OF CARTILAGE

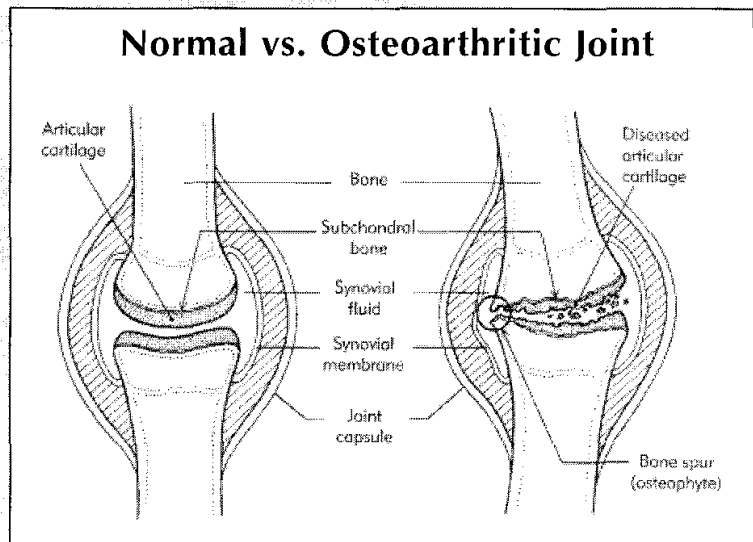
The kinds, symptoms, and causes of arthritis and almost too varied to be grouped under one term. But the commonality of the various arthritic diseases is the erosion of cartilage (the elastic buffer protecting bones). Under healthy conditions, old or damaged cartilage is replaced by new cartilage constructed by chondrocytes, specialized cells found in cartilage.

Chondrocytes make the primary constituent parts of cartilage called collagen and proteoglycans. The quality or type of cartilage replaced is a function of the raw materials—vitamins, minerals, amino acids, cosaminoglycans) available to the chondrocytes and the stresses being placed on the joints. This stress

can be physical, toxic, immunological, emotional, or any other type that produces biochemical inflammants and free radicals that attack joints.

Collagen is the structural protein and forms the "scaffolding" of the body, which has elastic-band-like qualities and is strong and resilient. It is a major part of bone, skin, ligaments, tendons, and all tissues and organs of the body giving us shape and form. When the molecular components of collagen are changed—due to the aging process, increased free-radical production, or poor nutrition—the collagen protein becomes less structured and begins to weaken. The structure of the collagen molecule, which is normally a triple-helix shape, begins to unwind. This is when we begin to wrinkle and become more susceptible to fractures and sprains. As the degeneration of collagen progresses, the molecular bonds that create strong connective tissue begin to weaken and dissolve totally, a process that can contribute to arthritis.

Proteoglycans are attached to and cover the framework of collagen fibers. Proteoglycans have the consistency of gelatin and tend to swell up and absorb water like a sponge, filling in the gaps between collagen molecules. Under a microscope, they look like a long-handled brush used to clean bottles: their long protein core resembles the handle of the bottle brush and the chains of sugar that radiate out from the core resemble the bristles of the brush. Proteoglycans maintain the content and direct the flow of fluids circulating throughout the cartilage as well as in the joints.[7] The sulfur found in proteoglycans has a negative charge—like a magnet, sulfur attracts water molecules to the cartilage, giving the cartilage a cushion to protect the ends of the bones from premature wearing. But the bonds between water and cartilage tend to be weak and easily broken by stress or shock. When these bonds are broken, the water cushioning) flows out of the cartilage.



Rheumatoid Arthritis

Rheumatoid arthritis (RA), while less common than osteoarthritis, is a serious and painful joint disease, often resulting in crippling disabilities for young and old alike. Rheumatoid arthritis affects about 2.1 million people in the U.S., most often women.[5] The condition usually starts between the ages of 20 and 50, although it can begin at any age.

Rheumatoid arthritis is an inflammatory disease in which the body's immune system attacks its own healthy tissues. This is called an autoimmune response. The disorder affects many organs throughout the body, but is most noted for its significant disability, deformity, and inflammation of the joints and other structures comprised of connective tissue (which supports and binds together other tissues and forms ligaments and tendons). RA can lead to crippling. It incapacitates the synovial tissue, which is the membrane that lines joints and secretes the lubricant that normally allows bones to move painlessly against other bones. With this condition, joints (most commonly the small joints of

the hand) become tender, swollen, even deformed. Over time, the condition can also spread to other parts of the body.

The onset of RA symptoms can be slow with mild discomfort in the joints, morning stiffness, low-grade fever systemically or in the affected joints, and a gradual increase of symptoms.

People can also develop rheumatoid arthritis seemingly overnight. Symptoms of rheumatoid arthritis include night sweats, depression, lethargy, fatigue, low-grade fever, weakness, joint stiffness, and vague joint pain. These symptoms can lead to the appearance of painful, swollen joints within several weeks.[6] RA may sometimes affect only one side of the body, but it is common for RA to strike the same joints on both sides of the body simultaneously-in the elbows, for instance. Later in the development of the disease, the affected joints become thicker and deformed.

Gout

Gout is a type of arthritis caused by a buildup in the body of uric acid, which is found in meats and other foods and also produced in the body. When this production is out of balance or there is inadequate elimination of uric acid, gout occurs.[8] When the level of uric acid rises to unhealthy levels in the body, it crystallizes in the joint cartilage and synovial tissue and fluid, causing sharp, needle-like pain in the joints, as well as fever, chills, and loss of mobility.[9] Some of the health problems caused by gout include constipation, indigestion, headaches, depression, eczema, and hives, and those who suffer gout also run a much higher risk of heart and kidney problems.

In 50% of gout cases, the first attack is characterized by intense pain in the first joint of the big toe. If the attack progresses, fever and chills will appear. Initial gout attacks usually strike at night and are preceded by a specific event such as excessive alcohol ingestion, trauma, certain drugs, or surgery. Subsequent attacks are common, with most patients experiencing another attack within one year. However, nearly 7% of gout sufferers never have a second attack. The condition affects approximately three out of every 1,000 adults and is primarily a disease of adult men, 95% of gout sufferers being males over the age of 30.[10]

Less Prevalent Joint Diseases

Ankylosing spondylitis (AS) is an inflammatory disease that bends or fuses spinal vertebrae. Over time, the spine stiffens and causes symptoms that include a severe stooping posture, lower back pain, chest pain when inhaling, weight loss, fatigue, and inflexibility. AS strikes one in 1,000 people under age 40 and is most common in males between the ages of 16 and 35. The disease is found almost exclusively in men who have the HLA-B27 gene; only 20% of men with that gene, however, actually develop the illness.

Psoriatic arthritis occurs in one out of ten patients who have the skin condition psoriasis. It manifests itself 10-20 years after the onset of psoriasis and includes swelling in many joints, but especially in the end joints of the fingers and toes. There are underlying factors that contribute to the onset of psoriatic arthritis, including improper bowel and liver function as a result of an overgrowth of the yeast *Candida* or infestations of other pathogenic organisms in the microflora of the bowels.

Infectious arthritis, characterized by fever, stiffness, and inflammation, especially in the knee joint, is caused by viral, bacterial, or fungal infections. Researchers have been unable to identify a particular microorganism that causes most types of arthritis; however, they do know that there are two basic types of infectious arthritis. In septic arthritis, microorganisms directly infect the joints. In reactive

arthritis, microorganisms found elsewhere in the body indirectly trigger arthritis conditions like rheumatic fever and Reiter's Syndrome. Lyme disease can also cause infectious arthritis. Lyme disease is presumed to be caused by bacteria (*Borrelia burgdoiferi*) carried by deer ticks or black-legged ticks. Symptoms may vary, but are usually characterized first by a skin rash, before fatigue, aches, and flu-like symptoms appear. Eventually, these bacteria penetrate the nervous system and attack brain tissue and spinal cells. The incubation period can be lengthy, with initial exposure commonly occurring during the summer and most symptoms developing weeks or months later.

Causes of Arthritis

Arthritis is caused by a variety of factors, including joint instability, injuries, age-related changes, toxins, microbes, altered biochemistry, hormonal factors, and genetic predisposition. Yet other environmental, psychological, dietary, and even dental factors have also been found to bring on the condition. "Five to ten years ago, it would have been heresy to state that allergens could induce arthritis and that, by the elimination of those allergens, arthritis would go into remission," says allergy expert James Braly, M.D., of Hollywood, Florida. "Now it's accepted among most rheumatologists and allergists that some people do have allergy-induced arthritis."

Stress can disrupt the body's hormonal balance as well. When stress interferes with the production of progesterone and thyroid hormones, menopausal difficulties increase. A great many women develop osteoarthritis at this time. Raymond Peat, Ph.D., of Eugene, Oregon, also points out that stress-induced cortisone deficiency can be a factor in some forms of arthritis.[11] When stress occurs, body systems release adrenaline and cortisol, a process that weakens the immune system. In this way, bacteria and other detrimental organisms such as *Candida albicans* spread throughout the body.[12]

Causes of Osteoarthritis

Osteoarthritis is considered by many to be a natural result of the aging process. To a large degree this is true, with nearly everyone over the age of 60 showing some signs of the disease.[13] Dr. Braly cites age, excess weight, general wear and tear, and a lifetime of inadequate diet and exercise as the chief causes of osteoarthritis. Other research has found additional causes to be skeletal defects, genetic factors, and hormonal deficiencies (as evidenced by the many women who get osteoarthritis after menopause).[14]

DRUGS ASSOCIATED WITH A HIGHER INCIDENCE OF ARTHRITIS

According to the *Physicians' Desk Reference*, the following drugs are associated with side effects of arthritis (statistics refer to the percentage of individuals affected).¹⁸

TheraCys BCG Live, Intravesical (1.0%-7.1%)

Tonocard Tablets (4.7%)

Videx Tablets, Powder & Pediatric Powder for Oral Solution (1%-11%)

Wellbutrin Tablets (3.1%)

The degenerative form of arthritis involves ongoing biochemical processes that negatively alter the structure and regeneration of cartilage and joint tissue. These biochemical processes include free-radical damage, nutritional deficiencies, poor dietary and lifestyle choices, food or environmental allergies, genetic predisposition, and even drug treatments prescribed for pain relief. In various combinations, these factors often cause (or contribute to) changes in the biomechanics of the joints and muscles.

Researchers at Jefferson Medical College, in Philadelphia, Pennsylvania, have identified a possible genetic correlation in osteoarthritis. In some individuals, they have discovered a defect in the gene that instructs cartilage cells to manufacture collagen (the structural protein of the connective tissue), so the collagen is more likely to break down, leading to degeneration of joints.[15]

Patients with osteoarthritis often display insulin resistance or deficiency. Insulin resistance, considered a precursor to adult-onset diabetes, is a blood sugar disorder that occurs when the body fails to "recognize" the effects of insulin in the blood. This makes it more difficult for the body to use sugar (glucose) for energy. The body then begins to break down protein as an alternative energy source, which negatively affects the connective tissue and leads to further destruction within the joints. Diets high in carbohydrates, including sugars and wheat products, tend to increase insulin resistance, disrupting the person's blood sugar levels even more. Excess insulin also stimulates the body to produce more inflammatory prostaglandins, which adversely affect joints.

Biomechanical changes, especially excessive tissue acidity, can contribute to the development of osteoarthritis. When joints lose their full range of motion due to stress, injury, or lack of activity, the "on-loading" and "offloading" (the exchange of nutrients and waste products) to the cartilage is decreased and breakdown follows. As a result, balanced motion is hindered and the surrounding cartilage starves. The body responds to these biomechanical imbalances by sending calcium to impaired areas to stabilize the weak joint. This results in the formation of hard, inflexible calcium deposits, which cause joint stiffness. Osteoarthritis may also develop from any traumatic injury to cartilage caused by playing sports, accidents, or activity involving repetitive motion.

Yet many people with osteoarthritis never suffer from the aches, pain, and stiffness associated with the disease.[16] Even for sufferers, there is much that can be done to restore arthritis-stricken bodies to functional health, when the underlying, systemic causes of the disease are identified and addressed.[17]

Causes of Rheumatoid Arthritis

Rheumatoid arthritis is classified as an autoimmune disease in which the body attacks its own tissues. In various combinations and severity, food allergies, nutritional deficiencies, toxicity, abnormal intestinal permeability, and microorganisms cause inflammation in the body. For someone who has rheumatoid arthritis, inflammation (the immune system's attack on foreign substances) amplifies and becomes the more destructive autoimmune response.

"A primary cause of most rheumatoid arthritis appears to be delayed food allergy and the often related problem of abnormal permeability of the intestinal wall," says Dr. Braly. This abnormal permeability allows incompletely digested food particles to pass through the walls of the digestive tract and into the bloodstream where, if not cleared, they are eventually deposited in tissues. There they can cause an inflammatory reaction and, because the body is allergic to the deposited food particles, the immune system begins to attack the tissues, especially around the joints. Many scientific studies have documented that there is increased intestinal permeability in over 90% of patients with autoimmune disease and arthritis.[19] The top foods known to trigger rheumatoid symptoms include milk, yeast (both brewer's and baker's), wheat, nightshade vegetables (tomatoes, eggplant, peppers, and potatoes), corn, and eggs.

Other causes of rheumatoid arthritis include genetic susceptibility, lifestyle factors, nutritional factors, toxicity, and microorganisms. There may also be an association between rheumatoid arthritis and abnormal bowel function.[20] These underlying causes work in various combinations to trigger inflammation in the body. In those with rheumatoid arthritis and other types of autoimmune disorders, the immune system never returns to normalcy and remains activated. The immune system resists attempts to suppress itself and begins to produce antibodies that attack the body's own cells,

called auto-antibodies (meaning "against self").

Causes of Gout

Gout is caused by excessive accumulation of uric acid in the tissues. The underlying cause of uric acid accumulation is unknown, yet research has found that it can basically be attributed to metabolic or kidney problems.

Increased production of uric acid may be the result of metabolic enzyme defects, certain types of chronic anemia, or other complex conditions.[21] Dehydration and kidney disease can cause poor clearance of uric acid from the body.

While "high living" may not be the primary cause of gout as it is currently understood, proper diet, nutrition, and metabolic balance all play crucial roles in the prevention and treatment of this disease. In fact, the traditional conception of gout as a condition of affluence has some basis in reality since meats, particularly organ meats, increase production of uric acid, while alcohol inhibits uric acid excretion by the kidneys.[22]

SYMPTOMATIC DIFFERENCES BETWEEN OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS

OSTEOARTHRITIS	RHEUMATOID ARTHRITIS
Usually affects the elderly	Can affect anyone, even children
Metabolic deficiencies or traumatic injuries are attributable origins	Unproven origin, but infections, particularly bacterial, have been indicated in many cases
Gradual onset of symptoms with mild pain and swelling; mild heat and redness in affected joints	Rapid onset with moderate to extreme pain and swelling; moderate to extreme heat and redness in affected joints
Stiffness from joint damage	Stiffness from swelling
Increased bone density	Loss of bone density

Although most people initiate a gout attack through poor lifestyle choices (obesity, rich foods, alcohol), 10%15% of gout patients have attacks due to a metabolic problem, such as a deficiency of enzymes (xanthine oxidase) that break down purines or too much purine production by the body. **Purines come from certain foods (meat products, especially liver and other organ meats, sausages and other processed meats, anchovies, crab, shrimp, milk, eggs, and many beans, including soy),** but are also normally present, in the form of DNA and RNA in the cells. Purines are broken down into uric acid, which is then normally excreted through the urine.

Medications, including aspirin and diuretics, can cause gout by putting extra stress on the kidneys; 25% of new gout cases are caused by these drugs. Kidney stones and other kidney problems are present in 90% of gout sufferers, because urate crystals also accumulate in the kidneys.

Treatment and Prevention of Arthritis

The primary keys for treating and preventing arthritis are proper diet and nutrition, detoxification, and stress reduction. Special care should also be taken to avoid substances that might cause allergic reactions in the body and, when needed, hormonal supplementation and replacement are essential.[23] Vitamins, minerals, herbs, and other natural supplements can provide effective relief without the side effects of conventional drugs.

Detoxification can help arthritis patients reverse the accumulation of toxins in the body caused by bacterial and yeast (*Candida*) infections, parasites, environmental pollutants, and leaky gut syndrome. "Removing toxins from the body has shown to be remarkably therapeutic for arthritis patients," says Dr. Zampieron. Alternative medicine offers a number of safe detoxification strategies. [See Detoxification Therapy, Environmental Medicine.]

Meditation, biofeedback, hypnotherapy, and other mind/body techniques can help reduce stress. Pain management and correction of skeletal/postural problems can also be addressed through a variety of other modalities, including herbal medicine, environmental medicine, bodywork, chiropractic, acupuncture, and Ayurvedic medicine. "With alternative medicine, health is restored to the whole patient, rather than simply providing superficial symptom relief," concludes Dr. Zampieron.

Diet and Nutrition

For decades, medical researchers refused to acknowledge that diet, nutrition, and food allergies could play a role in immune function and arthritis. Today, however, proper diet and nutrition are believed to be key elements in the prevention of all types of disease, including arthritis.

"Dietary practices have a major impact on arthritis. In fact, if you eat the typical American diet, it could be making your arthritis worse," says Ellen Kamhi, Ph.D., R.N., of New York City, co-author of *Arthritis: An Alternative Medicine Definitive Guide*. "Among the offenders are saturated fats (which occur in cooking oils and fried foods), white flour and sugar, red meat, ham, chemical additives, yeast, and milk and dairy products. These foods can increase inflammation, invoke allergies, and interfere with hormone production, cellular integrity, and the function and mobility of the joints." According to Dr. Braly, fatty meats, eggs, margarine, shortening, and dairy products should be dramatically cut down or eliminated from the diet. He also advises the same for caffeine, alcohol, tobacco, and sugars.

Consuming large amounts of soft drinks, which are high in phosphoric acid, can raise the levels of phosphorus in the blood. The normal ratio of calcium to phosphorus in bones is about two to one, although a one-to-one ratio is adequate to maintain skeletal growth.[24] However, in the average American diet, this ratio is extremely skewed, with high amounts of phosphorus relative to calcium. This causes the body to pull calcium from the bones to supplement blood calcium levels,[25] which can exacerbate arthritic conditions.

An important step in treating arthritis lies in achieving normal body weight, as excess weight puts increased stress on weight-bearing joints affected with arthritis.[26] A diet rich in fresh vegetables, fruits, nuts, and whole grains is recommended for maximum nutritional benefit. Whole (unprocessed) foods are rich in the nutrients needed to fight destructive free radicals, promote skin and tissue health, repair bones, muscles, and tendons, and promote bowel regularity.

Dietary fats are an important consideration for anyone with arthritis. The wrong kind of fats can increase inflammation in joints, while the "good" fats will help keep inflammation in check. Hydrogenated fats and trans-fatty acids can directly contribute to inflammation and the destruction of joint tissues. Avoid foods that contain these fats, such as margarine, vegetable shortening, mayonnaise, crackers and chips, cookies, cakes, pastries, packaged breads, candy, and most refined foods. Whole foods are typically high in healthy fats, including the essential fatty acids (see Quick Definition). Cold-water fish are good sources of essential fatty acids, valuable for the prevention of arthritis because of their anti-inflammatory characteristics.[27] Studies have also shown that arthritis patients showed major clinical improvement when supplementing their diets with cod liver oil, which

may also reduce the inflammatory process.[28]

Essential fatty acids (EFAs) are unsaturated fats required in the diet. Omega-3 and omega-6 oils are the two principal types. One important omega-3 oil is alpha-linolenic acid (ALA), found in flaxseed and canola oils, as well as pumpkin seeds, walnuts, and soybeans. Fish oils, such as salmon, cod, and mackerel, contain the other important omega-3 oils, DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid). Linoleic acid is the main omega-6 oil and is found in most vegetable oils, including safflower, corn, peanut, and sesame. The most therapeutic form of omega-6 oil is gamma-linolenic acid (GLA), found in evening primrose, black currant, and borage oils. Once in the body, omega-3 and omega-6 are converted to prostaglandins, hormone-like substances that regulate many metabolic functions, particularly inflammatory processes. Excess intake of omega-6 oils in relation to omega-3 oils will promote inflammation.

Arthritis sufferers commonly have a high level of acidity (**a urine pH that is lower than 6.3**), which increases the potential for developing inflammatory conditions. Acidity can be decreased by reducing your intake of acid-forming foods and increasing intake of alkaline-forming foods. The most acid-forming foods for the majority of people are sugar, alcohol, vinegar, coffee, meat, and dairy products. Foods known to increase the alkalinity of the body include all vegetables except tomatoes and aloe vera. **[Green foods such as chlorella, celery, barley grass, wheat grass, parsley, and alfalfa are highly alkalizing.]**

Dietary treatment for gout sufferers is intended to reduce the production of uric acid to normal levels. Michael Murray, N.D., of Issaquah, Washington, recommends that gout sufferers consume **half a pound of fresh cherries per day. Cherries, hawthorn berries, blueberries, and other dark red or blue berries are rich sources of compounds that favorably affect collagen metabolism and reduce inflammation of joints.**[29] Bioflavonoids found in black cherries have been used to reduce uric acid levels and decrease tissue destruction associated with gout.[30]

Gout patients should eliminate alcohol intake, which both increases uric acid production and reduces uric acid excretion in the kidneys. Reports indicate that elimination of alcohol is all that is needed to reduce uric acid levels and prevent gout in many individuals.[31] Gout sufferers should also maintain a low-purine diet, which completely omits organ meats, shellfish, yeast (brewer's and baker's), herring, sardines, mackerel, and anchovies. Foods with moderate levels of purines, including dried legumes, spinach, asparagus, fish, poultry, and mushrooms, should also be curtailed. To control gouty arthritic symptoms, refined carbohydrates and saturated fats should be kept to a minimum. Dr. Murray advises weight reduction in obese individuals, using a high-fiber, low-fat diet. Liberal fluid intake should be maintained, because it keeps urine diluted and promotes the excretion of uric acid.

Nutritional Supplements

Many researchers believe a proper balance of vitamins and minerals is essential in the treatment of arthritis. Linus Pauling, Ph.D., of the Linus Pauling Institute for Science and Medicine, in Palo Alto, California, and Robert Cathcart III, M.D., of Los Altos, California, both recommend large quantities of vitamin C.[32] Both an antioxidant and anti-inflammatory, vitamin C helps repair and maintain healthy connective tissue. It is essential for collagen production and the maintenance of the joint lining,[33] helps tissue repair, and reduces the bruising and swelling often associated with arthritis.[34] Vitamins A, B1, B6, E, and niacinamide (a form of vitamin B3) have also proven effective in treating and

preventing arthritis.[35] Vitamin D is a fatsoluble nutrient, considered to be both a vitamin and a hormone. It controls the absorption of calcium and phosphorus used in bone formation.[36]

Other dietary supplements that have anti-inflammatory and antioxidant effects important for arthritis prevention and treatment include boron, zinc, copper, selenium, manganese, pantothenic acid, and sulfur. **Bee pollen, royal jelly** (another bee product rich in pantothenic acid), eicosapentaenoic acid (EPA), and **evening primrose oil** are also beneficial in alleviating arthritis symptoms, especially among rheumatoid arthritics. All these supplements, though, should be taken only under supervision by a qualified health professional.

Cartilage-building supplements provide the raw materials to rebuild damaged cartilage and stop the unnecessary destruction of healthy cells. Julian Whitaker, M.D., of Newport Beach, California, notes that **glucosamine sulfate** supplementation can be especially effective in helping reverse arthritis. According to Dr. Whitaker, glucosamine plays an integral part in stimulating the production of connective tissue and new cartilage growth essential to the repair of arthritis damage. In a study in Milan, Italy, 80 patients with severe osteoarthritis were given a 30-day course of glucosamine sulfate (1.5 g daily). The treated patients experienced reduction in pain, tenderness, and overall symptoms. Examination of cartilage samples from the patients treated with glucosamine sulfate shared many structural aspects of healthy cartilage. The researchers concluded that glucosamine sulfate rebuilt damaged cartilage, thereby reducing pain and other symptoms.[37] Chondroitin sulfate is another supplement, often taken in conjunction with glucosamine, which seems to protect joints from breaking down. While there is debate about the body's ability to absorb chondroitin orally, injectable forms have proven quite effective.

WATER—NOT MEDICATION—TO RELIEVE ARTHRITIC PAIN

The most important life-giving substance in the body, and the one that the body desperately depends on, is water, says Fereydoon Batmanghelidj, M.D., of Falls Church, Virginia, author of *Your Body's Many Cries for Water*. Yet the body has no water storage system to draw on in times of need, according to Dr. Batmanghelidj, who points out that the parts of the body that suffer most from a shortage of water are those without direct vascular circulation, especially the joint cartilage in fingers, knees, and the spinal vertebrae.

Chronic pains are often indicators of chronic dehydration, adds Dr. Batmanghelidj. When any of your joints begin to signal aching pains that come and go, the first thought that should occur to you is that your body is severely short of water. Often, though, when the signs of water deficiency in joint cartilage are not recognized for what they indicate, painkillers are prescribed, frequently resulting in a dependence on addictive medication and possible permanent cartilage damage in the joints.

Rheumatoid joint pain is a direct signal of local water deficiency, explains Dr. Batmanghelidj. If water intake is consciously and regularly adjusted to the needs of each person, in most cases, these pains will gradually disappear. Local swelling of joint surfaces will possibly disappear, too. What is more important, the joint structure will begin to repair itself.

Calcium and magnesium are also vital nutrients in the fight against arthritis. Calcium is essential for bone, joint, muscle, and ligament health, while magnesium is necessary for calcium's proper incorporation into bone, by preventing a buildup of calcium in the soft tissues and joints. Most people, though, consume too much calcium and not enough magnesium. High protein diets, which are

common for many Americans, contain a lot of phosphorus, which binds up magnesium and makes it unavailable for the body's use.

Boron helps maintain bone and joint function and activates the metabolism of vitamin D. Low levels of boron in the soil-and thus in foods grown in that soil have been linked in many countries to increased osteoarthritis levels.[38] Boron supplementation helps to reduce the excretion of calcium and magnesium, important minerals in bone structure and muscle function.[39] Studies in Germany have found that boron can improve joint pain in osteoarthritis as well as decrease bone loss.[40]

Manganese has many functions in the body, including normal growth and metabolism. It helps to activate enzymes, is used for normal bone development, and acts as an anti-inflammatory.[41] Patients with rheumatoid arthritis are usually significantly deficient in manganese and supplementation is recommended.

Sulfur-containing compounds are used by the body to regenerate cartilage cells, maintain cellular functions, and produce the peptide L-glutathione, which is an antioxidant and is used by the liver to process toxins. **Sadenosylmethionine (SAmE)** is a natural substance produced by the body when the amino acid methionine combines with adenosine triphosphate (ATP) , an energy molecule present in all cells.[44] In one double-blind study, SAmE reduced pain in osteoarthritis patients as effectively as the drug ibuprofen and produced fewer side effects.[45] Similar studies have found that SAmE is an antiinflammatory and pain reliever in arthritis of the hip and knee.[46] Dimethylsulfoxide (DMSO) is also a source of sulfur (derived from wood pulp, garlic oil, or as a byproduct of petroleum) and thought to be a free-radical scavenger with anti-inflammatory properties. **Methylsulfonylmethane (MSM)** is a sister compound of DMSO derived from food sources. MSM is also naturally produced in the body, but levels decrease with age and in degenerative illnesses such as arthritis. Supplementing with MSM can reduce inflammation and scar tissue, relieve pain, and increase blood flow for improved exchange of nutrients.[47] Of special relevance in rheumatoid arthritis, MSM can help normalize the immune system and reduce the autoimmune response.

CETYL MYRISTOLEATE FIGHTS INFLAMMATION

The existence of a rare anti-arthritis substance (cetyl myristoleate) was stumbled upon in 1962 by Harry W. Diehl, Ph.D., a researcher for the National Institutes of Arthritis, Metabolism, and Digestive Diseases. Assigned to inject an arthritis-inducing agent into laboratory mice for the purposes of testing a new synthetic drug, Dr. Diehl found that the mice were strangely resistant to developing arthritis symptoms. Dr. Diehl eventually identified in the mice an oil called cetyl myristoleate responsible for preventing arthritis.

Cetyl myristoleate occurs in only a few Swiss albino mice, sperm whales, and the male beaver. To make this useful substance available to the public, Dr. Diehl found that a mixture of myristoleic acid (from fish oils and cow's milk butter) and cetyl alcohol, a molecule found in coconut and palm oils, rendered the same chemical substance found in the mice. Cetyl myristoleate appears to have three modes of therapeutic action that are helpful for both osteoarthritis and rheumatoid arthritis: it acts as a lubricant for smooth motion of joints and muscles, modulates immune system function, and has anti-inflammatory effects.[42]

Typical recommended dose: Cetyl myristoleate is usually given orally for a one-month period at a

Dose of 10g to 15 g. It is also available as a topical cream that can be rubbed into sore and painful joint areas. Because cetyl myristoleate is a fatty substance, take it in conjunction with 100 mg of lipase, an enzyme that digests fat.[43]

I. William Lane, Ph.D., author of *Sharks Don't Get Cancer*, reports that shark cartilage in capsule form is now being used to combat the pain of arthritis. Shark cartilage contains large amounts of mucopolysaccharides (carbohydrates that form chemical bonds with water), which stimulate the immune system and reduce the pain and inflammation of arthritis. Additional research shows that shark cartilage stops new blood vessel invasion of cartilage. This eliminates degradation of functioning cartilage. Clinical trials and practical application have shown that shark cartilage orally administered at least 30 minutes before meals is effective in reducing pain for many arthritic patients. In one trial, 80% of osteoarthritis patients at the Comprehensive Medical Clinic in Southern California responded well. The percentage of response for rheumatoid arthritis patients studied in other research was 50% to 60%.[48]

For gout patients, Dr. Murray recommends the following nutritional supplements: eicosapentaenoic acid (1.8 g daily), vitamin E (400-800 IU daily), folic acid (under a doctor's supervision, 10-40 mg daily), and quercetin with bromelain (125-250 mg three times a day between meals).[49]

Herbal Medicine

David Hoilinann, B.Sc., M.N.I.M.H., of Sebastopol, California, past President of the American Herbalists Guild, says that many anti-inflammatory herbs help in alleviating the symptoms of arthritis. Of the many possible combinations, this is a safe mixture that can be taken over a long period of time: combine the tinctures of meadowsweet, willow bark, black cohosh, prickly ash, celery seed, and nettle in equal parts and take one teaspoon of this mixture three times a day. In cases of rheumatoid arthritis, add wild yam and valerian to the mixture.

According to Dr. Murray, yucca and devil's claw may possess anti-inflammatory and analgesic effects for arthritic patients. In clinical trials with gout patients, devil's claw was found to relieve joint pain, as well as reduce blood cholesterol and uric acid levels. For gout sufferers, Dr. Murray recommends 1-2 g of dried powdered devil's claw root three times a day; 4-5 ml of (1:5) tincture three times a day; or 400 mg of dry solid extract (3:1) three times a day. According to the late Robert Bingham, M.D., the use of the yucca plant has proven highly successful as a nonspecific immune stimulator that reduces infection and inflammation. Yucca extract is made from the yucca plant found in deserts in the southwestern U.S. and in Mexico. Yucca extract is safe enough to take for long periods of time to prevent any recurrence of symptoms and can be purchased without a prescription.[54]

ARTHRITIS HELP FROM THE SEA

The green-lipped mussel, an edible shellfish native to New Zealand, is high in a unique kind of fatty acid known to reduce inflammation. ETA (eicosatetraenoic acid) is a previously unidentified type of omega-3 fatty acid with more biological activity than other omega-3s. Green-lipped mussels also contain amino acids, trace minerals, and GAGs (glycosaminoglycans, a component of cartilage). A typical recommended dose is 500 mg, three times per day with food. Precautions: Side effects are rare and mild, but include temporary aggravation of pain and tenderness, stomach discomfort, gas, and fluid retention.[50] People with known shellfish allergies should not use green-lipped mussel.

Sea Cucumber (beche-de-mer) is a small marine animal (related to the starfish) traditionally used as an

ingredient in Japanese and Chinese soups and stews.[51] Health benefits of cucumber include the relief of symptoms of rheumatoid arthritis, osteoarthritis, and ankylosing spondylitis.[52] Sea cucumbers also contain GAGs and chondroitin, which are important components of cartilage tissue.[53] A typical recommended dose is 500 mg twice a day. Precautions: People with seafood or shellfish allergies should not take sea cucumber.

Green tea (*Camellia sinensis*) contains bioflavonoids called catechins, which have anti-inflammatory and antioxidant properties and are helpful in treating rheumatoid arthritis by neutralizing free radicals that act on synovial membranes.[55]

Boswellia serrata, also known as boswella, has been used for centuries by Ayurvedic physicians for arthritic conditions. Its chemical component, boswellic acid, has powerful anti-inflammatory and analgesic activity.[56] Several studies have found that boswellic acid inhibits inflammation-causing agents, prevents interference with GAG (glycosaminoglycan) synthesis, and improves blood and lymphatic circulation to the joints.[57]

Lignum vitae (*Guaiacum cifficinale* and *Guaiacum sanctum*) is a tree native to South Florida, the Caribbean, and South America. The gum of this tree, guaia-gum, contains therapeutic resins and oils used as a pain reliever for arthritis, rheumatism, and gout.[58] Other recommended herbs include licorice and alfalfa. Feverfew has also been found effective in inhibiting the synthesis of pro-inflammatory compounds and decreasing the body's inflammatory response. Herbal remedies that have proven effective for rheumatoid arthritis include turmeric, ginger, skullcap, bupleurum, and ginseng.[59]

Environmental Medicine

"Allergic and allergy-like sensitivities are important factors in a large percentage of arthritis cases," states Marshall Mandell, M.D., Medical Director of the New England Foundation for Allergic and Environmental Diseases. "Allergies may or may not cause arthritis, but they definitely play a role in a majority of cases because they often aggravate and perpetuate the condition. When the substances to which arthritic patients are sensitive are eliminated, avoided, or contacted less frequently, the arthritis is relieved or eliminated."

The link between arthritis and allergic reactions to environmental chemicals and foods was first pointed out by Theron G. Randolph, M.D., the founder of environmental medicine. Dr. Randolph tested over 1,000 arthritis patients with commonly eaten foods as well as chemical substances (ranging from natural gas, auto exhaust, paints, perfume, and hair spray to insecticides, tobacco, and tobacco smoke) to find out which of these substances caused their symptoms.⁶⁰ The connection between arthritis and allergies was found to be quite significant.

In his own tests of over 6,000 patients, Dr. Mandell found that foods, chemicals, grasses, pollen, molds, and other airborne substances caused allergic reactions in the joints of nearly 85% of the arthritics he tested. Numerous other studies have shown various foods and food additives, as well as foreign invaders like protozoa, bacteria, yeast, and fungus, can also trigger or aggravate arthritic symptoms.[61]

It usually surprises arthritis patients to learn that both rheumatoid arthritis and the inflammation in osteoarthritis are caused to some degree by a combination of sensitivities to environmental

pollutants, food sensitivities, and/ or food toxic reactions.[62] There is ample evidence that food antigens (foreign substances) can cross the gastrointestinal membrane, enter the bloodstream, and circulate as injurious immune complexes. High levels of immune complexes have been found in both the blood and the fluid around the joints of arthritis patients.[63]

Although any food can theoretically trigger an allergic reaction in an individual, this list includes the most common food allergens of arthritis patients:

- Dairy products
- Beef
- Wheat
- Yeast (both baker's and brewer's)
- Eggs
- Chocolate
- Oranges
- Sugar
- Nuts (especially peanuts)
- Corn
- Green or yellow wax beans
- Nightshades (eggplants, potatoes, green and red peppers, paprika, tomatoes, tobacco)

All arthritis patients should be tested for food allergies. [STRIKE THAT: All arthritis patients should eat a plant-based diet of living and raw foods. Better, yet, juice fast under proper supervision. If this diet does not take care of symptoms, then an appropriate testing is in order.]

Once you have identified the foods you are allergic to, the next step is to eliminate them from your diet. Initially, you should completely refrain from eating all allergenic foods for 60-90 days. After this period, you can begin to slowly reintroduce them into your diet. You should also vary the foods that you eat on a daily basis to avoid developing new allergies. "You are likely to find that, as you reintroduce the foods to which you were once sensitive, your old symptoms will not reappear," says Dr. Zampieron. "This is because most food allergies can be cured through abstinence."

Fasting is another method used to reduce allergic reactions and the corresponding arthritic symptoms. During a fast, a patient typically eats only high-nutrient soups, water, and/ or vegetable juices. Following this type of diet for several weeks decreases the amount of immune complexes (substances formed when antibodies attach to antigens) circulating in the blood.

Detoxification strategies can help arthritis patients reverse the accumulation of toxins that otherwise promote the destruction of joint tissues and contribute to other degenerative conditions. Several methods of detoxification are currently available, including colon and bowel cleansing therapies, kidney and gallbladder flushes, physical medicine, and homeopathic remedies. Related therapies for detoxification incorporate bodywork, lymphatic drainage, aromatherapy, antioxidant defense support, and nutrient and herbal support to bolster the organs of detoxification.

[See Acupuncture, Ayurvedic Medicine, Biological Dentistry, Bodywork, Chiropractic, Detoxification

Bodywork

Osteoarthritis is directly related to skeletal and postural difficulties. Tendons and ligaments can be torn or stretched as a result of injury, exercise, or aging. The fascial tissues (thin sheets of connective tissue that hold muscles, joints, and organs together) tend to thicken and rigidify from overuse. When the body tries to compensate, bony spurs may appear in joints and on bones. Bodywork can alter postural difficulties. Restoration of proper, natural posture through deep massage and movement reeducation can enable arthritic sufferers to free themselves from the pain and limitations of the disease.

Massage is one of the most important therapies for the treatment of arthritis. People with arthritis often experience prolonged muscle tension with poor blood circulation in muscle tissues, which can cause nerve and joint pain. Massage helps to break up muscular waste deposits that can cause pain as well as to stimulate circulation in troubled regions in the body, which helps bring more oxygen and other necessary healing nutrients into the tissues and carry toxins away. Dr. Zampieron recommends that arthritis patients pursue a massage program at least two to three times per week in the early stages, then once a week for several months, with a maintenance schedule of twice a month.

Rolfing has been found to help many arthritis sufferers. The procedure was originally devised by Ida P. Rolf, Ph.D., a biochemist who used the technique to treat her own arthritis. She realized that conditions causing arthritic disturbance could be changed by stretching fascial tissues. Rolfing repositions the body in balanced alignment with gravity. "Many diagnoses of , arthritis' reflect nothing more serious than a shortened or displaced muscle or ligament resulting from a recent or notso-recent traumatic episode," said Dr. Rolf.[64]

Chiropractic

Chiropractic is an increasingly popular, drug-free treatment for arthritis that has proven highly effective. Certain cases of arthritis, particularly of osteoarthritis, are false diagnoses with the symptoms actually caused by misalignment, or subluxation, of vertebrae and joints. When this is the case, chiropractic adjustments can restore a full range of movement and free the body from pain. William M. Cargile, B.S., D.c., F.I.A.C.A., past Chairman of Research of the American Association of Oriental Medicine, estimates that 95% of osteoarthritic cases have misaligned vertebrae. "If the vertebrae are out of position and there are abnormal stresses, osteoarthritis occurs," Dr. Cargile explains. "Your body begins to grow bones-little stalactites and stalagmites between levels, fusing vertebrae." Hips, knees, ankles, and other joints can also be out of alignment, causing bone spurs to form in these joints.

Manipulation can help arthritis (particularly osteoarthritis in the spine) by restoring proper movement and positioning of the joints. Balanced movement prevents "wear and tear" damage to joints, ligaments, and cartilage. Frequent manipulations help decrease the accumulation of scar tissue after injury, thus preventing later osteoarthritic changes in the joints. Chiropractic adjustments, combined with proper nutrition can improve and, in some cases, reverse osteoarthritis.[65]

Acupuncture

According to Dr. Cargile, **rheumatoid arthritis is a result of an autoimmune problem** that prevents white blood cells from recognizing the joint surface as part of itself. "Acupuncture reduces the aggressiveness of the body against its own tissues and enhances its recognition of the joint tissue," he says. Dr. Cargile uses acupuncture as a whole-body system, utilizing an individual, case-by-case

approach to balance the immune system. "We are not just affecting arthritis, we are actually affecting the spleen because of its role in the lymphatic system and its production of white blood cells," he explains.

ARTHRITIS AND DENTAL AMALGAMS

Hal Huggins, D.D.S., of Colorado Springs, Colorado, a leading authority on biological dentistry, has found arthritic symptoms are often associated with mercury dental amalgams. He notes that once the amalgams are removed, the symptoms often disappear, especially if the mercury is then detoxified or chelated from the body.

Dr. Huggins recalls treating a patient, a professional pianist, with arthritis in her hands so pronounced she could no longer perform. She had also suffered from other medical problems for years, including tachycardia, candidiasis, stuttering, and mononucleosis. Dr. Huggins found that she had two mercury fillings and with a metal base. Both the bridge and mercury amalgams were removed, The patient quickly former energy, and the swelling and pain subsided. She was able to play the piano in concert again within two months.

Dr. Cargile cites the use of acupuncture on a 56year-old woman with a 20-year case of rheumatoid arthritis. She had become almost totally bedridden and her arthritis was being treated with methotrexate, a toxic chemotherapy drug usually used for cancer. The combination of her condition and the drug's extreme toxicity had her near death, but her fear of needles had kept her away from acupuncture. When she finally agreed to try it, she was delighted to discover she felt no pain from the needles. Treatments took place three times a week initially, then two times a week after the second month, and finally, once a week after the third month. She improved dramatically, with a marked decrease in inflammation and an increased range of motion. Her pain decreased as did all the associated symptomatic conditions of her arthritis.

Dr. Cargile has also found much success using a combination of acupuncture with chiropractic for the treatment of arthritis, particularly in cases of osteoarthritis.

Ayurvedic Medicine

According to Virender Sodhi, M.D. (Ayurveda), N.D., Director of Ayurvedic & Naturopathic Medical Clinic, in Bellevue, Washington, Ayurvedic medicine attributes arthritis to problems in the digestion of carbohydrates, proteins, and fats, which create production of intermediate molecules called *ama* and a condition called leaky gut syndrome. This digestive disorder triggers immune and allergic responses and results in the inflammation of the body's joints. Dr. Sodhi describes osteoarthritis as a "complete metabolic dehydration with no fluid left in the joints."

Ayurvedic medicine treats the digestive problems by working with diet and nutrition. Dr. Sodhi recommends that arthritic patients avoid foods that can cause indigestion, like broccoli, cauliflower, and lettuce. He advises patients to take herbs that enhance digestion, such as ginger, cayenne, black

pepper, long pepper, and turmeric. Patients are further advised to avoid proteins, especially from animal sources such as beef, chicken, shellfish, and pork (fish protein is acceptable), and to avoid alcohol, coffee, and tea. One liquid he recommends for arthritic patients is pineapple juice with a pinch of turmeric, which helps the body combat leaky gut syndrome.

Dr. Sodhi also tests his arthritic patients for food allergies and for parasites that can cause joint inflammation. Other Ayurvedic herbs are recommended to promote digestion and immune function. In particular, *triphala* helps cleanse the intestines and aids digestion. To increase joint mobility and protect joints from further damage, he recommends flaxseeds, fish oils, and *Boswellia*. Oil massages are beneficial, using sesame or olive oil. For swollen joints, massaging with castor oil helps pull toxins out of the body.

Breathing exercises to relieve the stiffness of the joints and to increase oxygenation are also important, according to Dr. Sodhi. For arthritis patients, he prescribes a regimen of breathing patterns, flexing of the joints of the hands, feet, and elbows, and yoga positions. After exercising, he recommends a soak in hot water enhanced with baking soda or salt, ginger, peppermint, and eucalyptus. He states that Ayurvedic treatment for many patients can turn their condition around in three to four months.

RECOMMENDATIONS

An important first step in treating arthritis is achieving normal body weight, as excess weight puts increased stress on weight-bearing joints affected with arthritis.

Whole (unprocessed) foods are rich in the nutrients needed to fight destructive free radicals, enhance tissue health, repair bones, joints, muscles, and tendons, balance the tissue acidity/alkalinity, and promote bowel regularity.

Dietary fats are an important consideration for anyone with arthritis. The wrong kind of fats (especially hydrogenated oils and saturated fats) can increase inflammation in joints, while the "good" fats (essential fatty acids like EPA) will help keep inflammation in check.

Vitamin C helps repair and maintain healthy connective tissue. Vitamins A, B1, B6, E, and niacinamide (a form of vitamin B3) have also proven effective in treating and preventing arthritis.

Calcium is essential for bone, joint, muscle, and ligament health, while magnesium is necessary for calcium's proper incorporation into bone, by preventing a buildup of calcium in the soft tissues and joints.

Yucca and devil's claw may possess anti-inflammatory and analgesic effects for arthritic patients. *Boswellia serrata*, also known as boswella, has been used for centuries by Ayurvedic physicians for arthritic conditions. Other herbal remedies that have proven effective for rheumatoid arthritis include turmeric, ginger, skullcap, bupleurum, and ginseng.

Allergies may or may not cause arthritis, but they definitely play a role in a majority of cases because they often aggravate and perpetuate the condition. When the substances to which arthritic patients are sensitive are eliminated, avoided, or contacted much less frequently, the arthritis is relieved or eliminated.

Restoration of proper, natural posture through deep massage and movement re-education can enable arthritic sufferers to free themselves from the pain and limitations of the disease.

Chiropractic is an increasingly popular, drug-free treatment for arthritis that has proven highly effective.

SELF-CARE

The following therapies can be undertaken at home under appropriate professional supervision:

OSTEOARTHRITIS

Flower Remedies / Guided Imagery / Qigong and Tai Chi

AROMATHERAPY: Dissolve camphor and mint in vodka or unroasted sesame oil and apply externally. . Lemon oil or marjoram oil (undiluted or mixed with sesame or olive oil) can be rubbed into the affected joints.

JUICE THERAPY: Celery juice during acute inflammatory stage. Carrot, celery, and cabbage juice. Carrot, beet, and cucumber

EXERCISE AND PHYSICAL THERAPY: Isometric exercises, yoga

RHEUMATOID ARTHRITIS

Guided Imagery / Yoga

AROMATHERAPY: Detoxify with cypress, fennel, and lemon. Massage affected joints with rosemary, benzoin, chamomile, camphor, juniper, lavender.

HYDROTHERAPY: Constitutional hydrotherapy (apply two to five times weekly) or heating compress (apply once daily to affected areas).' Leon Chaitow, N.D, DO., of London, England, reports that the neutral bath, with the patient immersed in water (350 C) for two hours, has been effective in reducing the swelling of joints in rheumatoid patients.

JUICE THERAPY: Carrot, celery, and cabbage juice; add a little parsley. Potato juice, Cherry juice (especially good for gouty arthritis). Take juice of half a lemon before every meal and before going to bed, then rinse with water afterward. Carrot, beet, and cucumber

During acute stage, 1-2 pints of celery juice daily. . Radish, garlic. Avoid tomato juice.

Professional Care

The following therapies should only be provided by a qualified health professional:

OSTEOARTHRITIS

Acupressure / Bodywork / Chiropractic / Craniosacral Therapy / Enzyme Therapy / Mind/Body Medicine / Orthomolecular Medicine / Osteopathic Medicine / Prolotherapy / Reflexology

ENERGY MEDICINE: Electrodermal screening (EDS) or applied kinesiology can help detect the underlying causes of arthritis.

RHEUMATOID ARTHRITIS

Enzyme Therapy / Magnetic Field Therapy / Mind/Body Medicine / Naturopathic Medicine / Orthomolecular Medicine / Osteopathic Medicine / Oxygen Therapies / Sound Therapy

ENERGY MEDICINE: Electrodermal screening (EDS) or applied kinesiology can help diagnose and determine the underlying causes of arthritis.

WHERE TO FIND HELP

For more information on, and referrals for, treatment of arthritis, contact the following organizations.

American Association of Oriental Medicine (AAOM)

433 Front Street
Catasauqua, Pennsylvania 18032
(888) 500-7999
Website: www.aaom.org

The AAOM is a national professional trade organization of acupuncturists who meet acceptable standards of competency and can provide you with the names and locations of local members. Referrals by written request only.

Ayurvedic & Naturopathic Medical Clinic

2115 112th Avenue NE
Bellevue, Washington 98004
(425) 453-8022
Website: www.ayurvedicscience.com

Dr. Virender Sodhi's clinic provides medical training for physicians and health-care practitioners, as well as individual courses for laypeople.

American Massage Therapy Association

820 Davis Street, Suite 100
Evanston, Illinois 60201
(312) 761-2682
Website: www.amtamassage.org

Contact them for the location of a licensed massage therapist in your area.

American Association of Naturopathic Physicians

601 Valley Street, Suite 105
Seattle, Washington 98109
(206) 298-0126
Website: www.naturopathic.org

Contact them for the location of a licensed naturopathic physician in your area.

American Chiropractic Association

1701 Clarendon Blvd.
Arlington, Virginia 22209
(800) 986-4636 or (703) 276-8800
Website: www.amerchiro.org

A major source for information on chiropractic. Monthly publication and newsletter. Provides referrals on request.

The Arthritis Trust of America

7111 Sweetgum Road, Suite A
Fairview, Tennessee 37062-9384

They have a listing of physicians who use one or more of the various recommendations for osteoarthritis, rheumatoid disease, and gout. They are a non-profit, charitable group, so send a contribution to help defray the cost of services requested.

Recommended Reading

Arthritis: An Alternative Medicine Definitive Guide. Eugene Zampieron, ND.,A.H.G., and Ellen Kamhi, Ph.D., R.N, H.NC., with Burton Goldberg. Tiburon, CA: AlternativeMedicine.com Books, 1999.

The Arthritis Bible. Leonid Gordin and Craig Weatherby. Rochester, VT: Inner Traditions, 1999.

Arthritis: The Allergy Connection. John Mansfield, M.D. Wellingborough, England: Thorsons Publishers, 1990.

The Arthritis Helpbook. Kale Lorig, R.N, and James Fries, M.D. Cambridge, MA: Perseus Press, 2000.

Arthritis Relief at Your Fingertips. Michael Reed Gach, Ph.D. New York: Warner Books, 1990.

How to Deal with Back Pain and Rheumatoid Joint Pain. Fereydoon Batmanghelidj, M.D. Falls Church,VA: Global Health Solutions, 1992.

Natural Medicine for Arthritis. Glenn S. Rothfeld and Suzanne LeVert. Emmaus, PA: Rodale Press, 1996.

ARTHRITIS FACTS

Source: www.HealthBookSummaries.com, www.NaturalNews.com

1. According to the Arthritis Foundation, nearly one in three adults has arthritis or chronic joint symptoms, and arthritis is the leading cause of disability among Americans older than age fifteen.

- David Winston, RH(AHG), and Steven Maimes, *Adaptogens: Herbs for Strength, Stamina, and Stress Relief*

2. Enzyme therapy has been used to treat arthritis for many years, particularly because of the ability of certain enzymes to reduce inflammation.

- Tom Bohager, *Everything You Need to Know About Enzymes to Treat Everything from Digestive Problems and Allergies to Migraines and Arthritis*

3. The two most common types of arthritis are osteoarthritis and rheumatoid arthritis. Fibromyalgia often is considered an arthritis-related condition, but it is not a true form of arthritis because it does not cause inflammation or damage to the joints.

- David Winston, RH(AHG), and Steven Maimes, *Adaptogens: Herbs for Strength, Stamina, and Stress Relief*

4. The most common form of arthritis, osteoarthritis, afflicts 12 percent of the United States population age twenty-five and older (approximately 21 million people).

- Jonathan W. Emord, *The Rise of Tyranny*

5. Rheumatoid arthritis is an autoimmune disease that is related to but distinct from osteoarthritis. In rheumatoid arthritis antibodies are formed against components of bone, cartilage and synovia of joints, and the immune cells of the body attack the joints of most parts of the body, causing inflammation, fibrosis and joint destruction. Although this disease can affect children in the juvenile form of rheumatoid arthritis, most sufferers from arthritis are middle-aged or elderly.

- Kilmer S. McCully, *The Homocysteine Revolution*

6. Juvenile arthritis is a form of rheumatoid arthritis that strikes children under the age of sixteen. It affects 71,000 young Americans, most of them female. The onset of rheumatoid arthritis is associated with physical or emotional stress, poor nutrition, and bacterial infection. Rheumatologists have discovered that the blood of many people with rheumatoid arthritis contains antibodies called rheumatoid factors, a finding that can aid in the diagnosis of the condition. While osteoarthritis affects individual joints, rheumatoid arthritis affects all of the body's synovial joints.

- Phyllis A. Balch, CNC, *Prescription for Nutritional Healing, 4th Edition: A Practical A-to-Z Reference to Drug-Free Remedies Using Vitamins, Minerals, Herbs & Food Supplements*

7. Juvenile rheumatoid arthritis is the most prevalent form in children, and there are three major types: polyarticular (affecting many joints), pauciarticular (affecting a few joints), and systemic (affecting the entire body). The signs and symptoms of juvenile rheumatoid Arthritis vary from child to child. There is no single test that establishes conclusively a diagnosis of juvenile Arthritis, and the condition must be present consistently for six or more consecutive weeks before a correct diagnosis can be made. Heredity is thought to play some part in the development of juvenile Arthritis.

- Phyllis A. Balch, CNC, *Prescription for Nutritional Healing, 4th Edition: A Practical A-to-Z Reference to Drug-Free Remedies Using Vitamins, Minerals, Herbs & Food Supplements*

8. Today there is a very simple, effective, and inexpensive treatment for arthritis: powdered dried chicken cartilage — specifically, 1 teaspoonful in a glass of fruit juice once a day. Shark cartilage, which is quite rich in various nutrients, also works well in this application. According to a study performed by Harvard Medical School, arthritis sufferers who had previously been treated by conventional means with no results took this dosage of chicken cartilage and found that all pain and inflammation disappeared in ten days. In three months, they had recovered lasting mobility.

- Marie-France Muller, M.D., N.D., Ph.D., *Colloidal Minerals and Trace Elements: How to Restore the Body's Natural Vitality*

9. The sulfur content in fingernails of arthritis sufferers is lower than that of healthy subjects without arthritis. Ginger contains anti-inflammatory compounds called gingerols. These substances are believed to explain why so many people with osteoarthritis experience reduction in their pain levels and improvement in their mobility when they consume ginger regularly. Although most scientific studies have used powdered gingerroot, fresh gingerroot at an equivalent dosage is believed to yield even better results because it contains active enzymes. Most studies utilized 1 gram of powdered gingerroot.

- Michael Murray, N.D. and Joseph Pizzorno, N.D., *The Encyclopedia of Healing Foods*

10. The swelling and deformity that takes place in arthritic joints can result from a thickening of the synovial membrane, an increase in the secretion of synovial fluid, enlargement of the bones, or some combination of these factors.

- Phyllis A. Balch, CNC, *Prescription for Nutritional Healing, 4th Edition: A Practical A-to-Z Reference to Drug-Free Remedies Using Vitamins, Minerals, Herbs & Food Supplements*

11. The anti-inflammatory action of the following adaptogens makes them useful for relief from arthritis: amla, ashwagandha, Asian ginseng, cordyceps, eleuthero, guduchi, holy basil, jiaogulan, licorice, reishi, rhodiola, schisandra, and shilajit.

- David Winston, RH(AHG), and Steven Maimes, *Adaptogens: Herbs for Strength, Stamina, and Stress Relief*

12. Arthritis can sometimes be exacerbated by a deficiency in minerals, including phosphorous, magnesium, calcium, and manganese, and also by a lack of vitamins E and C.

- Dharma Singh Khalsa, M.D., *Brain Longevity: The Breakthrough Medical Program that Improves Your Mind and Memory*

13. Research has shown that fish-oil supplements can sometimes reduce the pain, swelling, and stiffness of rheumatoid arthritis, says Dr. Prosch. Take 6 grams, or six 1,000-milligram capsules, a day for 4 to 6 months, he recommends. The capsules provide 1,080 milligrams of EPA and 720 milligrams of DHA, which is the average amount needed by most patients, he says. You can take them all at once or in divided doses, according to Dr. Prosch. As with most natural treatments for chronic disease, don't expect the pain to vanish overnight. For most people, it takes 3 to 4 months before the treatment begins to soothe aching joints. After about 5 months, Dr. Prosch recommends reducing the dosage to three capsules, or 3,000 milligrams, daily.

- Bill Gottlieb, *Alternative Cures: The Most Effective Natural Home Remedies for 160 Health Problems*

14. Athletes are not necessarily more likely to develop osteoarthritis than couch potatoes, though football players and those who damage their joints are at greater risk. In some respects the couch potato may be in greater danger of developing joint problems than many athletes. If you are overweight, you put more strain on your knees and hips and increase your risk for later problems. We are also beginning to learn that what you eat may influence your risk of arthritis.

- Joe Graedon, M.S. and Teresa Graedon, Ph.D., *Best Choices From the People's Pharmacy*

15. Lyme disease can mimic arthritis, causing many of the same symptoms.

- Phyllis A. Balch, CNC, *Prescription for Nutritional Healing, 4th Edition: A Practical A-to-Z Reference to Drug-Free Remedies Using Vitamins, Minerals, Herbs & Food Supplements*

16. Another autoimmune disease that often manifests itself as arthritis is systemic lupus erythematosus (Lupus). For reasons unknown, the body produces antibodies that act against its own tissues. In its early stages, ulcerative colitis can cause symptoms like those of arthritis. Because this may occur before there are any abdominal symptoms, it can lead to misdiagnosis and delayed treatment. More information about arthritis is available from the Arthritis Foundation.

- Phyllis A. Balch, CNC, *Prescription for Nutritional Healing, 4th Edition: A Practical A-to-Z Reference to Drug-Free Remedies Using Vitamins, Minerals, Herbs & Food Supplements*

17. In nearly half of the women with unexplained arthritis tested in one study, chlamydia was found in the joints. Seventy-five percent had elevated levels of antibodies to chlamydia in their blood.

- Phyllis A. Balch, CNC, *Prescription for Nutritional Healing, 4th Edition: A Practical A-to-Z Reference to Drug-Free Remedies Using Vitamins, Minerals, Herbs & Food Supplements*

18. Benefits of cayenne for specific health conditions include the following: Arthritis, diabetic and herpes-related nerve Damage, psoriasis, and sore muscles. Capsaicin in cayenne acts as a counter-irritant, causing temporary pain to the skin that depletes the chemical messengers of pain for the joint.

- Phyllis A. Balch, CNC, *Prescription for Herbal Healing: An Easy-to-Use A-Z Reference to Hundreds of Common Disorders and Their Herbal Remedies*

19. Olives and olive oil may also be important in the prevention and treatment of asthma, arthritis, and Cancer. Since healthy oils are important for lowering systemic inflammation, it is not surprising that olive oil intake has been shown to be helpful with arthritis and asthma symptoms as well.

- Michael Murray, N.D. and Joseph Pizzorno, N.D., *The Encyclopedia of Healing Foods*

20. In the northern hemisphere, communities that are farther north tend to have more Type 1 diabetes, multiple sclerosis, rheumatoid arthritis, osteoporosis, breast cancer, prostate cancer and colon cancer, in addition to other diseases.

- T. Colin Campbell, Ph.D. and Thomas M. Campbell II, *The China Study: The Most Comprehensive Study of Nutrition Ever Conducted and the Startling Implications for Diet, Weight Loss and Long-term Health*

ARTHRITIS AND DAIRY

Source: *White Lies*, <http://www.vegetarian.org.uk/whitelies/report01.html>



The most common form of arthritis is called osteoarthritis, a degenerative disease where articular cartilage gradually becomes thinner as its renewal does not keep pace with its breakdown. Eventually the bony articular surfaces come into contact and the bones begin to degenerate. This condition tends to occur in older people; around 12 per cent of people over 65 in the UK are affected (NHS Direct, 2005). Osteoarthritis can develop after an injury to a joint; this can happen months or even years after the injury. The most frequently affected joints are in the hands, knees, feet, hips and spine.

The next most common type of arthritis is rheumatoid arthritis, a chronic inflammatory disease of the joints. This type of arthritis affects up to three per cent of the UK population, and tends to occur in people between the ages of 30 and 50. Women are three times as likely to develop this condition as men (NHS Direct, 2005). Rheumatoid arthritis is a chronic condition characterised by hot painful swelling in the joints. In many diseases inflammation can help towards healing but in rheumatoid arthritis it tends to cause damage. For some people the pain and discomfort caused by this condition has a serious impact on their lives. Rheumatoid arthritis is thought to be an autoimmune disease, caused by a fault in the immune system that causes the body to attack its own tissues. This condition usually starts in the wrists, hands and feet but can spread to other joints in the body.

Other forms of arthritis include ankylosing spondylitis, cervical spondylitis, fibromyalgia, lupus, gout, psoriatic arthritis and Reiter's syndrome (NHS Direct, 2005). Arthritis can also affect children but the causes of juvenile arthritis are poorly understood. It has been suggested that genetic factors or viral infections may be responsible (NHS Direct, 2005).

Until recently there has been little scientific research into the links between diet and arthritis but recent research suggests that diet may be involved in its development. It is important for people with arthritis to maintain a healthy well-balanced diet. Arthritis Care (the UK's largest voluntary organisation working with and for people with arthritis) suggest a diet high in fruit, vegetables, pasta, fish and white meat and low in fatty foods such as red meat, cream and cheese can help (Arthritis Care, 2004). Indeed most people could benefit from eating less sugar and saturated fat and eating more complex carbohydrates, fibre, vitamins and minerals.

If you suffer from arthritis it is important to keep as healthy as possible by ensuring that the diet provides all the important nutrients including minerals such as calcium and iron. Some people are concerned that their calcium intake may drop if they cut out dairy foods. Arthritis Care suggests that if you don't like or are unable to eat dairy products, you should obtain enough calcium from non-dairy sources (Arthritis Care, 2004a). They list several non-dairy sources of calcium including bread, green leafy vegetables and baked beans (also see [here](#)). They also warn people with arthritis to be careful not to have too much animal protein, salt or caffeine as excessive quantities of these can reduce the body's ability to absorb or retain calcium (Arthritis Care, 2004a). Others are worried about iron, particularly people who have recently stopped eating red meat. This should not be a concern as vegetarians and vegans are no more likely to become iron deficient than meat-eaters. **Indeed one of the largest studies of vegetarians and vegans in the world (the EPIC Oxford cohort study) looked at over 33,883 meat-eaters, 18,840 vegetarians and 2,596 vegans and found that the vegans had the highest intake of iron, followed by the vegetarians then the meat eaters (Davey et al., 2003).** It should be stressed that milk and milk products are an extremely poor source of iron, whereas pulses, dried fruits and dark leafy vegetables are good sources.

The Arthritis Research Campaign (ARC) founded in 1936, raises funds to promote medical research into the cause, treatment and cure of arthritic conditions. ARC has produced dietary guidelines for people with arthritis and they suggest that one of the most important links between diet and arthritis is being overweight. The extra burden on the joints can make symptoms considerably worse. Losing weight can have a dramatic effect in improving the condition. In order to lose weight, you need to use more energy than you consume in the diet. Research shows that vegetarians and vegans weigh less than meat-eaters and ARC suggests that a lacto-vegetarian diet might help some people with rheumatoid arthritis. They also go further to state that a vegan diet may also help (ARC, 2002). Cutting down on sugar and taking regular (even gentle) exercise will help control weight as well.

Saturated fats are the most important kind of fat to cut down on. The body does not require saturated fats and they may aggravate arthritis whereas essential fatty acids (EFAs) have been shown to help some people with arthritis as the body uses EFAs to make substances that help control inflammation (ARC, 2002). When trying to lose weight, it is important to maintain a good intake of vitamins and minerals. This means consuming plenty of fruit and vegetables. A healthy balanced diet containing plenty of fruit and vegetables, pulses and whole grain carbohydrate foods (such as wholemeal bread, brown rice and whole wheat pasta) provides a good supply of vitamins and minerals (and fibre). A diet lacking in fruit and vegetables, and containing processed carbohydrates (such as white bread, white rice and white pasta) does not provide such a good source of these essential nutrients. This can have a

deleterious effect on health as the ARC states that a good diet can still help even if strong drugs are being taken to treat arthritis (ARC, 2002).

The subject of food allergy and arthritis is quite controversial. However, research has shown that, in some people, rheumatoid arthritis can be made worse by certain foods including milk products and food colouring (ARC, 2002). If you think you are allergic to a particular food ARC recommend cutting it out of your diet for one month then reintroducing it to see if it makes a difference. **In 2001, Swedish researchers reported that nine out of 22 patients with rheumatoid arthritis showed significant improvements in their condition compared to one patient out of 25 after following a gluten-free, vegan diet (Hafstrom et al., 2001).** Of course it is difficult to say whether eliminating milk was the reason these patients improved as they eliminated all animal foods and gluten from the diet. However, this work does provide evidence that dietary modification can benefit arthritis patients.

INORGANIC MINERALS, JUICES AND FOODS

Source: [The Tao of Sex, Health, and Longevity by Daniel P. Reid](#) (99)



Caused by deposits of inorganic calcium in the cartilage of joints, where they eventually form 'spurs' that cause intense pain and inhibit movement of joints; these deposits are caused by incomplete digestion of incompatible foods and accumulation of toxic wastes throughout the system; **the body dumps these inorganic minerals in the joints, where they won't pollute the bloodstream;** excess consumption of concentrated starch and sugar and too much cooked meat in the diet are major factors.

Celery juice: rich in organic sodium, which dislodges inorganic calcium deposits from joints and holds them in solution until eliminated through kidneys; 1 pint daily; 2 pints if mixed with carrot juice.

Grapefruit juice: fresh raw grapefruit juice (no sugar) is highly effective in dissolving deposits of inorganic calcium in joints; mix half/half with distilled water, 1-2 pints daily.

~~**Bone meal:** bone meal is a rich source of readily assimilable organic calcium and other vital minerals that are indispensable for proper bone and joint formation; mix 1-2 tsp into any raw juice in the morning.~~

Cherries: raw black cherries contain active enzymes that help dissolve calcium spurs in joints; eat about 1 pound on empty stomach and take no other food for at least 12 hours, continue for 1-3 days in severe cases.

Grapes: when eaten exclusively for 1-5 days, depending on severity, raw black grapes provide amazing therapeutic relief for acute arthritis; 2-3 pounds per day; chew skin, seeds and pulp very well before swallowing.

Other beneficial foods: molasses; alfalfa (tea or sprouts); asparagus; whole barley; whole lemon, lime

or orange pureed in blender with 1 cup distilled water (including peel, fibers and seeds).

Foods to avoid: incompatible combinations, especially of protein and starch; pasteurized milk; cooked eggs; ice cream; salt; excessive consumption of cooked foods, **especially animal proteins.**

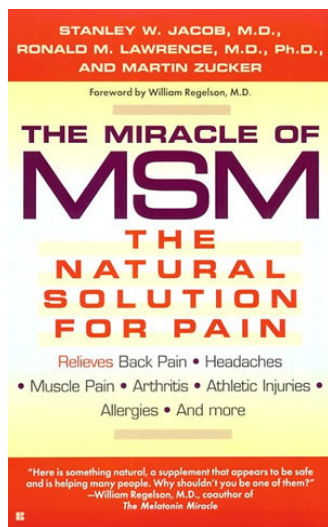
LEAKY GUT SYNDROME

Source: "How Leaky Gut Syndrome Develops" [Leaky Gut Syndrome by Elizabeth Lipski, M.S., C.C.N.](#)

The mucus layer is weakened, allowing bacteria and fungi to pass into the bloodstream and throughout the body. When intestinal bacteria wander from the intestine and colonize in other parts of the body, we call it **bacterial translocation**. This can occur if there is a disruption of the balance of the normal gut flora which results in bacterial overgrowth or decreased immune resistance. Physical disruption, for example, after surgery or tube feeding in hospitals, can also cause bacterial translocation.⁶ (It has been strongly suggested that this bacterial translocation, when coupled with leaky gut syndrome, plays a role in multiple organ failure⁷) It is often found in people with leaky gut syndrome. **For example, *Blastocystis hominis*, a bacteria which can causes GI problems, has been found in the synovial fluid of people with arthritis.**

ARTHRITIS – OSTEOARTHRITIS AND MSM

Source: "Arthritis (Osteoarthritis)" in *The Miracle of MSM* by Stanley W. Jacob, M.D. (81-97)



"I will see you back for surgery": Ellen Nelson's Story

Ellen Nelson delivers the mail in Littleton, Colorado. She carries a pouch that weighs upward of thirty-five pounds, for five and sometimes six days a week. She was doing just fine until she noticed her right knee starting to ache and stiffen up during the busy Christmas postal season of 1997.

Nelson shrugged it off as a reaction to the extra-heavy load of Yuletide parcels and cards as well as overtime. But in the month following the holidays, the stiffness increased and the ache turned into outright pain. She went to see her general practitioner. The doctor examined the forty-five-year-old mail carrier's right knee and concluded she had developed degenerative arthritis. Moreover, the doctor said, her other knee, even though it wasn't hurting at the time, appeared to be in even worse shape.

The physician referred her to an orthopedic specialist who confirmed the diagnosis after additional X-rays and tests.

"The orthopedist prescribed physical therapy, knee braces, and 600 milligrams of ibuprofen daily," Nelson says. "As I left his office he said, 'I am pretty sure I will have to see you back for surgery on both knees.'"

Nelson began taking the medication and wearing the braces, which was difficult as her job involved a lot of climbing in and out of her mail truck.

"The condition worsened, and my left knee soon began hurting me worse than the right," she says. "The pain and stiffness were bad in the morning when I got up. I had to stand by the edge of the bed and move my feet up and down just so I could begin to function. If I stepped in a hole or stubbed my toes against a sprinkler head during my route, the pain would jolt my legs like electricity. Once or twice a week, the pain would wake me up at night, with my knees and shins involved. Sometimes I would also have painful night cramps in my legs as well. The pain medication helped take the edge off for a few hours but when it wore off the pain and stiffness would return."

Nelson, who had never taken prescription medication before, was uncomfortable with the prospect of long-term pain pills. Her physician wanted her to come back in six months for bloodwork to check for any possible adverse effects in the body from the medication.

"The thought of side effects, of damage to my liver or kidneys, was very disturbing," says Nelson. "I liked less the prospect of surgery."

Pain had suddenly entered and upended her life. She even had to stop going to movies because the pain didn't allow her to sit through a film.

In spring of 1998, Nelson struck up a conversation with a resident along her mail route who works as a salesman for a leading nutritional supplement company. During their chat, health issues came up and Nelson mentioned her problem with arthritis. The salesman then told her about how he had used a nutritional supplement to relieve a painful shoulder condition. He offered her a sample of the supplement and suggested she try it for a month. The supplement was MSM.

"I am basically a skeptic and I wouldn't have gone to a health food store to buy it," she says. "But I figured I had nothing to lose."

Nelson started taking three one-gram (1,000 milligram) capsules of MSM a day and continued with her pain medication. For almost a month she felt no difference. Then she began noticing improvement—less stiffness and pain in her knees.

"The improvement continued, and soon I had the same spring back in my legs just like I had before all this started," she says. "I was feeling major relief."

As her pain level dropped, Nelson weaned herself off the medication. Within two months, she discontinued it totally.

"I was pain-free," she says. "No pain in the knees. No cramps. I'm walking my route faster. One weekend I went for a long car ride, attended a baseball game, and climbed on my roof to trim some crab apple trees. I could never have done that before. I'm back to seeing movies. I feel like a new woman."

About Osteoarthritis

Wear and tear of the joints of the body leads to osteoarthritis, or, as it is called medically, **degenerative joint disease**. This, the most common form of arthritis, causes much misery as we get older and leads to musculoskeletal pain, the No.1 chronic pain condition, according to the American

Geriatrics Society.

Over time, the joints begin to degenerate from usage. Depending on genetic predisposition, your lifestyle, biochemical and hormonal changes, and what you do for a profession, the degeneration occurs earlier or later, faster or slower.

The facing bone surfaces in a joint are coated with a layer of cushioning tissue called **cartilage**. This soft and spongy material enables us to enjoy locomotion and movement in a painless manner. The cartilage ensures a smooth ride, a frictionless movement of parts, but it becomes damaged from years of wear and tear. This degradation triggers the production of enzymes that further damage the tissue. The result is gradual degeneration of the cartilage.

It becomes rough, brittle, dry, and pitted. Inflammation occurs and can affect the synovial membrane (the tissue lining the joints) as well as adjacent tendons or ligaments. You experience stiffness, muscle strain, fatigue, decreased function of the joint, and pain. You have arthritis. Weight-bearing joints under the most stress are the most common trouble spots. They include flexible bones in the spine, the knees, and hips. The shoulder, hands, and feet are also frequently affected.

According to The Arthritis Foundation, 21 million Americans are affected with degenerative arthritis, mostly individuals over the age of forty-five. It is the number-one cause of disability for people over sixty-five-surpassing back pain, cancer, diabetes, and heart and lung conditions. After we turn the corner into the new millennium, the numbers are expected to rise precipitously as the growing wave of baby boomers hit fifty and sixty.

Conventional medical treatment focuses on a dangerous pharmaceutical barrage of painkillers aimed at silencing the pain associated with arthritis. From aspirin and acetaminophen, to cortisone and nonsteroidal anti-inflammatory drugs, **these medications are neither corrective nor preventive.** They, in fact, can be detrimental to the health of the patient if taken for a length of time.

NSAIDs, as we discussed in earlier chapters, are used widely for arthritis. However, these drugs are risky both to the patient and the patient's joints. NSAIDs work by blocking the action of enzymes that help produce inflammatory compounds. At the same time, however, the drugs also inhibit enzymes that produce components of cartilage. Thus, you may see some pain relief from NSAIDs for as long as you take them, but beneath the surface they may be actually accelerating the arthritic process!

Three Clinical Perspectives on MSM and Osteoarthritis

Perspective #1-Stanley Jacob, M.D.

MSM impacts osteoarthritis in the following ways:

- It reduces pain.
- It reduces inflammation.
- It reduces muscle spasm around arthritic joints, which also helps relieve pain. - It lessens the formation of scar tissue. - It improves blood flow throughout the body, including painful joints.
- It may slow down the degeneration of cartilage.
- It delivers biologically active sulfur to the body.

A number of medical studies over the years have indicated that sulfur levels in arthritic joints are lower than normal. In a 1995 study, sulfur concentration in arthritic cartilage was shown to be about one-third the level of normal cartilage. This figure was comparable to earlier sulfur measurements reported in *The Journal of Bone and Joint Surgery* and *the Journal of the Southern Medical Association* during the 1930s, which described the use of intravenous and intramuscular injections of sulfur for arthritis. **These studies found the cystine content of fingernails to be 25 percent lower in arthritics.** Cystine is a sulfur amino acid that helps build hard tissue such as fingernails and hair. In one of these older studies, **when a group of 100 arthritics was given a solution of sulfur intravenously, pain was relieved in many cases and the cystine fingernail test returned to normal.**

MSM offers major benefits for osteoarthritis. At this time we don't know precisely how the sulfur in MSM is utilized by the body to help arthritis, and whether, for instance, it directly contributes to the maintenance or repair of cartilage and joints. Sulfur-containing compounds called glycosaminoglycans are abundant in the cartilage and synovial fluid of joints.

In my clinic I have used MSM routinely for many years, often for severe, debilitating osteoarthritic cases where patients have traveled long distances seeking help. These are not minimal cases of pain and discomfort. MSM supplementation has provided significant improvement-less pain, less stiffness, greater mobility.

Study: MSM vs NSAIDs

Some years ago I conducted a clinical experiment to compare the effect of MSM and NSAIDs. In the study, twelve female arthritic patients were randomly assigned to take a moderate dosage of 600 milligrams of Motrin three times daily. Motrin is a popular NSAID. Another twelve women were assigned to take 6 grams (6,000 milligrams) of MSM daily. After one month, the patients from both groups reported an approximately equal degree of improvement in terms of reduced pain and inflammation. Among the Motrin group, three patients complained of moderate discomfort from hyperacidity. Gastrointestinal complaints are common among NSAID users. **No side effects were reported among the patients who took MSM.**

This small clinical study, while not a rigorously controlled experiment, nevertheless demonstrates there are safe, effective nonpharmaceutical remedies for arthritis.

Many of my patients ask me about glucosamine sulfate, another sulfur compound enjoying current popularity as a remedy for osteoarthritis. Glucosamine is an organic component of connective tissue and cartilage. As a supplement it is said to help relieve symptoms and stimulate new cartilage formation.

MSM compared to glucosamine sulfate

A number of my patients have compared MSM to glucosamine sulfate. They have expressed the opinion that while glucosamine has given them varying degrees of relief, they feel that MSM provides even greater relief. Glucosamine sulfate is certainly worthwhile. In my experience, MSM is more effective for severe cases.

In 1997, one patient told me that she had better results when she took both MSM and glucosamine sulfate. There was less pain when she took both, she said, than when she took one or

the other. I decided to test her observation and recommended to about two dozen osteoarthritis patients then taking MSM that they now add 1,500 milligrams of glucosamine, the generally recommended daily dosage. The feedback was quite positive. Less pain, the patients said. Thus there may be a synergistic effect from combining these two supplements.

As a tribute to MSM's potency, some supplement companies have already begun adding MSM to their glucosamine sulfate formulations. *[now done very frequently]*

Patients have frequently asked my opinion about chondroitin sulfate, another popular nutritional supplement suggested for arthritis. I have not seen patients improve after adding chondroitin sulfate, however.

MSM often allows patients on medication to reduce the number of pain pills they need and sometimes even eliminate them. If you are on medication, always consult your physician first before modifying or stopping a prescription. Some individuals have been taking **cortisone** for many years for its anti-inflammatory effect. In such cases, it is not advisable to stop taking it without medical supervision. You may not be able to eliminate the cortisone altogether. **This is because once you take cortisone for a long period of time, your body's natural ability to produce its own cortisone—the anti-inflammatory hormone, cortisol—becomes diminished and may even be permanently suppressed.** But MSM may allow you to reduce the dosage. But for your own safety, do not reduce this or any other prescriptive medication on your own, no matter how well you are feeling.

Knee and Hip Replacement

In some very severe cases, MSM has postponed the need for hip or knee replacement. An example of this was a 70-year-old patient with severe arthritis in both knees. His physician had recommended double replacements, which in his case was inevitable.

He was in pain when he sat and developed more pain when he walked even a short distance. He started MSM orally and topically and within two months began to walk with much less pain and stiffness. He felt a great improvement in his overall quality of life. If MSM can postpone surgery by even a year or two, as in his case, replacement techniques will improve and the potential for a more successful outcome will be enhanced.

Perspective #2-Ronald Lawrence, M.D.

The first of my pain patients to start on MSM was an 80-year-old woman with generalized arthritis. Her condition involved the fingers, hands, knees, neck, and low back. Like some of my other arthritic patients, she had been taking glucosamine sulfate for a year or more. With glucosamine, her pain had lessened by about 30 percent. After starting MSM, she reported an additional-and significant-reduction in pain.

As I began recommending MSM to my other arthritic patients, they would tell me the same thing. Within two to four weeks, sometimes sooner, they would start feeling better. Less stiffness. Much less pain.

One such patient was a 75-year-old lawyer who already had undergone two knee replacements. He

also suffered from severe arthritis in both shoulders, feet, and the low back. I introduced him to MSM as an addition to an existing treatment program that included acupuncture. In about four weeks he reported feeling significant improvement in overall pain. As this book is being written, he has been taking three heaping teaspoons of MSM daily for seven months. He says his pain relief is substantial, and he also reports being more limber.

Tom Rodriguez, my gardener, had developed painful degenerative arthritis in his lower back and knees, the physical toll of nearly forty years of hard landscape work in the Los Angeles area.

"It is getting harder and harder to move around," he told me. "My legs feel heavy and just don't have the same power as when I was younger. You get older and you got to expect these things."

Tom, who is 69, said that at the end of a long work day, he was increasingly relying on aspirin or Tylenol to ease his pain. I gave him a supply of MSM and suggested he try three 750-milligram capsules daily. A month later, Tom told me that his pain was virtually gone.

"The pills you gave me helped plenty," he said. "There is just slight pain in the knees, but the back pain is gone. My legs are much more flexible and not as heavy as they felt before. I haven't taken aspirin once. I am very happy and I am not going to stop taking the MSM."

This kind of positive feedback from patients and friends prompted me to conduct a small clinical study to measure the pain-reducing power of MSM. Pain is a very subjective matter. Only the person suffering really knows how much he or she is hurting. It is hard to express the degree of pain verbally. For the purposes of this trial, patients were asked to assess their pain on a scale of 0 to 100 (100 being the worst pain) at the start of the experiment, again at four weeks after starting MSM, and again at six weeks.

In the study, subsequently reported in the *International Journal of Anti-Aging Medicine*, I took sixteen patients, aged 55 to 78, and randomly assigned them to two groups. One group of ten patients was given 2,250 milligrams of MSM daily. That's the equivalent of taking a standard 750 milligram capsule three times a day. The other six patients took a specially prepared placebo pill that matched the MSM in appearance and taste.

The experiment was conducted according to a "blind" model. This means that neither the patients nor I, as the overseeing physician, knew who were taking MSM or who were taking the placebo until the trial was completed. Records were kept by an independent evaluator.

The participating patients all had degenerative joint disease, confirmed by X-rays, and had suffered from severe pain for many months or years. They represented a cross section of arthritis, ranging from one joint involvement to a generalized condition. Most had used NSAIDs or aspirin-type medications for relief. None had taken steroids previously. All drugs or other nutritional supplements were stopped prior to the study.

All patients in the study reported improvement while taking MSM, except for one. At the four-week mark, patients on MSM described an average 60 percent improvement; at six weeks, 82 percent. As is typical in medical studies, people on placebos usually report benefits. In this case, the placebo takers described an improvement of 20 percent on average at four weeks and an 18 percent improvement at six weeks.

In this study, and in my general clinical experience, I find that many patients taking MSM notice substantial relief of pain within three to four weeks although some have reported major relief within days. As a result, I have often been able to reduce the dosage and sometimes even eliminate the use of strong hydrocodone painkillers, such as Vicodin.

The similar results of this limited trial, and that of Stanley Jacob in his Portland clinic, and another clinical trial by a Brazilian doctor you will read about in a moment, invites a more intensive investigation of MSM for the relief of pain related to degenerative arthritis. Such a broader study should involve a larger group of arthritic patients and take into consideration additional evaluations such as range of motion.

I have been treating pain for forty-five years and started the first in-patient pain clinic in the country in 1970-under the auspices of the UCLA School of Medicine. I am keenly aware of the limitations of standard pain medication. The side effects can be devastating, worse even than the condition that the drugs are supposed to treat. We physicians need to be extremely prudent in prescribing them. For this reason, I am very excited when a natural agent such as MSM becomes available, can provide significant pain relief without side effects, and enables me to lower the dosage of medication. I find that it can be used along with any other prescriptive medication. To date, I have not seen any adverse interactions.

What has been very poignant to me as a pain specialist is the experience of having dozens of osteoarthritis patients call me, or drop by my office, after they start on MSM, and tell me how good they are feeling, how much better their range of motion is, and how they have been able to become more active in life. These are people who have been suffering for years.

As impressive as the painkilling effect of MSM is on degenerative arthritis, in my experience it appears to be even more potent for rheumatoid arthritis (see the section on rheumatoid arthritis in Chapter 20). Some very severe, chronic cases have responded dramatically. Patients are surprised at how fast MSM relieves the pain and inflammation. Some rheumatoid patients have told me they started feeling relief within days.

Prior to using MSM, many of my degenerative arthritic patients took **glucosamine sulfate**. I found it to be a helpful, steady agent in about 35 percent of milder to moderate cases, but it did not appear to be as effective in patients with severe arthritis. **MSM, in my experience, appears to be a more potent agent in the most difficult patients and in general offers more relief to more people.** In addition, it has many side benefits that glucosamine does not have. I haven't observed the same surprising and dramatic results with glucosamine usage that I have with MSM.

As I began recommending MSM, I didn't tell my patients already taking glucosamine sulfate to stop that particular supplement. I just suggested they add MSM. Generally, after about two to four weeks

they would report a noticeable improvement in their condition. These were people who had been on glucosamine for six months or a year and had appeared to reach a plateau of benefit. Their additional relief was clearly due to the effects of MSM.

I have found that **glucosamine** usually takes four to five weeks before it kicks in. The fastest appreciable response by any of my patients with glucosamine was about three weeks. This is with the standard dosage of 500 milligrams three times a day. I haven't seen any improved results by increasing the dosage. **MSM, on the other hand, appears to have increased benefits when you step up the amount you take.** MSM, in some cases, can generate relief in a few days, but for severe, long-standing cases you need to give it time. In my clinical experience, such patience pays off.

Arthritis in the hip joint can be a serious problem. I haven't found glucosamine effective with severe joint disease in this location. Results with MSM are far superior. In severe cases involving the knees, I have found glucosamine only mildly effective-far less than 35 percent of the time among my patients. Again, MSM has been much more beneficial here.

I have found that glucosamine sulfate taken with meals produces no effect. I have found that glucosamine sulfate is more effective when taken on an empty stomach.

We are now starting to see MSM being added to glucosamine products. It may be that a combination of the both offers some synergistic value and may be more beneficial. By the way, as far as cost is concerned, in the stores that I have checked, I have found that MSM is less expensive than glucosamine sulfate.

In my experience, chondroitin sulfate, another cartilage-protective supplement, requires at least three months for an effect. Scientific research indicates it is apparently not well absorbed but still aids the joints.

Perspective # 3-Ephrain Olszewer, M.D.

In Brazil, Ephrain Olszewer, M.D., director of the International Preventive Medicine Clinic in Sao Paulo, has been testing MSM on arthritic patients for more than a year.

"We wanted to see if arthritics could be maintained on MSM alone, without any medication such as nonsteroidal anti-inflammatories," says Olszewer. "The results to date are good in 90 percent of the cases."

Involved in the Brazilian physician's clinical study were sixty men and women, ages 40 to 82, with mild to moderate arthritis of the knees, hips, hands, shoulders, or spine. They were prescribed 750 milligrams of MSM twice daily. If one joint only was affected, Olszewer had them also apply an MSM lotion made especially for him by a local pharmacy.

His assessment of MSM: "We "measure the mechanical movement of the involved joints and ask the patients about their pain and stiffness. We have measured greater motion and flexibility in the joints. The patients have told us they have much less pain and stiffness. Patients say the pain relief starts usually within the first fourteen days. In a few cases, as early as within two days. We haven't seen any kind of side effects or intolerances of the patients. In a few patients it didn't work at all."

Two Painful Arizona Knees

Doug Ohmart operates a health-food store in Tucson and says he has tried every supplement on the market to help relieve the chronic pain in his left knee. The arthritic pain is a legacy from his high school gymnastic days when he severely injured the knee.

"My doctor says the cartilage is like mush," says Ohmart, 44. "It's really bad degenerative arthritis in the joint. I have just suffered through the pain, which is always there. Whenever it gets intolerable, which is maybe twice a month, I will take an ibuprofen prescription. At times like that I can just barely walk on it."

When glucosamine became popular a few years ago, Ohmart started taking the supplement but says it didn't help much.

"It didn't do anything to speak of for the pain or the flexion," he says. "I took it for eight months."

In 1997, he first heard about MSM and started taking it—a half teaspoon twice a day in his regular protein drink.

"I couldn't believe what happened. In two days, there was a huge reduction in pain. Huge. It was like a gift from heaven. I don't know if it was the MSM and glucosamine working together. I have no idea. I only know that right after I started the MSM there was this major improvement.

"What's more, I have regained a lot of the lost flexion in my knee. As a result of my injury and arthritic condition I only had about half or less of the normal flexion. Before MSM, if I laid on my back and brought my knee up to my chest and then pulled down on the ankle, I couldn't get it within two feet of my rear end. Now I'm only about ten inches away. I've regained a lot of bend, although for me the prospect of being able to bend the knee so I can sit back on my heel is a pipe dream. As far as pain is concerned, it's not entirely gone, but my worst day now with pain is like my best day before MSM. I haven't had to take any ibuprofen since MSM."

Early in 1998, an enthusiastic Ohmart related his experience to Gary Sebring, a security guard at a Tucson electric utility company, whose job requires walking regular rounds of two six-story buildings. Arthritic pain in his right knee was making the job torture.

Says Sebring: "Because of the pain I would often limp along, take the steps real slow and use the railings for support, and when anybody was around I would just pretend I was fine. I had considered getting a cane but a security guard with a cane doesn't project the right image. I was concerned I might need a knee replacement."

The knee pain had started a year before and increased over time. "**At the end of the workday I would just come home, sit down in pain, and hardly be able to get up,**" he says. "That wasn't like me. I like to go fishing and camping but I could hardly even stand in the boat to fish anymore or barely climb forty feet without taking a rest. I stopped all my outdoor activities because of the pain. I couldn't walk from my front yard to the back without some pain."

Sebring says he tried glucosamine sulfate for a month but had no relief. Then Ohmart told him

about MSM. "After hearing his story I decided to try it as well, so I started taking about a quarter or half a teaspoon twice a day," says Sebring. **"Within three or four days, the pain practically disappeared.** It was pretty amazing. It's been about eight months and now there is only slight pain when I overdo it. I handle the walking routine at my job now without any problem and even go on three-mile walks a few times a week for exercise. I couldn't do that before. I'm also back to fishing and camping and have no trouble walking up and down the banks of streams. It's great. My knee isn't like it was when I was sixteen but compared to before it feels like a new knee."

Sulfur Baths and MSM "Soaks"

From time immemorial, arthritis sufferers around the world have made healing pilgrimages to hot mineral springs, rich with the odoriferous but soothing properties of sulfur and other minerals. There they soak in, and drink down, the waters in an effort to ease their painful joints.

Can hot sulfur springs actually benefit arthritis? Definitely, says a scientific assessment of sulfur baths on arthritis that appeared in a 1966 issue of the German medical journal *Praxis*. In the report, researcher E. Maibach monitored 120 subjects with various degrees of arthritis. Most of the patients were between 50 and 60 years of age.

"After removing from consideration hopeless cases of degenerative arthritis of the spine (9 cases), the results after 10 baths showed improvement in 61 percent (68 patients), with 17 percent (12 patients) of this total being symptom free," the researcher concluded.

Maibach said that the criteria of improvement included subjective reports of less pain and increased mobility of stiffened joints, as well as X-ray evidence of affected joints. The participants in the study also drank the sulfur-rich water, suggesting that benefits may have occurred not only from through-the-skin penetration of sulfur and other minerals, but also from oral ingestion.

The Maibach study included a review of the medical literature and cited previous experiments indicating that concentrated sulfur extracted from mineral baths passes through the skin of both human and lower animals. This is consistent with clinical observations demonstrating that topical MSM, in the form of gels, lotions, or creams, passes through the skin and into the body. For this reason, we recommend the use of these topical products for additional local and general benefits.

Recently, a Canadian businessman who had been taking MSM orally for shoulder, back, and knee pain, set out to replicate the sulfur springs effect in his own home—he installed a special hot tub and added MSM crystals.

"I have gotten considerable relief from the supplement but the old healing tradition of mineral springs led me to think that if I soaked in MSM maybe I could get better results," he says. "I played a lot of hockey in my younger days and my joints got banged around pretty good. As a result I've been suffering a lot with degenerative arthritis. I hadn't been able to jog for about five or six years because of the pain. Now, after I finish hot tubbing, I can go out and jog. And according to my wife, the hot tubbing has put extra bounce in my stride. For me, the greatest benefit of tubbing has been increased flexibility and decreased stiffness, particularly in my lower back, but all my joints have benefited from the soaks. I now soak myself in MSM every day."

His personal experience with MSM suggests a possible use of "MSM soaks" for athletic training, physical therapy, and rehabilitation clinics (refer to Chapter 10 on muscle pain to see how one athletic

coach is using "MSM soaks").

MSM and Heberden's Nodes

Heberden's nodes are arthritic bumps on the finger joints. Take MSM orally for this condition, but also apply MSM gel once or twice a day to the affected joints. It will take considerable time, probably many months or even a year, but your patience may be rewarded with a reduction in the pain and size of the nodes.

If you don't have any gel available, soak your fingers in a lukewarm-but not hot-solution of MSM. **Use about 15 percent MSM in the water, that is, one part MSM crystals dissolved in six parts of water.** Do this for at least a half hour at a time, perhaps while watching television. To maintain the temperature of the water, you can use an electric foot bath device available at most pharmacies.

"The Energy Side Effect"

Many people who take MSM say they feel more energy. From Fritz Meyer, of Castle Rock, Colorado, comes the suggestion that older folks who take MSM for arthritic joints should be careful of the energy boost it delivers.

Meyer introduced his mother, Mildred, to MSM around Thanksgiving of 1997. Mildred is 93. She had painful and stiff knees, and experienced difficulty rising from a chair and discomfort when walking.

"Within six weeks or so she was greatly improved, taking three of those 750-milligram capsules a day," says Meyer. "She couldn't believe how good her knees felt. She could walk practically pain free and get up from the chair without complaining.

"But she also got this great infusion of energy. She felt so good she thought she could take on the world and so one day she felt so energetic that she got down on her hands and knees to wash the floor of her kitchen. She hadn't done that in a long time, a very long time.

"At that age you don't have the cushions and flexibility you have when you are younger. She pulled ligaments, damaged her knees, and put herself out of commission for a long while. She keeps taking the MSM, which we believe is helping her mend, but it was a real setback."

The lesson in this story is that even if your joints are improved and your battery becomes recharged, take it easy. Go slow. Don't overdo it.

Down in Tucson, Lou Salyer, 77, also experienced the energy buzz of MSM after she started MSM for painful arthritic knees and hips. She also admits to overdoing it afterward, but unlike Mildred she didn't damage herself in the process.

In her words: "For a long while I have had the blahs. I had no stamina. I had to force myself to get things done around the house. After two days on that MSM stuff it was like a blast of energy. I went out and did all the weeding that I had been putting off. At the end of the day I was exhausted. I did more than I should have. But my husband had had a stroke and there was so much weeding to be done in the yard. I just felt so good I decided to go out and finish the job.

"The amazing thing is that the next day my energy was right back up again and it's been up ever since.

I take my half teaspoon of powder every day, and I am amazed at how much I get done now. This has been going on for a year."

As for the reason she took MSM in the first place, Salyer says her joints hardly hurt anymore.