

ARTHRITIS

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Arthritis occurs in various forms such as osteoarthritis, osteoporosis, bursitis, gouty arthritis, infectious arthritis, rheumatoid arthritis, degenerative disc disease, intervertebral disc degeneration, and many others. The three commonest causes of arthritis are: hypothyroidism, athletic injury and vaccinations, especially juvenile arthritis following childhood vaccinations. Rheumatoid arthritis occurs in six times more hypothyroid women than men because of estrogen dominance.

All forms of arthritis involve abnormal calcium metabolism. The metabolism of calcium depends on a number of factors: adequate digestion of protein, proper acid-alkaline balance, an optimum calcium-to-phosphorus ratio, the presence of many nutrients such as calcium, magnesium and zinc, adequate hydrochloric acid (HCl), adequate levels of vitamin D3, the presences of a number of vitamins and minerals--including vitamins A, C, E, and K, important trace minerals and the proper hormonal balance.

Bone is not just all of the above elements stuck together. It is an active living tissue requiring the above nutrients, which must be supplied by the diet. If any one of these nutrients is deficient, your bone metabolism is in trouble. Ninety-nine percent of the body calcium is (or should be) in the bones and teeth. The other one percent, found the blood, is just as important because it is essential in the blood clotting mechanism, muscle and nerve function, vitamin D function, and the function of hormones that control calcium metabolism (called parathyroid hormones). Of the one percent of calcium in the blood, half is protein-bound and half is ionized. Both require adequate protein digestion. If you are deficient in protein because you can't digest it, you cannot carry protein-bound calcium. If you lack optimum acidity from inadequate digestion of protein, you will not have enough ionized calcium. In either case, you are a candidate for arthritis.

The abnormal deposit of calcium is one of the factors involved in arthritis and arthritic inflammation. Soft tissue--that is, any kind of body tissue other than bones and teeth--is a target for depositing calcium. Wherever this happens, pathology occurs: in the joints around inflamed areas (osteoarthritis), in the arteries (arteriosclerosis), in the kidneys (kidney stones), in the soft lenses of the eyes (cataracts), in the brain (stroke) and so on. All of these conditions mean calcium has been deposited in soft tissue instead of bone.

What causes calcium to deposit in soft tissue? Calcium can deposit in any damaged soft tissue. Certain toxins will cause calcium to deposit in soft tissues and the development of osteoporosis. One of the major ones is excess estrogen, more prevalent in women than men. In addition, estrogen mimics such as pesticides and fluoride contribute to soft tissue deposition of calcium and arthritis.

To maintain an optimum acid-alkaline balance, it is important to ensure optimum digestion of foods either by eating lots of raw foods and/or by taking a multiple digestive enzyme supplement with meals. Common over-the-counter acidifying or alkalizing supplements will upset this delicate acid-base balance, leading to digestive disturbances, which in turn result in calcium metabolism problems. For example, antacids place an alkaline stimulus on the blood and cause calcium to precipitate in the urine, the stool, and in the worst-case scenario, in the soft tissues. If

the blood has excess alkaline reserves, it will not have adequate hydrochloric acid (HCl) for digestion in the stomach.

On the other side of the coin, acidifying supplements, such as betaine HCl and hydrochloric acid supplements commonly used by people who think this will help them, cause excess acid reserves in the blood which must be continuously dumped in order to maintain the blood's narrow alkaline pH range of 7.35-7.45. This has far-reaching digestive consequences, because pancreatic enzymes are activated in the duodenum only at an alkaline pH. Also, people who are too acidic may have trouble breathing, as in the classic asthma attack. The natural way to raise the body's acidity to an optimum level is to digest protein with protease, which supplies the hydrogen ions. In addition, lipase is required to increase chlorides with lipase. Lipase carries chlorides, so if you are low in lipase, you will not be able to maintain an adequate chloride level.

Instead of taking OTC (over the counter) antacids or acidifying supplements, wouldn't it be better if we ate more raw foods, which contain the enzymes required for their digestion? It is only through the complete digestion of foods by enzymes that the proper acid-base balance in the body is achieved, and only in a balanced pH environment can calcium metabolism maintain bone health.

Since we cook most of our foods, the need for food enzyme supplements to aid digestion becomes very important. By food enzymes, I mean protease to digest protein, amylase to digest carbohydrates, lipase to digest fats, and cellulase to digest fiber. These enzymes work in the stomach at the pH and temperature of the human body (98 F), unlike other plant enzymes such as bromelain and papain, which are at peak activity at a temperature range outside that of the body (124 to 140 F for bromelain and 95 to 115 F for papain). In addition, pancreatic enzymes made by both animals and humans do not work in the stomach and work only at a pH range of 7.0 to 8.5, which is a much narrower range than plant enzymes, which work from an acidic pH of 3 to an alkaline pH of 9.

What Causes Calcium Deficiency?

Many people are calcium deficient because they eat calcium-deficient junk foods and commercial foods. In particular, commercial foods contain half or less of the minerals and other nutrients that are in organic foods. Many people cannot absorb or utilize calcium supplements, either because the supplements are not bioavailable and/or because of other nutritional deficiencies, particularly enzymes and hormonal imbalances.

Ultraviolet light from the sun is also important in calcium metabolism. It converts skin oil to vitamin D, which transports calcium from the stomach into the blood. Certain fatty acids, especially oleic acid--present in milk, butter and extra virgin olive oil--are vital in the transport of calcium from the blood to the tissues. What if you have vitamin D but not enough fatty acids? Your blood calcium will increase at the expense of the tissue calcium level because there are no fatty acids to transport it to the tissues. If your skin itches or you get hives, welts, or cold and canker sores when you go out in the sun, you may have tissue calcium starvation and a fatty acid deficiency. People who don't drink milk or eat butter are more prone to this condition.

A number of dietary excesses and deficiencies increase calcium excretion and therefore stimulate loss of calcium from bone. These include excess consumption of red meat, due to the phosphorus content, not the protein. Other protein foods don't have this effect. All red meat eaters don't get osteoporosis--it depends on their entire diet. People who eat red meat and have an unbalanced diet low in calcium, as most Americans do, are candidates for osteoporosis. On the other hand,

the Eskimos lived on raw meat and raw fish but did not develop osteoporosis, because they ate the entire animal - bones (a source of calcium), glands and organs plus the meat.

The standard American junk food diet is high in phosphorus and low in calcium and most vitamins and minerals. Other dietary excesses that increase the likelihood of calcium excretion and bone loss include excess intake of sugar, alcohol, soda pop (high in sugar and phosphorus), and junk foods, which are deficient in trace minerals; and other factors listed above as bone nutrients. Remember, all refined foods cause a deficiency of the vitamins, minerals and other nutrients that have been removed during processing. Certain drugs such as cortisone, Prednisone, Dilantin, estrogen and all estrogenic substances, birth control pills, and fluoride also increase calcium excretion OR soft tissue deposition of calcium.

Other factors that induce bone loss are heavy metals such as aluminum (in baking powder, and cookware), antacids, conditions such as hyperparathyroidism (too much parathyroid hormone), malabsorption, lactose intolerance and an imbalance in the ratio of calcium to phosphorus.

An optimum hormonal balance is also essential to preventing calcium metabolism problems. In particular, progesterone, the major female hormone, is responsible for making new bones. Thyroid glandular has a dual purpose. It promotes both new bone formation and bone dissolution (resorption) plus it converts LDL cholesterol into pregnenolone, the precursor for progesterone and DHEA. Without the formation of new bone and the dissolving of old bones, bone loss occurs

Dietary Factors To Help Prevent Arthritis

Make sure that you have optimum thyroid functioning. Why? Many people with hypothyroid function develop arthritic symptoms.

Eat a natural whole food diet with as many foods in their natural raw state as possible. Exceptions include raw seeds and nuts which must be roasted to destroy the protease inhibitors raw cruciferous vegetables which must be cooked to destroy the thyroid inhibitors. The best foods to eat raw are dairy products, fruits, fruit juices and salads.

Nature never intended for us to cook dairy products. If you eat dairy products, consume them in their raw state. Raw butter contains a substance which helps prevent arthritis. It's hard to get raw milk but you can get organic milk and usually raw cheese.

Eliminate processed, canned foods as much as possible. In particular, avoid white sugar, white flour, margarine, other hydrogenated oils such as shortening, and low-fiber foods. These aren't really foods at all. They don't nourish the body, but rather, they create severe nutritional deficiencies, which lead to diseases.

Take a multiple digestive enzyme to optimize digestion of food. People who eat dead foods have larger pancreases and higher white blood counts than those who include living, raw (high enzyme) foods in their diet. You can find food enzymes in health food stores and from health care practitioners.

OSTEO is an excellent enzymatic-herbal formula for osteoarthritis, musculoskeletal pain, difficulty walking, and pain in the joints, knees, hips, etc. IVD is another excellent enzymatic formula for back and joint pain. Para is an excellent and easily absorbed enzymatic calcium formula.

Be aware of foods, which can cause problems. For example, some arthritics are intolerant of the nightshade family of foods, which includes tomatoes, green pepper, eggplant, and potatoes. However, food enzymes can be effective in alleviating or eliminating such allergies.

Calcium and Osteoporosis

Thousands of American women suffer from osteoporosis, in spite of more-than-adequate calcium intake. The logical question is, does calcium prevent osteoporosis? The answer is, yes and no. It's true that adequate blood levels of calcium are essential in preventing osteoporosis because if the blood calcium is low, certain hormones are called forth to pull calcium from bones and teeth to maintain adequate blood levels of calcium. But this is only part of the picture. The rest of the calcium/osteoporosis connection is a little more complicated.

One enzyme pioneer, Francis Pottenger, M.D., studied a diet of raw meat and milk versus cooked meat and milk in a thousand cats and made a profound discovery. Both raw meat and raw (unpasteurized) milk gave the same results. The cats who ate raw foods lived longer and had healthy, well-formed offspring with no structural abnormalities or dental decay. Their bones showed an average of 12 to 17 percent calcium.

The first generation of cooked-food cats showed an impaired sense of coordination, lethargy, and decreased libido, dental deterioration with tooth and gum abscesses, and arthritis. In the second generation, structural abnormalities appeared in the skeleton and the average bone calcium levels fell to 10 percent. In the third generation, the average bone calcium fell to 3 percent, and the cats displayed very fragile bones with multiple fractures and severe skeletal deformities. Third generation cats became infertile and the cats who did reproduce produced stillborn and deformed offspring. It took four generations of a raw-food diet before the animals regained their health and original structure (Pottenger, Francis M., Jr., M.D.).

The Estrogen Connection to Bone Loss

We've long been lead to believe that women need estrogen to prevent bone loss. This is not true. Estrogen and all estrogenic substances, whether herbal, such as black cohosh (Remifemin), sage, pennyroyal, licorice, and estrogen mimics, such as pesticides, fluoride (in water, green tea, toothpastes and commercial foods) cause bone loss. In the past, mostly women got osteoporosis, largely due to the estrogen in birth control pills or estrogen replacement therapy. Since the advent of pesticides and fluoride, which mimic estrogen, more and more men are developing osteoporosis.

It has been claimed that estrogen prevents osteoporosis and the lack of estrogen causes it. Probably the strongest argument for the use of estrogen to prevent osteoporosis is that it causes decreased excretion of calcium in the urine. I believe that Dr. Ray Peat is correct when he says that estrogen's effect in decreasing urinary calcium is merely a toxic effect of estrogen--all toxins, including estrogen, cause the deposit of calcium in soft tissues. *Why do we assume that it's going into the bone just because it's not coming out in the urine?*

In an article on bone loss in the November 1, 1990 issue of the *New England Journal of Medicine*, it was stated that estrogen helps prevent bone loss but does not promote bone formation whereas progesterone promotes bone formation. I disagree with the comments on estrogen. Estrogen dominance, via its stimulation of prolactin can promote osteoporosis, as does cortisol. Excess estrogen can also cause pituitary tumors by stimulating cell division in the prolactin-

secreting part of the pituitary. If you are estrogen dominant and thus low in progesterone, you are a candidate for osteoporosis. Natural (*not* synthetic) progesterone will correct the problem by balancing the estrogen-to-progesterone ratio. Also, thyroid glandular will stimulate the liver to dump estrogen and help convert LDL cholesterol to pregnenolone, progesterone and DHEA.

Additionally, the accelerated bone loss observed in female long-distance runners is at least partly due to the conversion of progesterone to cortisol, demanded by the body during the stress of heavy exercise. In other words, when progesterone is diverted away from its role in bone formation by unusual activities such as excessive exercise, bone loss can occur.

The Need for Progesterone in Hypothyroid Women

Dr. Ray Peat has a patented 10% oral progesterone formula which is essential for osteoporosis prevention and provides nutritional support of structure and function in *all* female problems. Oral natural progesterone is %100 absorbed whereas progesterone cream is only 10% absorbed transdermally.

Let's summarize ways to prevent bone disease:

- Eat an organic diet that stimulates good thyroid function: animal protein, fruits, fruit juices, coconut oil and adequate sea salt.
- Consume natural, whole organic foods, with a wide variety of raw foods, including raw dairy and fruit. A high-enzyme diet will increase your likelihood of getting all the nutrients required for healthy bones. It's about making conscious choices: for instance, why drink cooked (canned or frozen) orange juice when you can drink fresh, raw orange juice instead? Eat adequate protein, salt and fruit. These will stimulate thyroid function, essential in bone health.
- Eliminate processed foods from your diet such as especially refined sugar, white flour, and margarine.
- Take multiple digestive enzymes to increase digestion of foods. You can buy these over the counter at health food stores, or consult a health care practitioner well versed in enzymatic therapies. Also, Thera-zyme Para can be used for calcium deficiency.
- Balance your hormones. In women, whether nine or ninety years of age, natural progesterone in vitamin E oil can prevent or cure osteoporosis by promoting bone formation. In men and women alike, optimum thyroid health is necessary in order to stimulate both bone formation and bone dissolution and to make the proper amount of progesterone from cholesterol.

Case Histories

Howard's Story

From the time he was a youth until the age of 35, Dr. Howard Loomis was an avid basketball and baseball player. He recalled his first knee injury when he was only 14 and was tripped while running at top speed with the ball. He landed on both knees and skidded six feet across the hardwood floor, permanently scarring his knees and causing serious injury to them. He played basketball even during the summer on courts made of concrete or asphalt, adding a continuous stress to his knees. He continued playing basketball through high school, college and chiropractic school. During these years he counted at least ten sprains on each ankle. In addition, he pitched baseball yearly until he was 35 adding yet more stress to his injured knees. As time passed, he

noticed more and more arthritic pain in his legs, feet and knees. Finally, at the age of 55, the pain became severe and when he was 58, he went to an orthopedic surgeon who said, “*when you have had enough pain, tell me and I will do knee surgery.*” Loomis said, “*Enough,*” and the doctor scheduled surgery on his right knee, which was worse than his left. About two weeks before surgery, he felt a stabbing pain in his left knee. He couldn’t walk on it or straighten it. So, although the surgery was scheduled for his right knee, the doctor chose his left knee, which was severely swollen.

Loomis told me, “*I don’t know how people make it through surgery without enzymes.*” The major enzyme formula for relieving the pain, swelling and bruising following surgery is Thera-zyme TRMA. Still, it was three months before the pain subsided and Loomis was back to work.

Facing yet another knee surgery was not appealing to Loomis. In addition, his legs and feet had become so painful from the arthritis that it was difficult for him to walk for very long. So, he set out to develop a new formula for arthritis, and after several formulations and clinical trials, he introduced Thera-zyme OSTEO, containing herbs which help relieve pain plus a source of inorganic sulfur (glucosamine sulfate) and organic sulfur (MSM or methylsulfonylmethane). He added OSTEO to his TRMA formula. After taking OSTEO for three days, all of his pain – the right knee, his legs and feet – disappeared. He started walking without a limp and without pain. Every so often, he forgets to take his enzymes and stiffness reappears – a reminder that he forgot his enzymes. “*But, this is very mild compared to what I suffered before OSTEO.*”

Heather’s Story

This is the story of Heather, now 18 at the time of this writing who developed severe, crippling arthritis and other health problems following a DPT shot in the 6th grade at the age of 12. This was related to me by Heather and also by her mother, Colleen Keene, a registered dietician who became an enzyme therapist in order to help her daughter. Here is Heather’s story.

At age 12, Heather received a DPT shot. “*I didn’t question it,*” said Colleen. “*Immediately after this shot, Heather, whom I will call a ‘bubble’ – vibrant, energetic and very athletic, a runner – became increasingly ill.*” Her initial problems included: flu-like symptoms and frequent infections, a constant sore throat, chronic sinus infections and severe fatigue. She spent more and more time on the couch. Painful arthritic symptoms appeared and became steadily worse. She took so many different antibiotics that she became immune to them. In addition, during the next five years, she took high doses of methothrexate, cortisone shots, high doses of Prednisone (synthetic cortisone) plus non-steroidal anti-inflammatory drugs (NSAIDS). The latter caused ulcers.

The drugs didn’t help and Heather gradually became nearly immobilized by her arthritis. She could not open her arms; her feet became severely crippled and she walked with great pain, stooped over like an elderly woman. Finally, at the age of 17, she dumped all of her drugs and went to a naturopathic doctor, who started her on a cleansing program of fresh fruits, vegetables and protein. “*This was a turning point,*” said Heather. But, she still had a long way to go.

At the age of 18, Heather started enzyme therapy supervised by her mother. At the beginning of her enzyme program, Heather was jaundiced, with dark circles under her eyes and still walked bent over in severe pain and with loss of motion in her arms. Colleen started her on the following formulas based upon the Loomis 24-hour urine test and a physical exam.

Thera-zyme PAN, a multiple digestive enzyme for sugar intolerance.

Thera-zyme Kdy, an allergy formula that helps the kidneys cleanse the blood of allergens.
Thera-zyme TRMA, a formula high in protease, catalase and minerals which aids the immune system, the liver and can help cleanse the blood of toxic debris.

In two weeks, Heather's jaundice and dark circles were gone and she felt much better but was still in pain with difficulty walking.

Next, she was given arch supports as recommended by Dr. Loomis. When she put them into her shoes, she stood up straight for the first time since her vaccination and said, "*I don't hurt.*" This was another milestone, but she still had aching joints. Then Colleen added Thera-zyme OSTEO, a formula for arthritis and musculoskeletal pain and difficulty walking. In less than two weeks, Heather felt less pain. In less than three months, her pain was 50% gone and she no longer felt pain when sitting. There is still some pain in her left ankle when she walks, but it, too, is decreasing. She is back in school now, going at full speed and very grateful that her mom found out about enzymes.

The Thyroid - Arthritis Connection

Arthritis not only is the outcome of some vaccinations and athletic injuries, it also occurs as a result of hypothyroidism. The following case histories came from interviews with Dr. Ray Peat.

The Man Who Got Arthritis After an Injury

A healthy 71 year-old man was injured while repairing the foundation of his house. Shortly thereafter, he developed arthritis in his hands. It is fairly common for arthritis to appear shortly after an accident, a shock or surgery. This man went to his doctor to get relief for his arthritis. He was annoyed that he doctor insisted on giving him a complete examination and wouldn't give him the shot of cortisone he requested. The doctor's exam showed low thyroid function and he prescribe thyroid glandular, explaining that arthritis is one of many symptoms of low thyroid function. The patient agreed to take the thyroid glandular but he grumbled about the doctor who was fixing something that wasn't wrong and who ignored his arthritis. But, in less than two weeks, his arthritis disappeared. This man lived to be 89 years old and had no recurrence of arthritis. He died of natural causes, while in good health (Dr. Ray Peat, *From PMS to Menopause*, Chapter 19, "Arthritis and Natural Hormones.")

The Woman Who Forgot Where She Was

A 52-year old woman came to Peat totally disabled following the onset of her cyclic seizures (during menses) at the age of 35. Although her estrogen level was normal, she had almost no progesterone. Instead of a healthy 15-to-one ratio of progesterone to estrogen, hers was one-to-one.* Her doctor diagnosed her permanently mentally disabled. She could not travel because she forgot where she was. Her fingers looked like sausages from arthritis and she couldn't bend them. Peat had her dip her "sausage fingers" into an olive oil solution containing progesterone. In 3-4 days, her progesterone to estrogen ration became five-to one. She walked alone down the street to Peat's office, ginning and bending her fingers, which no longer looked like sausages (Peat, *ibid.*)

* "Two fertility clinics found that the women who got pregnant had 50 to 100 parts progesterone to one part estrogen. The ratio that's compatible with implantation and gestation is probably similar to the ratio that's good for brain function and health maintenance. The blood carries only

a certain maximum amount of progesterone and if it's already loaded with estrogen, it's impossible to get the correct ratio without lowering the estrogen. The ideal ratio for fertility is apparently above 15 to one but that's fine for ordinary life. When the ratio is very high, there are fewer of the symptoms associated with estrogen dominance.” (Dr. Ray Peat)

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