# OSTEOARTHRITIS: LITTLE KNOWN TREATMENTS

**by**

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**Also see "Prevention & Treatment of Osteoarthritis," http://www.arthritistrust.org.**

## What is Osteoarthritis?

Osteoarthritis is the most common form of joint disease. (The terms "Osteoarthritis," "Osteoarthrosis," and "Degenerative Joint Disease" are often used interchangeably.)

Osteoarthritis involves loss of joint cartilage, death of cells beneath the cartilage and also cartilage and bone proliferation at the joint margins with bony growth formations. Osteoarthritis often includes inflammation of the tissue around the fluid-filled sacs (bursae) surrounding joints -- which would otherwise be subject to friction without these sacs -- and tendon sheaths (synovium).

## Distribution of Osteoarthritis

Estimates of the number of Americans who suffer from Osteoarthritis vary from 20 million to 40 million.

According to Thomas J.A. Lehman, M.D., Chief, Division of Pediatric Rheumatology, The Hospital for Special Surgery, and Associate Professor of Pediatrics, Cornell University Medical Center,[3] one child in every thousand in a given year will be affected by arthritis. . . . one child in every ten thousand will have more severe arthritis that doesn't just go away.

The American College of Rheumatology reports that, "Osteoarthritis accounts for more than seven million doctor visits per year and 36 million work days lost. Annualized costs of treatment for all types of arthritis were estimated to be $17.5 billion in 1987. Osteoarthritis of the knee alone in elderly Americans accounts for at least as much disability as other chronic conditions, including congestive heart failure, diabetes, heart disease, hip fracture, chronic obstructive pulmonary disease or depression."[3]

Gus J. Prosch, Jr., M.D., Biomed Associates, P.C. in Birmingham, Alabama, believes that one-half of those who live long enough will suffer from some degree of Osteoarthritis,[1,2,3] while Robert M. Giller, M.D. and Kathy Matthews,[62] author of *Natural Prescriptions*, estimate that 80% of those over fifty years of age will have some degree of Osteoarthritis.

The large variation in the estimate in numbers who suffer, or will suffer, from Osteoarthritis probably stems from how severe the disease must become before it is noticed and tallied.

Although both men and women may suffer from Osteoarthritis, and both may suffer in the same body parts, generally men suffer more in the lower spine and hip than do women, who suffer more in the cervical spine and fingers.

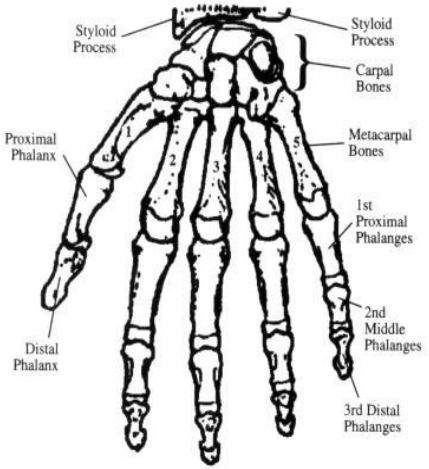


Figure 1: Names of Joints of Right Hand

Figure 1

Osteoarthritis is commonly called "Degenerative Arthritis," because the condition seems to come with the wear and tear that accompanies the aging process. According to this theory, the cumulative affects of decades of joint use lead to degenerative changes by stressing the collagen matrix of the joint cartilage. ("Collagen" tissue is the main organic constituent of connective tissue and of the organic substance of bones; the "matrix," is the ground within which the collagen tissue is cast.) While this theory may have some merit, the condition is actually much more involved than this simple view presents. Nutritionist Carlton Fredericks, Ph.D., for example, reasonably argued that a correlation between age and Osteoarthritis does not necessarily mean that age causes Osteoarthritis.[44]

There is more than one kind of Osteoarthritis, and subsets within some categories, but, as with other disease classifications, there is chiefly a (1) Primary (Idiopathic) Osteoarthritis, and (2) Secondary Osteoarthritis.

**Genetic Marker**

Ricki Lewis, Ph.D., "Darwin J. Prockop, M.D., and his co-workers at Jefferson Medical College in Philadelphia, Pennsylvania recently uncovered a clue to the underlying cause of Osteoarthritis. They examined an extended family of 19, spanning three generations, in which nine members developed Osteoarthritis in the fingers, elbows, hips, and knees by their 20s or 30s -- far younger than the usual onset of the disorder after age 40 or 50.

"The researchers zeroed in on a protein called type II pro-collagen. This protein forms coils that intertwine in groups of three to build the cartilage that protects bone ends and reduces the friction in joints. Because of a glitch in the gene that instructs cartilage cells to manufacture collagen, the triple fibrils in the arthritis sufferers in this family unravel after 20 to 30 years. As a result, the cartilage wears down and no longer offers its protective cushion."[75]

While this genetic marker may apply only to the family studied, it is a clue substantiating the feeling that those suffering from Osteoarthritis do so because they also have a genetic factor involved.

**Clinical Symptoms of Primary (Idiopathic) Osteoarthritis**

Common characteristics of Osteoarthritis are: bone proliferation at joint margins; deadening of bone beneath cartilage; enlarged, heated joints; grating of bone on bone; joint instability; limitation of joint movements; painful gelatinous cysts; sometimes defective sense of balance;swollen membranes (tongue, others).

Joints most commonly affected are those closest to the fingernails -- the last phalanges of fingers (distal interphalangeal) -- with hard nodules or enlargements of bone (tubercles) called "Heberden's nodes," second joints from the end of the fingers (proximal interphalangeal) with hard nodules or enlargements called "Bouchard's nodes," the second joints of the foot (bunion: metarsophalangeal), spine, hips and knees. (See Figure 1)

Pain is the principal symptom associated with osteoarthritis. As there are few nerve endings in joint cartilage, pain arises from joint capsules, ligaments, adjacent tendons, or muscles surrounding joints, and from bone, usually when the joints are moved or bear weight.

As the disease progresses, even small motions or weights can produce pain, during which use of the joint becomes limited.

Rest, conversely, relieves the pain.

When pain becomes great, muscle spasms may become continuous, unrelieved by rest. They may awaken the patient at night, or may occur spontaneously even in non-weight bearing situations.

Joint stiffness may occur after periods of rest and it is important to distinguish these from the usual morning stiffness associated with inflammatory joint disease, such as Rheumatoid Arthritis. Joint stiffness, on arising, is usually of short duration, unless the disease has progressed considerably.

In an advanced state, pain is often referred from -- for example -- the knee to the hip. Spinal pain may also appear elsewhere, as referred pain, as nerve root compression occurs from bony structures, called "osteophytes," that grow along the spine.

Inflammation of the fluid that surrounds the joint cavity, bursa, or tendon sheath may be associated with Osteoarthritis. Usually such inflammation is low-grade unless a form of crystal lodges in the lining of the tendon sheath, the "synovium."

Joint tenderness often occurs, especially over joint margins where bony outgrowths -- osteophytes -- have formed.

In advanced stages, bones will grate on bones, called "crepitus." As joint space narrows, due to loss of cartilage and fluids, pain becomes more frequent, and more severe.

Muscular atrophy, weakness and limitation of range of motion may lead to malalignment of the joints, especially weight-bearing joints, such as the knee, producing a "knock-kneed" or bow-legged stance.

There are generally no systemic characteristics associated with Osteoarthritis, such as there are in inflammatory joint diseases, like Rheu-

matoid Arthritis, although obviously there are enzyme and other metabolic systems affecting the overall functioning of the body. But, there are no symptoms of weight loss or fever, nor will the white blood count or red blood (erythrocyte) sedimentation rate be elevated. ["Sedimentation rate" is simply the rate at which red blood cells drop to the bottom of a test tube. The red blood cell (erythrocyte) sedimentation rate, often signals probability of the presence or absence of an infection.]

In the "nodal" forms of Osteoarthritis, bony swellings called, Heberden's or Bouchard's nodes, may appear with early evidence of swelling, redness, localized warmth, and tenderness.

During early growth of outgrowths, or "osteophytes" there can be considerable pain and discomfort. If this pain is also coupled with inflammation, or joint infection, then a great deal of confusion can result between Osteoarthritis and an inflammatory form of Rheumatoid Disease, such as Rheumatoid Arthritis.

By the time X-ray of joint damage is easily viewed, the disease may have progressed considerably, and therefore X-ray plates are relatively insensitive for purposes of early diagnosis.

Patients with abnormal X-ray pictures of the spine may have no symptoms whatsoever, or the symptoms may occur wherever the bony outgrowths; i.e., osteophytes, have compressed a nerve root, and already refer the pain to another location of the body. Magnetic Resonance Imaging (MRI) is more sensitive in indentifying soft tissue deficiencies.

**Subsets of Osteoarthritis**

There are two forms or subsets of Osteoarthritis: "nodal" and "non-nodal."

*Nodal Osteoarthritis*

In Primary Osteoarthritis, normally the joints affected by bony nodes are those closest to the fingernails (distal), and the second joint from the fingernails (interphalangeal). Woman may show these affects more often than men, and localized inflammatory changes may be pronounced. Activity may become so great as to destroy the joints with the growth of spurs and cysts. Wrist, toe and spinal joints may also become involved, leading to joint deformity and fusing of the joint (ankylosis).

As women after menopause are affected most frequently, there is presumed to be a hormonal relationship of some unknown nature.

As with any form of Osteoarthritis, hand, wrist, spine and feet may be affected both by deformities and loss of function.

*Non-Nodal Osteoarthritis*

The non-nodal form of Osteoarthritis most often affects men, with

hand and wrist most frequently involved.

While the lack of nodes can be distinguished from nodal Osteoarthritis, the two subsets of arthritis are probably otherwise indistinguishable.

*Chondrocalcinosis*

When there is deposited a chemical substance -- calcium pyrophosphate dihydrate crystal -- an inflammatory form of crystalline synovitis is created, called "chondrocalcinosis."

Chondrocalcinosis is determined, after intermittent attacks of acute arthritis and X-ray, with the finding of evidence of nodules of calcium salts under the skin, muscles, tendons and nerves (calcinosis) of the joints.

Chondrocalcinosis is frequently associated with other conditions such as Osteoarthritis, diabetes mellitus, hyperparathyroidisim, Gout, and a skin condition (hemochromatosis).

The disease develops in maturity, and affects both sexes equally. Over 50 years of age the incidence is appreciable. Unexplained acute or subacute attacks of arthritis occur, usually in the peripheral joints: legs, arms, feet, hands.

There is a suggestion that deposits of calcium pyrophosphate dihydrate in the cartilage is secondary to degenerative changes in the joint.

Attacks follow the pattern of uric acid Gout, but are less severe, with complete freedom between attacks. At other times, distress persists, with low-grade symptoms similar to Rheumatoid Arthritis.

Symptoms may persist intermittently for life.

**Other Subsets of Osteoarthritis**

There are additional subsets or forms of non-nodal Osteoarthritis, but each of them may involve similar affects on the body, or be mixed with previously defined Osteoarthritic forms.

**Clinical Symptoms of Secondary Osteoarthritis**

Not necessarily independently related there are numerous secondary factors that will alter joint surfaces and the functioning of joints, which include metabolism, trauma, endocrine imbalances, inflammation from other causes, neuropathic irregularities, faulty development of the skeletal structure, and diseased or dying tissues.

These seven categories may lead to seven subsets of Secondary Osteoarthritis that develop as a secondary complication. Rheumatoid Arthritis, for example, which displays with inflammation at the joint, may also affect the joint with manifestations of secondary Osteoarthritis, according to Gus J. Prosch, Jr., M.D. of Birmingham, Alabama.

Heritable or developmental bone problems may produce mechanical bone stresses unnatural to the design of the skeleton, also resulting in secondary Osteoarthritis.

Thus, trauma, disease, diet, metabolic and all the other factors can be involved in producing a form of secondary Osteoarthritis.

**Traditional Treatments**

Traditional treatment involves (1) reassurance to the patient, (2) outlining of management goals; encouraged to participate in self-management programs, (3) advice on the use of canes, crutches or walkers to protect weight-bearing joints, (4) weight reduction where required, (5) relief of pain and muscle spasms by use of hot packs, electric pads or warm soaks for 15 to 30 minutes twice a day, (6) isometric exercises -- placing tension on muscles without changing their length -- to maintain muscle tone and build muscle power two to three times per day, increasing gradually to 10 or 15 repetitions at a time, (7) advice that isotonic exercises -- shortening muscles while applying equal tension on them -- while maintaining range of motion, may damage joints, (8) use of aspirin or other forms of analgesics and of non-steroidal anti-inflammatory drugs (often four times a day), such as acetaminophan, ibuprofen, indomethacin, propoxyphene hydrochloride, or ethoheptazine citrate, and others, (9) use of corticosteroids inside the joint capsule for symptomatic relief when necessary during acute flare-ups, (10) occasional use of traction, neck (cervical) collars, or back-of-the-loins (lumbodorsal) corsets to relieve cervical and lumbodorsal spinal symptoms.

When the above treatments are no longer effective, then the following treatments may be employed, together or in combinations: (1) removal of foreign material and dead or dying tissue from a joint, (2) surgery on a bone, or partial removal of a bone, (3) fusion of joints, (4) joint replacement, or (5) other forms of surgery.

**The Caustion of Osteoarthritis**

As Osteoarthritis appears to be caused by a combination of factors -- hormonal deficiencies, faulty nutrition, stress, deficient enzymes -- each of these should be attended to.

More accurately, each individual's problem must be studied and evaluated for characteristic uniqueness, that breakthrough treatment modality.

According to Robert Atkins, M.D., "There probably is no single modality used at the Atkins' Center that would pass muster when subjected to orthodoxy's double-blind analysis (a method of testing groups of patients without either the patient or the doctor knowing which

patient receives the actual medicine and which receives a placebo), for there is no *one* standard treatment modality that would help a majority of arthritics. The flaw in the logic is pigeonholing. The idea of reducing a multifaceted disorder into a single category will not work with arthritis, and many other illnesses, for that matter. To practice medicine well we should understand causation, not diagnosis."[61]

Hormonal deficiencies certainly play their part, as one-third more women suffer from Osteoarthritis after menopause than do men. Faulty nutrition (including enzyme deficiency) and stress must also play their fair share, as probably do genetic predisposing factors.[1,5,6,7,8,9,10]

As already mentioned, prevailing general medical theory suggests that Osteoarthritis may be divided into two categories, primary and secondary.

In primary osteoarthritis, the degenerative 'wear-and-tear' process occurs after ages fifty to sixty with no, or little, apparent abnormalities, and with no known predisposing factors. The invisible cumulative effects of years of use leads to the degenerative changes by stressing the collagen matrix of the cartilage. Damage to the cartilage results in the release of enzymes that destroy collagen components. With aging, the ability to restore and synthesize normal collagen structures is decreased.

Secondary Osteoarthritis is associated with some predisposing factor which is responsible for the degenerative changes including: congenital abnormalities in joint structure or function (hypermobility and abnormally shaped joint surfaces); trauma (obesity, fractures along joint surfaces, surgery, etc.); crystal deposition; presence of abnormal cartilage; and previous inflammatory disease of joints (rheumatoid arthritis, gout, infectious -- septic -- arthritis, etc.)"[1, 9]

**What's Wrong With Traditional Treatments?**

Traditional treatments address only the symptoms of the disease, not its source or cause.

Clearly, where weight reduction is useful, and walkers and canes are necessary, and where management goals and patient reassurance calms and effectively directs the patient, these are all extremely helpful healing tools. Where one kind of exercise is damaging and the other kind helps to maintain tone and muscle strength during the progress of the disease, it would be clearly inadvisable not to follow proferred recommendations.

Dr. William L. Henrich,[195] a member of the National Kidney Foundation scientific advisory board, says, "I think the public has a perception that medicines you can purchase over-the-counter in drugstores and

grocery stores are inherently safe. This is clearly not so. . . . Taking an analgesic, or painkiller, daily for as long as three years or in too large a dose can cause inflammation, followed by scarring of the kidney and the loss of kidney function. The usual recommended dosage of a painkiller is two tablets, three or four times a day, for no more than three days.

"As much as 8 to 10 percent of new cases of chronic kidney failure may be related to the misuse of painkillers."

Aspirin and other analgesics are sometimes useful for the purpose of temporarily alleviating joint pain, but their use in the long run simply hides the disease progress, and delays recognition of a system in imbalance that needs serious correction and concentrated attention.

Acetaminophens, while safer than some other drugs that might be used, has been linked to liver disease in patients who consume excessive amounts of alcohol, and long-term use of both acetaminophens and non-steroidal anti-inflammatory drugs can increase the risk of kidney failure.

Prolonged use of non-steroidal anti-inflammatory drugs (NSAIDs) actually appears to contribute to the progression of Osteoarthritis.

According to a report in *The New York Times*, "About 3.4 percent of the 2.2 billion prescriptions written each year are for non-steroidal anti-inflammatory drugs (NSAIDs). Millions more nonprescription NSAIDs are bought as over-the-counter drugs . . . . On any day, 10 to 15 percent of Americans aged 65 and older have a filled prescription for an NSAID. . . . Dr. Stuart Nightingale, an associate commissioner of the FDA, has cited studies showing that bleeding ulcers develop in about 1 percent of those who use the drugs for three to six months, and from 2 to 4 percent of those who use them for a year. . . . Studies also have shown that those who use the drugs have a four times greater risk of developing an ulcer than nonusers in all age groups. Complications of the drugs lead to 30 percent of the hospitalizations and deaths from ulcers in people aged 65 and older in this country, Dr. Griffin said. The remaining 70 percent are caused by a bacterium, *Helicobacter pylori*. 'It appears that you are at about the same risk in the first month of taking an NSAID as in the 12th or 24th, not getting any worse or better,' Dr. Woodcock said."[8]

Sherry A. Rogers, M.D.[102] writes that the use of traditional nonsteroidal anti-inflammatory drugs guarantees that the pain and disease of Osteoarthritis will eventually get worse. "Studies show that the pain relief effect is greater in the first few weeks of treatment and then gradually wears off. This leads people to explore the use of other pain medications often and waste a lot of money evaluating many types of nonsteroidal anti-inflammatory drugs and other pain medicines. But usually when

one does not help, others will not. For they all gradually lose their effectiveness." The use of these nonsteroidal anti-inflammatory drugs "actually hasten[s] the deterioration of cartilage, . . . they have many other nasty effects of their own."[102]

Besides the clear dangers of traditional treatments, the basic problem, as has already been stated, is that in no instance does the patient perceive advice that holds out the hope of slowing down or reversing the progress of the disease. Trying anything else that is safe, although not effective, may, in the long run, be better for the patient's mood, attitude and disposition -- and possibly health -- than accepting hearsay about the "inevitable."

## Alternative Treatments for Osteoarthritis

Treatment and prevention for Osteoarthritis -- or what appears to be Osteoarthritis -- can be divided into four components: Treatment for the (1) pain, (2) defective skeletal structure, (3) faulty nutrition, and (4) hormonal imbalances.

There are also -- apparently -- four major aspects to treatment of Osteoarthritis: restore proper nutrition, relieve stress, detoxify, and replace hormones[1,9].

### *The Case of Robert "Bob" Kelley*

When Robert Atkins, M.D. was asked for medical help by sixty-six-year-old Bob Kelley, Bob had already been a patient of a highly competent alternative physician with complaints of severe "shooting pains" in both knees.

Bob's diet was satisfactory, and his health otherwise excellent, in part because of the vitamin and mineral supplementation treatments he'd already received, but his pain had not disappeared. However, he'd had serious medical problems in the past, including coronary bypass surgery.

Bob Kelley had been told to exercise, so he'd taken up walking, doing two miles each day, but now walking had become painful, which frightened and concerned him. The lack of exercise would adversely affect his heart, whereas, the walking adversely affected his knees.

Bob received the Atkins Center standard evaluation, which included glucose tolerance test that indicated hypoglycemia. It was also discovered that he was sensitive to nightshades, yeast, cheese, wheat, mushrooms, broccoli, carrots, oranges, and vinegar.

Dr. Atkins used his Center's anti-arthritic nutritional formula -- a combination of nutrients that combine $B_6$, niacinamide, pantothentic acid, para-aminobenzoic acid (PABA), bioflavonoids, zinc, and copper -- adding in Vitamin C, extra vitamin E and cod-liver oil, but he also took

Bob Kelley off of the foods to which Kelley had shown a sensitivity. (Later Dr. Atkins added selenium and L-cysteine, and manganese, to his Center's arthritic formula.)

In a week after the food allergies had been identified, Bob was walking with but mild discomfort. When he tested the foods again, his pains returned.

By the second week of removal from foods to which he'd become sensitive, Bob Kelley's pains had totally disappeared, and they have not returned.

Bob walks long distances, and has added bicycling and gardening to his exercise program. Dr. Atkins reports that "If you didn't know that Bob had undergone serious cardiac surgery, you would probably guess he was a good ten to fifteen years younger than his sixty-six years. I can't honestly say now whether what I've done for Bob constituted a cure or a remission, but he is still well."[61]

*Bee Sting Therapy*

A few arthritics receive "bee stings" -- apitherapy -- from a hyperdermic in their physician's office, but most get the real thing. There are about 300 physicians who practice apitherapy. The American Apitherapy Society of Vermont, with 1600 members, estimates that as many as 10,000 Americans now practice bee sting therapy.

According to Dava Sobel and Arthur C. Klein,[91] authors of *Arthritis: What Works*, in a survey of 23 participants who tried bee venom for the pain of their arthritis, 48% (11) found it dramatically effective, 11 (48%) found it ineffective, and 1 (4%) felt it made arthritis worse.

Dangers are allergic reaction and anaphylactic shock. One participant wrote that "I had no idea of my allergy to insect venom until four years ago when I was stung by a yellow jacket and had to be rushed to the hospital emergency room for treatment."[91]

"Bee venom can be injected into the skin of the patient either by hypodermic needle or by the direct contact of the honeybee." For direct contact by the honeybee, "the practitioner holds a live honey-bee in a pair of tweezers, places it in contact with a particular spot on the patient's body, and lets nature do the rest. Dosage is determined by how long you let the stinger remain in the skin; . . . , you can remove it instantly or let it remain for 5 minutes."[91]

For many who do not have an allergy problem, *Alternative Medicine Digest*,[91] reports that "patients with multiple sclerosis who use bee therapy take about 4000 stings a year, at the rate of 20-40 live bee stings

According to Bradford S. Weeks, M.D., and cofounder of the

American Apitherapy Association, if you try honeybee sting therapy at home, you should first have an examination to see if you might be allergic to bee venom. Then, even if not, you should always have on hand allergy-antidoting medicines, such as epinephrine or antihistamine. Some folks can develop an allergy, and it would be "needlessly reckless," not to be prepared.

"It's natural for the arm to swell up, get red, and itch for a short period after a bee sting," says Dr. Weeks, "and this should not be confused with an allergic reaction."

You must also prepare your immune system by "nurturing" it ahead of time with megavitamins, a typical intake of vitamin C being at least 3 grams daily. (Linus Pauling, Ph.D. used 6 grams daily). It's also useful to take cold-pressed flax-seed oil (1 tablespoon daily) and magnesium (200 mg, 3 times daily).

Avoid alcohol, reduce or eliminate intake of refined foods, sugars, and dairy products, and start using bee pollen (1/2 teaspoon daily, minimum) and propolis (1/4 teaspoon daily, minimum). "People get great results intially from the bee stings but these results won't be sustained unless they support their immune system," Dr. Weeks explains.

An International Apitherapy Study (IAS) begun in 1983 gathers data on more than 12,000 bee-stung patients.

Christopher Kim, M.D. of the Monmouth Pain Institute in Red Bank, New Jersey, a leader in the practice of apitherapy, during the past 10 years has treated more than 2000 patients, using about 3 million injections.

According to information compiled by the International Apitherapy Study (IAS) Osteoarthritis symptoms can be stung away in 2-6 weeks. "One case of severe Osteoarthritis, a condition endured by a patient for 16 years, required 24 stings every second day for 8 months for full relief."

Bee venom contains anti-inflammatory substances, with the ability to reduce the swelling of inflammed tissue with an effect 100 times stronger than standard drugs, such as hydrocortisone. One needs 100 to 10,000 times less bee venom to get the same anti-inflammatory effects as from conventional anti-inflammatory drugs.

If you're not one of the 2% of the population allergic to the venom, there are no lasting unpleasant side-effects.

Yellow-jacket and wasp stings apparently do not provide the same benefits as the bee stings, and one can respond allergenically to these as well.

*Bone Spurs*

One of the most frequent consequences of age, imbalanced chemistry, or stretched or torn tendons and ligaments, is the production of compensating bone spurs, especially along the spine.

These bony spurs will often tend to close in the openings from which stem major nerve branches from the spinal column, and in so doing, they will also pinch the nerve, especially during movements, and cause pain elsewhere in the body or limbs.

Proliferative Therapy (Reconstructive Therapy or Sclerotherapy) can often assist in reducing the excess motion that causes the nerve pinch, but cannot dissolve the calcium spurs.

Diet, supplements and enzyme therapy, joined with proper use of Vodder Lymph Massage, a light massage intended to assit the lymph circulation system, has been reported to help reduce the size of the spurs.

The use of permanent magnetics of the correct polarity, properly placed, may also help.

Exercise performed daily, in the proper manner, accompanied by appropriate traction has been reported to alleviate the pain, and apparently solve the calcium spur problem.

The Case of Harold R. Babcock

Ten years ago Harold Babcock,[97] 76 years-of-age, Colorado Springs, Colorado, found painful arthritic spurs stemming from his vertebrae. His chiropractor advised the use of a traction system.

Harold performed traction exercises as follows:

1. Gripping the seat in front, turn head as far as possible to the left, then to the right. Repeat for a count of 12.

2. Raise head as far back as possible, then bring chin to rest. Repeat for a count of 12.

3. Lean head as far as possible left shoulder, then right shoulder. Repeat for a count of 12.

These exercises were performed with approximate five minute gaps between each of the trials.

Another X-ray taken a few months later showed no spurs.

About fourteen years later Harold's right arm and hand started to go partially numb. After chiropractic manipulation, it did not improve, and so Harold was sent to an osteopath, who sent him to a hospital for a series of X-rays. Spurs were beginning to develop on the inside of Harold's neck vertebrae.

With the intent of eliminating the growth of arthritic spurs on the vertebrae, Harold developed the series of motions as follows:

1. *Facing forward*, rotate head in *clockwise* motion 12 times.

2. *Facing forward*, rotate head in a *counterclockwise* motion 12 times.

(Steps 1 and 2 act as a relaxer between the other steps.)

3. With face turned to the left, then the right, *inhale*, and raise head back as far as it will go. Repeat for a count of 12.

4. With face turned to the left, then the right, *exhale*, and bring chin to chest. Repeat for a count of 12.

5. Repeat step 1, then step 2.

6. Repeat step 3, then step 4.

7. Repeat step 1, then step 2.

8. *Gripping the seat in front of you*, turn head as far as possible to the left, then the right. Repeat for a count of 12.

9. Raise head as far as possible, then bring chin to chest. Repeat for a count of 12.

10. Lean head as far as possible toward left shoulder, then right shoulder Repeat for a count of 12. You need to go through all 10 steps three times.

Repeat these ten steps *twice* more.

Harold says, "As soon as you learn it, the routine can be accomplished in from ten to fifteen minutes. Thinking that my neck needed as much exercise as possible to put pressure on the developing spurs, I developed the series of motions as described. After one year of this, I started going through the routine only twice, and after six months have shown no ill effects. I still do it daily, and the results are still good. However, I would suggest going through it three times for the first year.

"I'm glad to report that my arms no longer have any numbness, and I have experienced no pain in my neck, although I've had no X-rays, as I haven't felt they were needed.

"I also take a 750 mg tablet of calcium per day (which should be balanced with the same amount of magnesium).

"I use 16 lbs. of weight on the traction, but I recommend that the weight be specified by a Chiropractor or Osteopath.

"I hope that people can make good use of what has done wonders for me."

### Foot Bone Spurs and Soft Tissue Calcification

Dr. Catherine Russell[98] of Guadalajara, Mexico, reports success with the reduction of foot bone spurs and soft tissue calcification using 6C homeopathic remedies -- *Rhus tox* and *Calcarea carbonica*. "Usually in about 2 or 3 months, my patients are OK, but I've had patients who've had to take this remedy for as long as 6 months. The *Calcarea carbonica*

normalizes the calcium metabolism, so that these spurs are reabsorbed.

"As the symptoms are frequently the same for calcium spurs in the cervical region, I have successfully used the same treatment.

"For painful calcium nodules in the foot or wrist area (soft tissue calcium deposits), I've successfully used homeopathic *Calcarea carbonica* or *Silicea*. Sometimes it's administered every 2 hours when the pain is present, and then every 4 hours later. This also works for bunions, which are such a serious deformation. People are very happy to be relieved of this horrible overgrowth, as this homeopathic remedy does help to shrink the bunion."

*Boron*

Boron is a mineral of great importance in the prevention of Osteoarthritis. Dr. Rex E. Newnham, Ph.D., D.O., N.D. of North Yorkshire, England, teacher, naturopath, nutritionist, osteopath and homeopath, demonstrated through analysis of the distribution of boron in different regions of the world, and later clinical trials (demographic and clinical evidence) for the usefulness of boron in preventing and treating Osteoarthritis and some other forms of Rheumatoid Disease.[12]

Flouridated water, besides contributing to osteoporosis, and other degenerative diseases, including skeletal fluorosis (which many doctors wrongly call "arthritis"), without in any way helping the teeth or bones, also is a natural antagonist to boron, and so Dr. Newnham recommends removing the flouride from your water if you are to get benefit from boron. If you make tea with flouridated water, there is much more fluoride in your tea than the cold water alone.[12,45]

For Arthritis, Rheumatism and osteoporosis, Dr. Newnham recommends the use of tablets containing boron (sodium tetraborate) 2.6 mg, calcium ascorbate 200 mg, magnesium ascorbate 90 mg, pyridoxine 2.6 mg, zinc (as citrate) 4.5 mg, manganese (as citrate) 4.5 mg, copper (as citrate) .46 mg, nicotinamide 10 mg, and certain herbs 10 mg. Such a mixture he has patented under the name of Osteo Trace™.

Dr. Newnham recommends 3 tablets a day, one with each meal, if under 168 pounds, 4 tablets a day if over 168 pounds but under 210 pounds, and 5 tablets a day if over 210 pounds. For children between 50 and 100 pounds weight, he recommends 2 tablets per day, and infants under 20 pounds only half a tablet per day.[12]

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Osteo Trace™ can be obtained through: Rex Newnham, D.O., Ph.D., N.D., Cracoe House Cottage, Cracoe, Skifton, North Yorkshire, England BD23 6LB.

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According to a questionnaire Dr. Newnham[12] provided, numerous patients were improved through the use of boron:

The Case of Iris Anderson

Iris Anderson was aged eighty-one. Because of Arthritis, she could not get up steps without help. After a course of Bor-rex™ tablets -- a brand created by Dr. Newnham, now named either Osteo-Trace™ or B-Alive™ -- she could move freely up and down steps, and she could even bend down and touch the floor with the palm of her hands.

The Case of Mary Lamb

Polymyalgia rheumatica is a chronic, generalized inflammatory rheumatic disease of the large arteries. Mary Lamb, seventy, had polymyalgia rheumatica and was given high doses of steroids that relieved some pain, but when she reduced the dose, the pain returned. Now, with the use of boron, her pain is gone.

The Case of Tom Boyd

Tom Boyd, forties, had arthritis in both hands for a period of eighteen months, which made it difficult to work. He used boron and had a complete cure.

The Case of Mrs. Brooks

Mrs. Brooks had arthritis for nine years, with degeneration of both back and hips. Pain when walking or climbing steps went from extreme to severe, to moderate, to mild, to none, when she took boron. She could then take her weight on both legs and could walk or climb steps freely. A very satisfied user.

The Case of Bert Clare

Bert Clare, sixty-eight, had been a pilot during World War II. During a crash he sustained a broken neck. This largely incapacitated him for many years. He developed arthritis that gave much pain. It took him half an hour to get out of bed at night for the toilet, the pain was so intense. After a few boron tablets, he was able to get out of bed and back again in three or four minutes and there was no pain. This remedy helped him where others had failed completely.

Dr. Newnham reports many other cases with swollen, heated and painful joints that were miraculously cured through the use of the proper mixture of boron and, sometimes, other minerals and vitamins.[12]

Testimonials[73]

Mrs. L.J. O'Neil: "I am feeling so much better since taking boron, the arthritic pain is not so bad as before. In fact, I've not been so well in years."

Joyce Cheetham, age 74: "I had very bad arthritis in my knee, and

after 3 bottles I have been completely cured for over a year."

Mr. K.G. Pounder: "For the past four years I've been using your mineral supplement (Osteo-Trace or B-Alive) as a treatment with great success. In fact, it is the only treatment that works."

Mrs. J. Philip: "Before I had taken the complete bottle of tablets, I noticed that the awful ache in my feet had miraculously gone!"

E.M.F. Swabey: "Incidentally, a friend who is a fruit farmer says that our soil is boron deficient, and they have to add boron to it or their fruit won't store well."

"Generally," Dr. Newnham says, "those under 60-years-of-age get better within a month; those in their sixties take up to two months; and those in their seventies or over take about three months. If they had the Osteoarthritis for many years, it sometimes takes longer to correct the problem."[12]

## *Calcium, Vitamin $D_3$ and Sunshine*

### Origin of Research

Over 50 years ago, Carl J. Reich. M.D.,[53,54,55] Ottawa, Canada, developed the principle that many of the symptoms and diseases of civilization could be accounted for on the basis of chronic calcium and vitamin D deficiency created by specific defects in lifestyle, including diet.

In summarizing Dr. Reich's work, Stephan Cooter, Ph.D. of Salem, Oregon, wrote that in the beginning of Dr. Reich's private practice in the 1950s, Dr. Reich saw patients exhibiting all the physical signs and symptoms of an overstimulated autonomic nervous system that all too often had been relegated to psychosomatic or all-in-the-head complaints: chronic fatigue, physical weakness, anxiety, sleep disturbances, headaches, cramping of toe, foot, and calf muscles, muscular aches, restless legs, pins and needles sensations of the hands at night time or hands and legs during the day time, bloating and indigestion, chronic diarrhea or chronic constipation, night sweats, and chronic allergic nasal congestion.

An example of the interrelationship of those findings, and their relationship to Osteoarthritis, may be seen in patients complaining of chronic fatigue and chronic anxiety who also frequently show a pattern of physical signs that sometimes involve irritable and spastic skeletal muscle and intestinal muscle, ridged, or soft, or easily broken finger nails, coated tongues, and an acidic saliva.

### Case Histories[55]

In 1954-55, case studies during the same two week period led Dr. Reich to see that common diet and lifestyle patterns might account for

apparently different diseases.

The Case of Katie Duvain

A dairy-man's wife, Katie Duvain, complained of chronic allergic nasal congestion and diarrhea that became aggravated during the spring. Assuming an allergy association, she was placed on a milk free diet, only to find that leg cramping in a polio-damaged leg became worse. Ten cubic centimeters of calcium gluconate injections were then given intravenously to correct the calcium deficiency created by elimination of dairy products in her diet.

Within days the leg cramping was resolved. At the same time Katie's bowel activity, nasal congestion, and sneezing were unexpectedly and markedly improved. Resolving calcium deficiency easily explained the relief of leg cramping, but improvements in apparently allergy-related nasal problems was puzzling to Dr. Reich. It was clear, though, that calcium had altered the "allergic" reaction.

Warren Levin, M.D., reports that Theron Randolph, M.D., a pioneer in clinical ecological, has observed that, "allergic reactions produce acidity and relief of symptoms requires alkalization."

The Case of Janis Semple

Janis Semple, an 18-year-old female bank clerk who subsisted on a very greasy and milk-poor diet complained of chronic constipation. Using his experience of relieving Katie Duvain's overstimulated muscle spasms creating diarrhea, Dr. Reich attempted the same calcium injections on the bank clerk to find that in only a few days, her constipation was greatly relieved.

The Case of Nora Handle

Dr. Reich had been treating Nora Handle, a middle-aged woman who experienced chronic asthma, with bronchial relaxant and antihistamine drugs and hoped to repeat his success with irritable bowel and leg muscle groups on what he now suspected to be irritable bronchial muscle spasms brought on by calcium deficiency. Within several days of giving her the same injections the chronic asthmatic patient was vastly improved.

The Case of Tom Crosol

A similar pattern of irritable intestinal and skeletal muscle spasms was found in Tom Crosol, a 9-year-old boy subject to chronic asthma since he was two years of age. Irritable muscles of the body and bronchial muscle spasms suggested one pattern. With the boy, Dr. Reich tried supplements of calcium combined with halibut liver oil capsules 3 times a day. The boy experienced a dramatic 80% improvement in his

symptoms.

The Case of Mary van Vogt

On Mary van Vogt's first visit to Dr. Reich, she had severe pain in her knees, but prior to that she'd had various joint pains, and she was hospitalized for intravertebral lumbar disc degeneration causing sciatic pain down the left leg, and pain in her shoulders. She walked with great difficulty using a cane. Her knees were moderately swollen and flexion was limited.

Mary had occasional leg cramps, had drunk no milk for years, but recently was drinking 3 glasses each day.

She was taking 25 mg of a non-steroidal anti-inflammatory suppository drug 2 times daily and diuretics and potassium supplements. Nutritionally, she was taking some wheat germ, vitamin E, calcium supplements, alfalfa, kelp and B and C complex 3 times daily.

Dr. Reich advised adding 2 halibut liver oil capsules and 6 drops of Aquasol A & D 3 times daily.

Within six weeks Mary's knees were just as painful, but she felt stronger and healthier. She was instructed to increase her calcium supplements and add 400 units of vitamin E 3 times daily.

Within 3 months Mary discontinued use of her cane, and all inflammation was gone from her knees, but she couldn't kneel. Her shoulders were less painful, and she still experienced weakness in the muscles of her legs.

Within 6 months Mary was able to work in her garden, although she still had some residual knee, shoulder and neck pains.

After 8 months she had no pain in her legs, but they felt weak. Her neck was perfect but her shoulders were slightly to moderately painful.

After 2 years and 2 months of therapy, she visited Holland on an extensive holiday, with only the slightest pain in her legs. She no longer required her anti-inflammatory suppositories and her current therapy consisted of 5 drops of Aquasol A & D, 1 halibut liver oil capsule, 2 tablets of calcium supplements and 1 brewer's yeast 3 times daily, with 100 mg of a non-steroidal anti-inflammatory 2 times daily.

Four years later she had no recurrence of arthritic pains and was reported by another patient, one of her friends, that she'd been seen carrying heavy trays during a Dutch ethnic club dinner!

The Case of Deak Williams

Deak Williams, 70 years of age, complained of constant back pain for years, and also considerable pain in left hip and knees. He had occasional finger cramps, his legs tired easily and he had frequent gas. He

drank no milk and did not eat margarine. He'd had a colon surgery (resection) for carcinoma.

In therapy Deak was provided with 2 halibut liver oil capsules, 1 cod liver oil capsule, 6 drops of Aquasol A & D 3 times daily, 1/2 gram of calcium supplement 3 times daily, and 400 units of vitamin E 1 time daily.

Within 4 months Deak Williams' pains were less. He was given a $B_{12}$ injection.

Seven months later he stated that he was fifty percent relieved and that his energy was good.

One year later Deak stated that he rarely had knee, hip or back pain, and that he now only rarely experiences finger cramps, and that his legs are stronger. Each time he received a $B_{12}$ injection, his energy was improved, although Dr. Carl Reich's therapy was actually aimed at relieving calcium and vitamin A & D deficiency.

## Nutritional and Sunlight Deficiencies

To Carl Reich, M.D., a lifestyle pattern of nutritional and sunlight deficiency began to be recognized in patients who experience health problems. Whether or not this pattern was unique to his Canadian climate has not been fully explored. However, his patients' diets were high in meats and starches containing excesses of the acidic minerals sulfur and phosphorus and were low in vegetables, fruits, and milk products containing alkaline minerals of calcium, magnesium, and potassium. Diets were also low in milk and butter that contained natural vitamin $D_3$ or had been fortified with synthetic vitamin $D_2$ or natural vitamin $D_3$. Some other sources of vitamin D are animal liver, egg yolk, and fish.

Modern civilized patterns of working, living, and playing in indoor environments and the wearing of modern clothing that covered everything but hands and face were also recognized as creating vitamin D deficiency by preventing sunlight exposure to large areas of skin. Too much indoor living and dietary deficiencies were part of the pattern of ill health. Modern indoor living had far removed humankind from its heritage of distant ancestors who wore only a loin cloth exposing large areas of the skin to sunlight. Even our immediate ancestors exposed one-and-a-half to two square feet of skin over long periods of working and living outdoors. Modern society, on the other hand, all too often limits the exposure of skin to daylight and sunshine to no more than a half square foot for five minutes as people walk from their cars to work or home.

Dr. Reich knew that some vegetation cells used the ultra violet rays of the sun to photosynthesize a limited amount of vitamin $D_2$ (ergocalcif-

erol) and that the living cells in the skin and coverings of humans, animals, birds, and fish synthesized vitamin $D_3$ (cholecalciferol). Vitamin $D_3$ is metabolized in the liver and then in the kidneys to create vitamin D analogs that assist in intestinal and kidney absorption of calcium, and maintain a balance of calcium stores in bone and an important balance of highly functional free ionic calcium of cells. It is this cellular balancing role of vitamin D that Dr. Reich claims is so critical to health.

In Dr. Reich's words, vitamin D makes calcium "biologically active," through ionization, to be soluble and usable for the body's needs. Dr. Reich theorized that, because of such activity of vitamin D during the early evolution of man, calcium which had been ionized by vitamin D was essential to transfer energy -- liberated by the oxidative process -- to the 1000 or more enzymatic processes scattered throughout each cell.

On that basis, Dr. Reich proposed that chronic ionic calcium deficiency would create energy starvation in the body's cells to create symptoms such as anxiety, fatigue, depression, diarrhea, leg cramps, constipation, and allergies. Direct physical signs showed up in ridged, layered, softened or cracked finger nails, muscle tenderness and irritability when firmly squeezed or the body tapped (percussed).

Biochemical Inheritance

According to Dr. Reich, a calcium and vitamin D well-nourished parent living in the southern latitudes, who complemented their vitamin D by spending significant time outdoors, would experience no physical signs and symptoms of ionic calcium deficiency. A second generation child deprived of outdoor living and sunlight, moving to northern latitudes, and deprived of dietary sources of either calcium or vitamin D, might begin to show symptoms. By a third or fourth generation, complaints, physical signs and disease arising because of deficiency, energy starvation -- organ adaptation to that starvation -- might well be in evidence.

Acidic Mal-Adaptation to Ionic Calcium Deficiency

In the last two decades, regional studies began to suggest that cancer incidence increased in northern latitudes and decreased in southern latitudes. As one approaches the sunbelt, incidence of cancer declines. On that basis, Dr. David Trump, Deputy Director of Clinical Investigation at the Pittsburgh Cancer Institute, and Dr. C. Garland, U of A, Lajolla, CA, began to believe, as Dr. Reich believed long before, that vitamin D -- this time in the form of the vitamin D analog calcitriol -- might play a beneficial role in preventing or halting the growth of cancer of the pros-

tate.

Such a study was ongoing. *Cancer Research* (April 1, 1994) and reports are that vitamin D analogs in combination with tamoxifen successfully treated breast cancer in rats. *Pathologie Biologie* (Feb. 1994) reported that vitamin D analogs were important in enhancing immune functions against both cancer and infectious agents. E.W. McDonagh, D.O., points out that the advantage of vitamin D analogs over other forms of vitamin D is that it may prevent the body's absorbing too much calcium.

Dr. Reich, although uncertain about the exact role of vitamin D in any form for cancer prevention, believes that healthy calcium levels in the blood might make a difference in many diseases, including Osteoarthritis. Anaerobic-acidic conditions where cancer cells flourish may be encouraged by chronic calcium ion deficiency. Reich views a cancer cell as a mal-adapted mutant cell changing itself to survive in low calcium climates. Aerobic conditions are blocked by ionic calcium deficiency.

The association of relatively low oxygen conditions (anoxia) encouraging cancer was first noticed by the Nobel Prize winner Otto Warburg (1924).

Reich believes that calcium anoxia -- deficiency in oxygen due to deficiency in calcium -- is created by blockage of the oxidative system, so that such deficiency in the presence of adequate calcium is only relative. On that basis, the deficiency of calcium (acalcia) was the more important factor in the creation of altered cell metabolism. Reich views a cancer as a cell that, through "reverse mutation" to a primitive form, is able to gain energy from glucose by a fermentation process which has no need either for oxygen or calcium.

Calcium may act as a cellular metabolism protector, an alkaline buffering agent, a cellular membrane protector, helping cells receive proper nutrition, and promoting normal cell division. The alkaline nature of ionic calcium may prevent overly acidic conditions that starve cells of oxygen leading to low energy, injury, or reverse mutation. The mutant cell, therefore, is primarily deficient in calcium (acalcic) and consequently is only functionally deficient in oxygen (anoxic).

Dr. Reich sees the disease process as the consequence of cells or organs attempting to adapt the body to deficiency. Persisting deficiency will ultimately break down the adaption function of tissues to create a mal-adaptive organ disease such as asthma, or to excite a cellular maladaption such as cancer.

When calcium becomes insoluble or deficient in supply in the blood, the body may compensate by automatically stimulating adaptive functions of organs which lead to cellular over-activity.

The clearest expression of this mal-adaption process was given in "Asthma as a Mal-adaptive Disease" [in an unpublished manuscript entitled "Ionic Calcium Deficiency."] There, Reich proposed that the autonomic nervous system, which operates outside of the body's conscious control, responds to a state of calcium deficiency by changing the breathing pattern. The nervous system tells the smooth muscle and secretary tissues of the bronchial tubes to develop an asymptomatic asthmatic breathing pattern so that increasing bronchial constrictions and secretions increase the acidity of all bodily tissues, as the exchange of gases in the lungs was limited, creating a retention of carbon dioxide. "This acidity, in turn, would facilitate the ionization of residual molecular calcium compounds within these cells, thus relieving the deficiency."

Reich found that this cellular acidity is reflected in the pH of the saliva. Apparently, this acidification means that energy starvation takes place when chronic calcium and/or vitamin D deficiency lowers cellular ionic calcium levels to a point where intracellular transfer of energy is in jeopardy. The body then tries to get more calcium back into circulation by creating overly acidic conditions.

When the site of mal-adaption is the bowel, Reich proposed that chronic diarrhea-constipation diseases may develop as an asthma of the intestinal tract, creating excessive production and more rapid evacuation of alkaline secretions.

Reich proposes that "essential hypertension," which he refers to as "asthma of the arterial system," "represents the use of the alarm reaction for adaptation." The transfer of kinetic energy imposed on a blood constituent by artery (arteriolar) spasms and increased cardiac contraction -- into instant chemical change of ionizing calcium to aid "fight or flight" activity -- was utilized by autonomic stimulation to compensate for the widespread cellular deficiency of that ion.

Rather than stress itself leading to bone disease, as Hans Selye believed, Reich proposed that the physical mechanism was mediated by the autonomic nervous system responding to the stress of ionic calcium deficiency by stealing calcium reserves. Depending on the site of the bone calcium bank which was drawn upon, or depending on the organ which was stimulated into adaptive function, a different "maladaptive" disease would arise. Calcium and vitamin D deficiency alone could cause such a disease, but disease in a deficient person could very easily be

triggered by any other secondary stress which made an extra demand for calcium.

In Rheumatoid Arthritis, Reich felt the autonomic nervous system tried to create adaption to ionic calcium deficiency by stimulating enzymes that dissolve subsynovial bone tissues, rupturing, destroying and dissolving joints in order to transfer needed calcium to the blood serum, creating an asthma of the joints and connective tissue.

Dr. Reich has also long maintained that amoebic, or other microorganism infection could only precipitate Rheumatoid Arthritis when the sub-synovial mineral reserve had been seriously compromised by lack of calcium and vitamin D deficiency, and by adaption to that deficiency.

In osteoporosis, the adaptive mechanism is hormonal dissolution of the bone shaft.

In Osteoarthritis, Reich agreed that thyroid and parathyroid activity were intimately involved in the generalized drain made on the bone's mineral reserves. As the bones weakened, Reich saw the growth of bone spurs as an attempt to form a bridge between two joints to protect weakened bone. This may be an example of a second adaptive mechanism creating spongy (cancellous) bony spurs trying to rectify a primary deficiency mal-adaptive disease.

## Other Factors

According to Dr. Reich, other factors, such as genetic change, other deficiencies and excesses -- and a combination of these factors -- may play an important secondary role in the excitation of many diseases, including Osteoarthritis. Therefore, these many other different factors may dictate which tissue or organ is to be affected by the underlying deficiency diseases.

Moreover, the treatment of one of these secondary factors may induce moderate resolution of the disease in many cases while the primary cause of ionic calcium deficiency is untreated.

Despite such resolution one must not ignore the indications of the existence of an underlying ionic calcium deficiency, creating a disease-prone state.

## The Litmus Test, Dosages, and Results

Reich found that his healthy patients had neutral to alkaline saliva readings on litmus paper of 7.5 to 7 pH that he believed faithfully represented blood and tissue pH.

Unhealthy patients, on the other hand, had acidic saliva readings showing evidence of acidic blood pH at or below 6.5.

The best time for taking the litmus test was found to be 11am just before eating. At least 1-2 hours should pass since eating, drinking, or chewing anything.

Within a few weeks or months of diet and supplement changes, the acidic saliva pH may return to a more normal neutral to an alkaline reading of 7 to 7.5 accompanied by a disappearance of symptoms.

In chronic asthma of children under five years of age, Reich found that his vitamin D and calcium therapy provided 93% with a moderate to excellent resolution of their diseases within one to three weeks.

In adults, within a few weeks or months of dietary therapy with alkaline producing foods, calcium-magnesium and A and D vitamin supplements, Reich noted that, with gradual resolution of asthma, other deficiency complaints also resolved. Also, acidic saliva pH tests began to approach the more normal neutral to alkaline state. As normalization of ionic calcium levels in the body's cells signals the autonomic nervous system that adaption to deficiency is no longer required, bronchial muscles and cellular secretions relax, ending the lungs excessive retention of carbon dioxide and normalizing acid-base balance.

Reich's therapy included calcium and magnesium, A and D vitamins in halibut liver oil (containing natural A and $D_3$ vitamins) or Aquasol A and D (providing natural A and synthetic $D_2$).

The results of prescribing dietary and calcium-vitamin D supplement changes for thousands of patients over 32 years of Dr. Reich's practice are given in the Table 1, below:

**Table 1: Patients Treated with Vitamins and Minerals**

| *Type of Disease* | *Number of Patients* | *Good to Excellent Resolution* |
|---|---|---|
| Adult Chronic Asthma | 5,000 | 67% |
| Very Young Chronic Asthma | 1,000 | 93% |
| Older Child Chronic Asthma | 4,000 | 85% |
| Rheumatoid Arthritis | 100 | 60% |
| Osteo Arthritis | 2,000 | 60% |

In **Table 2, Schedule of Initial Daily Doses of Vitamins and Minerals . . . maintained for several weeks or months, then reduced to one half or one third**, the protocol is given as:

| *Patient (Age)* | *Vitamin A (I.U.)* | *Vitamin D (I.U.)* | *Calcium (Mg)* |
|---|---|---|---|
| 3-6 | 5-8,000 | 1-2,400 | 250-500 |
| 15 | 30,000 | 4,800 | 750 |
| Adult (160Lbs) | 54,000 | 7,200 | 1,250 |

Although these dosages seem high to many doctors, the FDA, as of April 1989, reported only 11 Adverse Reaction Reports to "high" dosages of vitamin A and vitamin D.

The 1980s *Special Report on the Recommendations of the National Research Council's Committee on Diet and Health, Regarding Dietary Supplements* stated that the minimum toxic dose for vitamin A ranges from 25,000 IUs-50,000 IUs. For vitamin D, the minimum toxic dose was believed to be 50,000 IUs. Despite those exceptionally high initial toxic figures the The National Research Council's recommended adult intake presumed for safety is only 5000 IUs of A and 400 IUs of D.

Dr. Reich's dosages of vitamin D are one fourth to one sixth of that which is known to create toxic effects, but vitamin A dosages are above the National Research Council's extremely low presumption of a toxic level.

Dr. Reich proposes that the National Research Council's level of initial toxic vitamin A toxicity is too low and that, instead, the toxic level is in the 50,000 to 100,000 IU range.

The *Federal Register* reported that vitamin D toxicity only takes place at massive *daily* doses of 25,000 IUs, where calcification of soft tissues has been noticed (*Nutrition News* 1986).

*The Merck Manual* (1992) states: "Frequent determinations of serum calcium (weekly at first and then monthly) should be made in patients receiving large doses of vitamin D." Normal values are considered to be 8.5 to 10.5 mg/dL; elevated levels to be 12 to 16 mg/dL.

Early signs of vitamin A toxicity include dry skin, sparse coarse hair, cracked lips, and swelling of the optic disc of the retina (papilledema). Symptoms are headache and dizziness together with symptoms of "false brain tumor" (psuedo-tumor).

Symptoms of acute vitamin D toxicity include headache, nausea, anorexia, diarrhea and growth retardation in children.

Signs of chronic toxicity that arise because of tissue calcification include urine indications of kidney damage.

Toxic symptoms of both vitamin A and D disappear within 1 to 4 weeks when vitamin doses are reduced or discontinued and fatalities

have not been a result of high doses (*Merck Manual* 1992).

Dr. Reich reported finding only rare instances of elevated blood serum calcium levels as a result of his supplement therapy. Reducing vitamin D dosages quickly took care of the problem.

Whatever the theoretical explanation, supplementation with vitamins $D_3$ in halibut liver oil, or cod liver oil, sometimes combined with vitamin $D_2$ in Aquasol A and D, had good results in the vast majority of patients. On looking back at his 32 years of successful practice, Dr. Reich felt that calcium and other mineral supplementation might be more important in southern latitudes but that vitamin D supplementation would be more important in northern latitudes.[55]

*Caveman Diet*

Nutrition must be designed to fit each individual, of course, but there are always good broad outlines that are safe and helpful for each of us. According to Gus J. Prosch, Jr. M.D.,[11] of Birmingham, AL, in principle the closer we can eat to the "caveman diet" the better the nutritional values received. Our human bodies evolved through a varying diet of grains, nuts, berries, fish, meats and other food substances. The "caveman diet" is generally described with recommendations for the eating of fresh fruits and vegetables, whole grains, nuts, cold water fish and other sources of essential fatty acids.

*Cetyl Myristoleate*

Harry W. Diehl, former National Institute of Health employee, suffered from arthritis. Remembering the good effects shown in a study performed on mice at his former place of employment, Harry used Cetyl Myristoleate[99] successfully on himself. Apparently this fatty acid can solve inflammation, pain, swelling and related arthritic problems for Osteoarthritis, Rheumatoid Arthritis, and possibly for many others of the eighty or so collagen tissue or so-called "auto-immune" diseases.

Eleven Human Test Subjects[99]

Although the authors have not seen the beneficial effects reported, apparently others have. Eleven people suffering with mild to moderate severe Osteoarthritis were supplied with 16 capsules of Cetyl Myristoleate, two 75 mg capsules to be taken each morning and each evening for four days.

"Nine reported about 20% to 30% improvement in articulation and inflammation and about 40% to 50% relief of arthritic pain within 36 hours. . . . improvement continued rapidly for the next 60 hours, reaching 80% to 100% by the end of the four days.

"The other three subjects reported similar improvements in articula-

tion and pain relief within 60 hours, reaching 70% to 80% overall improvement by the end of the four days.

"Two of the three latter subjects continued to improve over the following week despite the fact that they were no longer taking the capsules. However, about half of this group experienced the return of some mild arthritic symptoms after about three to five weeks. Although not included as part of this study, all of the subjects in this group were treated again and their symptoms have not returned."[99]

Fourteen Human Test Subjects

Fourteen people suffered with severe to crippling Osteoarthritis. They "were supplied with 50 capsules to be taken in two series, two 75 mg capsules to be taken each morning and each evening for seven days, with a seven day interval before repeating the same dosage for 5-1/2 more days.

"Three of these subjects were unable to walk and were accustomed to being transported by wheelchairs. The other eleven could move about with crutches, walkers, or canes.

"All presented pain, inflammation, and marked deformation of nearly all finger (interphalangeal) and large joints."

Four had limited lumbar flexion and pain in the vertebral column.

"Ten had difficulty grasping and manipulating objects.

"After four days of treatment ten subjects in this group reported a 30% to 50% improvement in articulation and inflammation and about 40% to 60% relief of arthritic pain. In these ten subjects improvement continued rapidly over the next three days, reaching 80% to 100% by the end of seven days.

"Three subjects reported 70% to 90% improvement by the end of seven days.

"One subject reported no perceptible change.

"On the fourteenth day, at the end of the one week interval without treatment, nine subjects reported continuing minor improvement, four reported maintaining their improved status, and one continued to show no improvement. Treatment was resumed on the fifteenth day for 5-1/2 more days.

"By the end of the treatment period eleven subjects reported 80% to 100% relief of pain with return of 80% to 100% mobility.

"Two subjects reported 70% to 80% return of articular mobility with a 70% to 90% reduction of arthritic pain.

"The one non-responsive subject proved to have previous liver damage as a result of sports-related steroid abuse."[99]

*Chelation Therapy*[3,34]

According to Luke Bucci, Ph.D., Dr. Paul K. Pybus,[25] (deceased) surgeon, acupuncturist and general practitioner from South Africa, and many other physicians, one of the major contributing factors to loss of joint cartilage is lack of nourishment which can also result from lowered blood supply.

Pronounced "Key-lay-shun," chelation therapy is one of the most effective treatments for a wide spectrum of diseases or aging conditions, because by it's use, 80% of peripheral -- hands, feet, arms, legs, heart, head -- circulation problems are resolved.

Intravenous chelation therapy uses an amino acid, ethylene diamine tetracetic acid (EDTA) to combine with the calcium that holds atheroslerotic plaques together in the arteries. By removing the binding agent -- the calcium -- from the plaques that plug up arteries, and which prevent blood from circulating freely in the volume required for good nourishment, the smaller plaques themselves disappear.

There is hardly any disease or bodily condition that would not be benefited by opened arterial flow, as essential life elements are thence made more easily available to each cell. As each cell is better nourished, so are tissues, and therefore organs and bodily systems. Better opportunity for better nutrition at the cellular level also means enhanced capability of fighting off disease and of repairing damaged tissues.

Decomposing joint cartilage contains free radicals that chelation therapy assists in cleaning out; and, more importantly, the cartilage itself, with it's otherwise poor arterial blood supply relying essentially on expansion and squeezing action for nourishment, is better fed and repaired with better arterial and capillary flow.

While intravenous chelation with ethylene diamine tetracetic acid (EDTA) removes the binding calcium from arterial plaques, it will not remove two and three valent damaging metals, such as mercury, iron, copper, arsenic, cobalt, chromium, cadmium and silver. When metal toxicity is suspected, physicians such as Mark Davidson, D.O., N.D. of North Carolina, usually use di-mercaptopropane sulfonate (DMPS) first, to remove residuals of these toxic metals, and then secondly use the ethylene diamine tetracetic acid (EDTA).[83]

Case History: Claudication and Joint Deformation

Before trying chelation therapy, the author, then a 58 year old male[35] patient, prepared a detailed list of symptoms, or at least perceived symptoms, of what he felt was wrong and would like to have corrected. Since the patient didn't know what the treatment would do, he simply

wrote down everything he didn't like about himself or felt was physically or emotionally wrong.

He also planned to have a number of periodic laboratory tests during the course of his chelation treatments. He wanted to be able to evaluate for himself what was true or not true about this new form of treatment.

There were many items listed that did not change under chelation therapy. But those symptoms that did change were quite striking and are among clinical signs and symptoms that no amount of traditional drug treatment would have solved.

The author had to lie down at three o' clock every afternoon to rest for three to six hours. He often felt like the world could come to an end, and he'd not care. Also whenever he lay down his legs cramped terribly. This kind of pain and muscle cramping is known as "claudication," and can be a product of calcium insufficiency and/or oxygen lack, both of which can stem from lack of proper cellular nourishment.

Pain and inflammation in one joint on one little finger would not respond to various treatments and medicines tried by his family doctor. As the cartilage decomposed into various forms of free radicals, those, in turn, created additional damaging secondary and tertiary effects.

This particular joint pain probably would have been diagnosed as a form of "Osteoarthritis."

After three treatments by chelation therapy, the little finger joint inflammation disappeared entirely for the first time in two years.

Leg claudication disappeared at about 22 treatments given over eight weeks. It didn't disappear suddenly, but gradually, over several treatments, the cramping and pain lessening each time. Extreme tiredness disappeared after 30 to 40 treatments, ten to fourteen weeks. In all this patient had 111 chelations over the next 14 years.

N**o other known traditional treatment, no amount of taking of known drugs to control symptoms could have brought about the improvements noted.**

There are a large number of diseased conditions solved, or assisted toward solution by the use of chelation therapy.

*Chiropractic*

One of the most common complaints received by Chiropractors is that of low back pain. This pain, plus various forms of tendinitis and tenosynovitis throughout the body, are often associated with subluxations, or the incomplete or partial dislocation of one vertebrae from another.

Just as the term "arthritis," is a catch-all descriptor for every kind of body pain found in both hard and soft tissues, "back pain," and similar "arthritic" pains can also describe many forms of subluxations.

As reported in *Alternative Medicine: The Definitive Guide*, "In a two-year study completed in 1990 by Britain's Medical Research Council, chiropractic treatment was found more effective than hospital outpatient care for low back pain. Years later, those patients treated with chiropractic care continued to suffer less pain than those treated by medical doctors. Studies conducted by the Florida Department of Labor and the Rand Corporation in Los Angeles came to similar conclusions."[5]

Although Chiropractic can assist many forms of Osteoarthritis, as with many other successful treatment modalities, Chiropractic is also successful with other problems, such as respiratory conditions, gastrointestinal disorders, sinusitis (inflammation of the sinus), bronchial asthma, heart trouble, high blood pressure, and even the common cold, according to Chester Wilk, D.C. of Chicago, Illinois.[5]

Chiropractic has also successfully treated peripheral joint injuries (hands, knees, elbows, hips, shoulders), sprains, arthritis, Bursitis, menstrual difficulties, plus a wide range of emotional problems, from mild depression to schizophrenia. Combined with proper nutrition, chiropractic adjustment can, in some cases, reverse Osteoarthritis.[5]

According to Dr. Blaich, subluxations occur from falls or other physical manipulations that go unnoticed. The misalignment may result in temporary pain which disappears. The person finds out years later that the hip is deteriorating, and by then the original fall that created the cause, the subluxation, has long been forgotten.[5]

"People can see the premature wear and tear on their car's tires that occurs if the wheels are misaligned," Dr. Blaich says, "yet the same holds true for the human body if the spine is misaligned."[5]

Just as people go to the dentist for checkups, or to the medical doctor for an annual physical, people should go to a Chiropractor for a checkup.

And, just as there are different specialities in the practice of medicine, Chiropractors will differ in their adjunctive treatment orientation, some emphasizing nutrition more than others. Along with subluxation adjustments, most commonly Chiropractors will use heat, cold, ultrasound, electrical stimulation, massage, and exercise.[5]

According to William Michael Cargile, B.S., D.C., Chairman of Research of the American Association of Acupuncture, "osteoarthritic patients can often be treated successfully with a combination of chiropractic and acupuncture."[5]

"Corresponding observations have been made in man. Specifically, orthopaedic surgeons have often noted that any continual sustained pressure applied to joints during the course of fracture treatment results in Osteoarthritis developing in those joints, according to Dr. Paul K. Pybus."[36]

A more recent study reported by Alan Gaby, M.D. of 64 individuals with Osteoarthritis of the feet, seems to support Pybus' observations. Gaby wrote, "This study suggests that orthopedic deformities are a contributing factor in some cases of Osteoarthritis of the feet. . . . Although orthotics (custom-made footwear) do not work for everyone, more than one-third of the patients in this study were able to discontinue potentially dangerous anti-inflammatory drugs."[36]

*Control of Pain*

Intraneural injections

Although the causations of Rheumatoid Arthritis and Osteoarthritis differ, nerve specialist Professor Roger Wyburn-Mason M.D, Ph.D., who had two nerve diseases named after him, more than fifty-five years ago was able to demonstrate that the source of pain in both Osteoarthritis and Rheumatoid Disease is not from the joints — where most modern-day "symptoms-only" treatment lies — but in certain key nerve ganglia leading to the joint. These nerve ganglia are found in uninsulated nerves usually lying close to the skin's surface, known as "C fibers."

For example, there is one major nerve ganglia called "the crazy bone," which everyone knows is sensitive. Another lies at the base of the wrist of the little finger, protected by a large bony protrubence found on the back of everyone's hand. Between these two will be many smaller nerve ganglia, each of which can be sensitive to touch, and from which electrical nerve signals stem that produce the pain that appears to stem from the joints.

Dr. Paul K. Pybus of South Africa, a former student of Roger Wyburn-Mason, M.D., Ph.D. stumbled on a way to make his professor's theory work, and Gus J. Prosch, Jr., M.D. of Birmingham, Alabama[36] developed Intraneural Injection Therapy further, as well as taught more than 600 physicians how to use it.

Keith McElroy, Clinical Professor of Orthopaedic Surgery at Columbia Presbyterian Medical Center & New York Orthopaedic Hospital, College of Physicians and Surgeons, Columbmia University, Bonxville, New York, also independently developed a version of Intraneural Injections, which he called "Injection Therapy."[77]

In *The Anatomy of Pain, "Specific Injection* Therapy," Harry H.

Philiibent, M.D., who has treated with injections for forty-five years, says that Fibromyalgia is a misunderstood condition. Normally Fibromyalgia is diagnosed after eliminating other classified diseases such as rheumatoid arthritis, lupus or osteoarthritis -- and therefore, the physician concludes, "it must be Fibromyalgia."

The reason the Fibroymyalgia patient reports aches from head to toe is that certain key pain points in the body are tender to touch: knee pain, back pain, shoulder, arm and hand pain.

Dr. Philibent uses only Lidocaine HCl for effective treatment.

Curt Maxwell, D.C., N.M.D. of Algondones, Mexico (across the border from Yuma, Az) has also found that the Depo-Steroid mixture is unnecessary and, indeed, receives a large number of Americans who, by word of mouth, have been referred to him and this effective treatment of "Intraneural injections," "Injection Therapy," or "Specific Injection Therapy."

The Case of Bessie M'butu

The former Chief Medical Advisor for The Arthritis Trust of America/The Rheumatoid Disease Foundation, Dr. Paul Pybus of South Africa reported the following story of discovery regarding these nerve ganglia, and their relationship to the joint pain of Osteoarthritis and Rheumatoid Arthritis:

"One summer's day I had a visit from a medical representative from Sherak (South African Pharmaceutical Company) who was conducting a promotion of the depot steroid of B-methazone known as Celstone Soluspan®. He suggested that I should inject this substance into the knee joint of patients, telling me that I could relieve their pain for several months at a time. He gave me details and statistics to prove his point and left me the usual supply of samples.

"I was really not very impressed, as I knew that this procedure was often done but had to be performed under strict, aseptic conditions and not in the doctor's office, for the penalty of infection would be high.

"Two days later, a 68-year-old crippled, overweight lady, Bessie M'butu, came to my office, hobbling in on two sticks and complaining of severe pain in her right knee, from which she had suffered for the last 10 years. The knee was swollen and very painful and kept her awake at night. She was quite unable to get around to any extent, and had to have a stick for every step she took. Examination showed her to have a marked degree of knock-knee and there was an escape of fluid (effusion) present.

"She had come asking for her repeat supply of pills for sleeping, and

for hypertension, from which she also suffered, and anti-inflammatory drugs. I proceeded to write her prescription, and as I was doing this Bessie said to me, 'You know, Doctor, I'm sure if you put something in just here' (pointing to a place below and back of her knee) 'I am sure you would help me a great deal.'

"'All right,' I said, 'show me and get up on the couch.'

"After a great deal of puffing and blowing and wincing at the pain, this tired, obese old lady managed to lie down on the couch and point to the inner side of the knee, saying, 'There, Doctor.'

"It was only then I remembered the visit of my medical-rep friend and his sample of Celestone Soluspan.

I had previously injected this material into tender points around the shoulder and wondered if I could do it in this condition. I knew that the injection, if used as presented by the makers, was very painful, so I thought it would be kinder to dilute it, as this spot on the lady was very tender indeed. I therefore used 2% lignocaine which I discovered in another corner of my office, and drew up 5 ml of this. I then raised a bleb -- a small infusion -- of anaesthetic over the tender spot, and then to the remainder of the lignocaine added 1 ml of the Celestone Soluspan. I introduced the solution into the spot and advanced the needle further into the skin. The old lady winced a little, but made no fuss, saying it was just a little painful.

"When I had completed the injection I felt the joint and tried to bend it. To my surprise a miracle had occurred. Instead of the patient experiencing severe pain and resistance to movement as had occurred previously, the knee flexed with the greatest of ease to full opening (flexion), and her expression changed from one of painful anticipation to one of satisfied pleasure, an ecstacy in her face, and tears into her eyes. "It was difficult to tell who was the most surprised, the patient, or myself.

"I asked her to stand up, and this she did, and to our surprise, there was still no pain.

"Bessie then pointed to her sticks saying, 'I don't want these sticks anymore, I am better now,' and with that, walked to the other end of the room and back with a smile of satisfaction.

"The next day she returned, saying she still had no pain, and has remained pain-free for five years, as has another patient with Osteoarthritis."[25]

The Case of Marie Ray, R.N.

Marie Ray, full time Registered Nurse, wrote for Dr. Maxwell the following:

"The pain was stealing my life! Here I was, a new snowbird just retired and ready to enjoy the freedom. Instead I found myself living a vicious cycle of fatigue due to the inability to sleep, caused by the excruciating hip pain that would come in the night and frustration because I couldn't walk long enough or far enough to enjoy anything. I couldn't participate in the dances or sight-seeing or anything active because my legs ached so badly!

"Yet inactivity was my worst enemy, and as soon as I sat down to relax, my muscles would stiffen up and the pain would set in worse. So I would move around, walk a little then sit again. This was the retirement I had looked forward to for years?

"Several years ago I suffered a bad back injury and the spasms and pain just slowly increased even though I had tried everything: acupuncture, massage, chiropractice, water exercises, stretching, pills, nothing helped for very long. then one day I was introduced to Dr. Maxwell. He had made the mistake of saying he wished he had a big challenge, then I walked in the door and he got his wish! By now there was hardly a place between my waist and my knees where I could stand to be touched much less stuck by a needle! "Hot spots" were everywhere, some no more than 1/2 inch apart. Every nerve was inflamed, every muscle in constant spasm and I was miserable, at the end of my rope. But, not being a quitter I was willing to try anything.

"Today, 3 months and 8 sometimes painful treatments later, I sleep all night, the fatigue is gone, the hot spots are gone and the nerves in my legs and hips no longer scream with every step. The spasms are slowly relaxing and now it is up to me to take the responsibility for the rest of my recovery, do the necssary correct stretching 3-4 times a day, exercise and take the supplements prescribed.

"Thanks to the knowledge, caring and persistence of Dr. Maxwell my life is mine again. Also my heartfelt thanks to his wife Esperenza for her encouragement, understanding and gentle loving support during some very difficult times.

"I will be back next year, but I seriously doubt it will need to be as a patient because this is where my search ended and my new lease on life started! I will be eternally grateful to Dr. and Mrs. Maxwell!"

A year later, Marie Ray wrote:

"I'm back, but not for any treatment. Since first seeing Dr. Maxwell

. . . I have come so far! . . . No more hip, leg, or back pain! I dance, I work and thank God, I sleep! I travel alone and do what I please! Life is great.

"I feel great and I owe it all to Dr. Maxwell!"

(See *Osteoarthritis and Rheumatoid Disease Including Osteoarthritis and Rheumatoid Arthritis* and *Intranural Injections for Rheumatoid Disease and Osteoarthritis*, and *Osteoarthritis and Rheumatoid Disease Including Osteoarthritis and Rheumatoid Arthritis* http://www.arthritistrust.org.)

Source of Pain for Osteoarthritis and Rheumatoid Diseases

Based on the English nerve specialist Professor Roger Wyburn-Mason theory, Dr. Paul Pybus[25] found that a combination of methylprednisolone acetate (Depo Medrol®) with a very dilute solution of Triamcinolone Hexacetonide (Lederspan® or Aristospan®) not only immediately halted the pain appearing in remote joints, but also permitted the nerve cellular lesions to heal, probably by stabilizing nerve cell membranes.

Pybus stated that these nerve lesions triggered off two signals, one set following the nerve path to the brain, the other following a reflex arc to the spinal column and back.

The signal to the brain came back to represent pain at the joint. The reflex signal to the spinal column came back to the joint to produce the following easily recognizable phenomena: heated joints (pyrexia), swollen joints (edema) and tension or clamping of muscles at the joints. **It is the tension or clamping of muscles at the joints which creates degeneration of cartilage at the joint which results in the pain of Osteoarthritis (or the pain of Rheumatoid Arthritis)**, and this was further explained (Figure 2) by Dr. Paul K. Pybus:

"In the early part of the 1960's several investigators quite independently explored the effect of continous compression exerted on the joint cartilage. Robert Salter and Paul Field working in Toronto, Canada, Antoni Trias in Oxford, England and Crelin and Southwick in Cambridge, Massachusetts were all performing experiments on the knee joints of either monkeys or rabbits. Their experiments were similar in the principle of using a Charnley's clamp to be applied across one knee joint of a large number of animals for a number of days." A Charnley clamp is a mechanical device used by surgeons to compress and immobilize a joint. (See Figures 3 & 4).

"After the application of the clamp, the animals were allowed to recover from the anaesthetic, and thereafter one was sacrificed every day and the

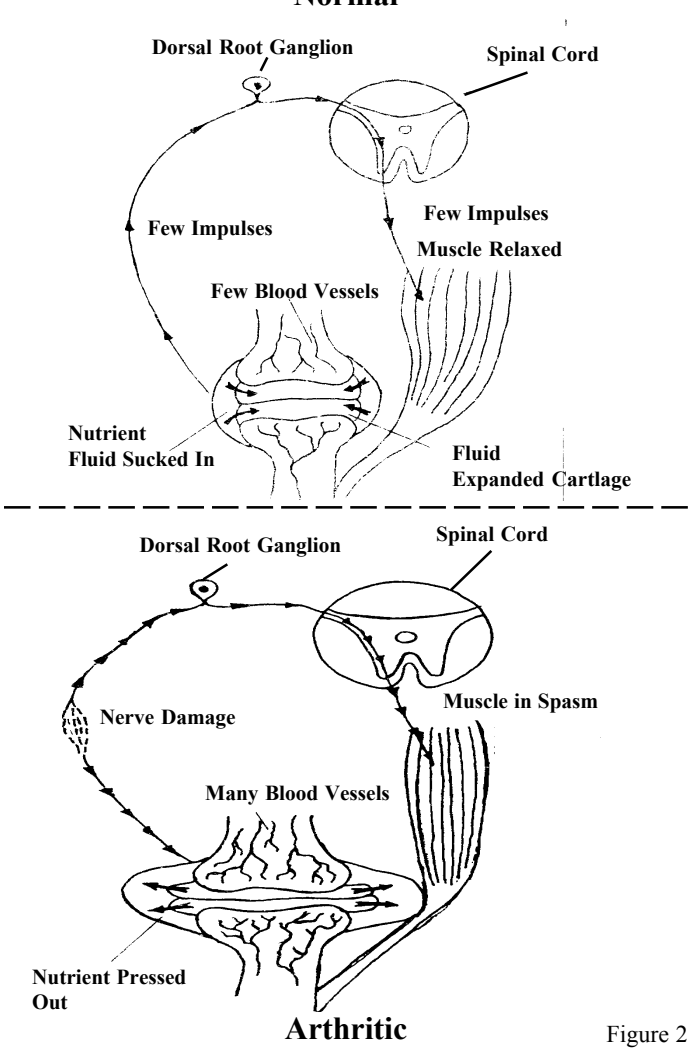
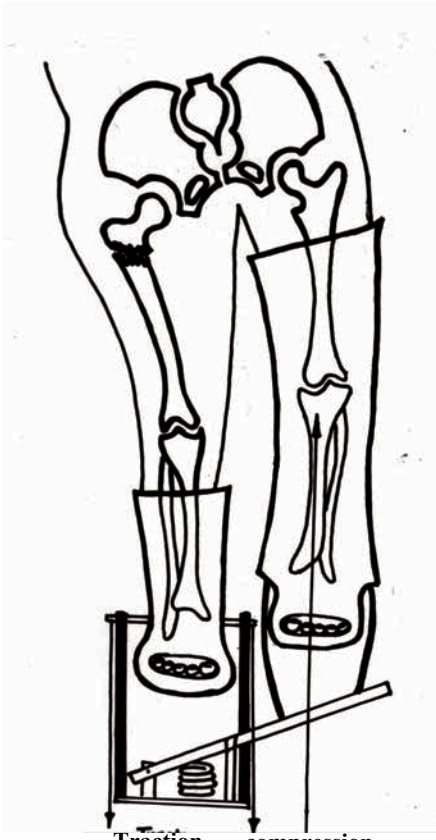
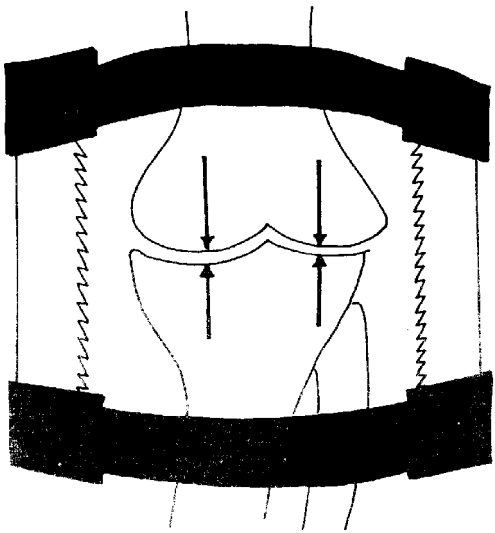



Figure 2




**Osteoarthritis develops in the knee of the unfractured side due to the pressure on that knee exerted by the Charnley apparatus.**

Figure 3



**During application of a Charnley's clamp, note that compression is external to the bones.**

Figure 4

joint fixed in formalin and examined microscopically. The opposite knee was used as the control.

"All these investigations obtained essentially similar results. An osteoarthritic-type lesion, including prominent cartilage degeneration was produced in the joint following as few as 3 days continuous fixation-compression, and by the end of 14 days the condition was well established. After 6 weeks the joint degeneration was in its final stages, the cartilaginous joint surface being worn away with conversion of bone into an ivory-like mass (eburnation) of the underlying bony layers.

"It was also shown by two other workers, Calandruccio and Gilmer, that if this experimental fixation-compression is released, the condition is reversible and the cartilage shows signs of regeneration.

Destruction of cartilage (leading to heat and swelling) is caused because cartilage, having virtually no blood distribution system of its own, requires a continuous squeezing and expanding of the cartilage in the joint, squeezing out blood and sponging it up, respectively. When one side or both sides of a joint are under conscious or unconsious tension because of nerve cell lesions constantly sending a reflex signal to the spinal column to tense or clamp the joint — then the cartilage begins to degenerate through lack of sufficient nourishment. This decomposition results in the creation of additional secondary and tertiary "free radical" chemical reactions that are further destructive, also producing the symptoms of heat (pyrexia) and swelling (edema). (Free radicals" are chemicals that seek active combination with other chemicals.)

Gus J. Prosch, Jr., M.D.[11] of Birmingham, Alabama, successfully added to and developed the Wyburn-Mason/Pybus intraneural treatment for arthritics in the United States, and taught many physicians. The author was very effectively treated by Dr. Prosch with intraneural injections. After becoming cured of Rheumatoid Disease, there were many painful joints and other forms of Fibromyalgia-like sensitive pain-points remaining, Over a period of two years, the number of treatments decreased, as did the number of sensitive pain points.

In a study performed by Dr. Paul K. Pybus, the average length of time for relief in 393 pain points was 11.31 years, as shown in the following chart:

***Patients Who were Followed Up by Dr. Paul K. Pybus***[25]
***Over a 4 year Period. Lost Patients are Unknown.***

| Type of Joint | Numbers | Numbers of Failures | Months of Relief | Average Relief of Joint Pain (Months) |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Hips | 37 | 3 | 385 | 10.4 |
| Knees | 124 | 7 | 1421 | 11.45 |
| Ankles | 44 | 5 | 491 | 11.15 |
| Shoulders | 44 | 1 | 716 | 16.27 |
| Elbows | 19 | 0 | 339 | 7.3 |
| Hands | 56 | 7 | 549 | 9.3 |
| Sciatica | 49 | 1 | 496 | 10.12 |
| Neck | 20 | 2 | 283 | 14.2 |
| **Totals** | **393** | **25** | **4740** | **11.31** |

Acupuncture

Most of the traditional acupuncture points are exactly the same as the trigger or key nerve ganglia used in Intra-neural Injections, and the physics of explanation is identical for both, as the initial developer of Intra-neural Injections, Dr. Paul Pybus, was an acupuncturist and surgeon. He wrote, "Acupuncture . . . shows no great permanency in the relief afforded just by one treatment, as when the needle is removed the membrane is still destabilized and the condition reverts to the status quo ante." This seems to be confirmed by the experience of Arabinda Das, M.D. who wrote, ". . . acupuncture may help localized pain of Rheumatoid Arthritis but chronic generalized Rheumatoid Arthritis is not amenable to acupuncture as [is true with] many chronic infectious conditions."[26]

When Pybus combined acupuncture with a substance that stabilized the nerve cell membrane, he began to see long-term improvement in the control of pain in both Osteoarthritis and the pain of Rheumatoid Arthritis.

There are others, however, who have reported excellent success controlling pain via acupuncture. In a study reported in *Medical Tribune*, 29 patients with severe arthritis, who were candidates for knee replacement surgery, were treated by acupuncture in which needles were inserted at specific nerve sites near the surface of the skin to reduce pain. Half of the patients received standard pain killers, while half received the acupuncture twice a week for nine weeks. After nine weeks, those receiving acupuncture had significantly less pain and better function than those who were taking the pain killers, according to Hans-Henrik Bulow, M.D. of the University of Copenhagen. Seven patients responded so well that they did not need the surgery. Seventeen patients continued with acupuncture for a full year, once a month, and were able to maintain their improvement.[68]

Barbar Sage, through internet, wanted to share her good experiences

with the use of acupuncture. "I have degenerative joint disease (Osteoarthritis) in my neck and upper back, accelerated from working at a computer all day.

"I tried physical therapy, exercises, chiropractic, and drugs. Nothing gave any lasting relief. Then I was referred to Dr. Peter Eckman, M.D., an acupuncturist in Palo Alto, CA. The very first visit I left with pain free neck -- the first time in two years. The stuff works rapidly. Through successive treatments, my back and neck pain is so much better."

In addition to good effects on pain, acupuncture is said to strengthen the immune system[19].

*Dietary Recommendations for Osteoarthritis[9]*

During *The Arthritis Trust of America/The Rheumatoid Disease Foundation's* 1986 medical seminar held in Santa Monica, California, Luke Bucci, Ph.D., one of the speakers, also attended the other presentations, later summarizing what he'd learned in a paper titled "Comprehensive Nutritional Support for Osteoarthritis".[49]

Luke Bucci reported that "Years ago (1961), it was recognized that nutrition of cartilage tissue was a major factor in the progression of Osteoarthritis."

It's generally accepted that degenerative changes appear first in that part of the articular cartilage which receives the greatest wear and tear and has the poorest nutriton. Furthermore, most Osteoarthritis patients are elderly and inactive, with many of them suffering from blood circulation problems, especially in the poorly fed tissues surrounding and inside the joints. This leads directly to linking poor blood supply and poor nutrition to degenerative cellular functions of cells in and around the joints.

From these known and accepted medical facts, and through Dr. Bucci's studies, he concluded that those wishing to improve Osteoarthritis should, "Feed The Chondrocytes!, [the cartilage cells]. . . .

"How does one go about feeding chondrocytes?" Bucci asked

"Fortunately, the state of research on chondrocyte needs is sufficiently advanced to be able to list specific nutrients which play very important roles in chondrocyte function."

According to Dr. Bucci, most Osteoarthritis patients consistently -- show deficiencies of vitamins A, C, D and E along with insufficient intakes of calcium, iron, copper, zinc and selenium.

Some of these deficiencies may be caused or exacerbated by the pain-killing medications commonly used by these patients. For example:

- Aspirin use can lead to gastro-intestinal bleeding, resulting in

'anemia of arthritis.' This condition would worsen deficiencies of iron, copper and vitamin C.

• Non-steroidal anti-inflammatory drugs (NSAIDS) make the gut more permeable, which at first glance sounds desirable. However, at least a third of arthritis sufferers are "very low" in stomach acid (achlorhydric), with more being just "low" in stomach acid (hypochlorhydric), meaning mineral absorption is compromised and protein digestion is suboptimal. Poor protein digestion and increased gut permeability means absorption of large molecular weight pieces of proteins, leading to collagen tissue and autoimmune diseases, arteriosclerosis, rheumatoid diseases and neurological changes.

According to Dr. Bucci, "forty percent of arthritis patients have mixed degenerative [Osteoarthritis] and Rheumatoid Arthritis."

Returning stomach acidity to normal levels greatly improves protein digestion. Dietary supplementation can quite easily increase stomach acidity to normal levels. The only contraindication is an active gastric or peptic ulcer.

There are many products designed to aid gastric acidity, so consult your favorite supplement manufacturer to find out which product is designed to increase stomach acidity. Usually, one or two tablets -- which may increase hydrochloric acid and/or enzyme activity -- taken immediately before or after meals will be recommended.

Other general dietary guidelines include decreasing sugar and refined foods, and removing fried foods, margarine and preserved meats.

Adding more whole grain products, fresh vegetables and fruits is recommended.

Replacement of most red meats with fish, poultry and wild game has the advantage of reducing consumption of proinflammatory fats and increasing intake of anti-inflammatory fats.[9]

Rex Newnham, Ph.D., D.O., N.D. of Leeds, England reported that "If hormones are used in the growing of poultry in the U.S.A., it should not be recommended to anybody. These hormones, at least in Australia and New Zealand, do inhibit the menstrual cycle in women and sometimes men develop swollen breasts, [and the hormones placed in poultry] interfere with the normal [human] hormone balance and can upset calcium retention." Apparently, by this criteria, all U.S. citizens may need to swear off from all non-self-grown U.S. red meat products![12]

Dr. Bucci further advises that, if there is difficulty in procuring or preparing fish, fish oil supplements are available. Oils and supplements containing significant amounts of linolenic acids (GLA and ALA) [from

foods such as linseed or flax oil, walnuts and beans, whole grains, chestnuts, soybeans and pumpkin seeds] are also available to fortify a return to dietary intake of polyunsaturated anti-inflammatory fats.

Dr. Bucci lists dietary guidelines that are currently being recommended to Osteoarthritis patients by medical doctors well-versed in nutrition:

General Guidelines

1. Improve gastric acidity.
2. Remove refined sugars, corn syrups, fried foods, margarine, preserved meats.
3. Decrease refined foods, replace with whole grains, fresh vegetables and fruit.
4. Replace most red meats with fish, lean poultry (hormone free, if possible) or wild game.
5. Keep total fat intake below 30% of total calories.
6. Reduce consumption of white potatoes, tomatoes, green peppers, eggplant, chili peppers, (solanine-containing plants) if Rheumatoid Arthritis symptoms also are apparent.

Dr. Norman F. Childers originally described arthritics' sensitivity to solanines, reporting that nightshade's toxic chemical, solinase, interferred with the neuromuscular chemistry which vitamin therapy is intended to improve.[44]

According to Robert Bingham, M.D., 1/3 to 1/2 of Rheumatoid Disease victims are sensitive to chemicals in these products.

Tobacco, besides being a member of the solanines, carries toxic substances into the blood and tissues, damaging to muscle and nerve metabolism.[24]

According to nutritionist Carleton Fredericks, Ph.D., an even higher percentage than reported by Dr. Bingham are affected by solanines, and both Osteoarthritis and Rheumatoid Disease victims should consider avoidance of these substances.[44]

Vitamins

Dr. Bucci suggests that since dietary deficiencies of vitamins and minerals have been found for Osteoarthrits patients, a multiple vitamin/mineral product should prevent gross deficiencies from occurring.

High doses of B vitamins (over 500% of RDA) have not been useful for Osteoarthritis, according to several studies; therefore, modest doses of B vitamins are sufficient for [ordinary] supplemental purposes (1-10 mg $B_1$, $B_2$, $B_6$; 20-50 mg for $B_3$ and $B_5$; 6-25 mcg for $B_{12}$)." An exception has

been the work of William Kaufman, M.D., who describes the way in which niacinamide deficiencies can be repaired, by the use of relatively large dosages spread out over a 10 hour daily intake period, and also the use of other vitamin B supplements.[13,44]

There is another exception in that high doses of folic acid combined with high doses of vitamin $B_{12}$ (cobalamin) have shown beneficial effects on Osteoarthritic hands by Margaret A. Flynn, Ph.D., RD.,[101] University of Missouri-Columbia School of Medicine, Columbia, Missouri.

Two hundred times the Recommended Dietary Allowance (RDA) of cobalamin ($B_{12}$) (20 mcg) and folic acid (6,400 mcg) were injected into an experimental group drawn from 26 Osteoarthritic patients in a double-blind study over 6 months. Neither the folic acid, or the cobalamin or the placebo pain control of acetaminophen Tylenol$^{R}$, proved as beneficial as did the joint injections of $B_{12}$ and folic acid.

Vitamins A, D and E are oil-soluble, meaning the most efficient forms of supplementation are emulsified forms[7]. For vitamins A and D, supplemental amounts of 100-200% of RDA are sufficient. Higher doses seem to be unnecessary and may possibly lead to toxicities if very large amounts are ingested for very long times. As an antioxidant, vitamin E is important, and larger amounts may be supplemented (400-1200 IU daily if nonemulsified; 90 IU or more if emulsified[6]).

Vitamin C (ascorbate) plays a major role in cartilage metabolism. Osteoarthritis is worsened by deficiencies of vitamin C, which is commonly seen in these people. Vitamin C is a growth factor for chondrocytes, having a cellular buildup (anabolic) effect. One to two grams daily (preferably buffered) is sufficient to raise blood levels of vitamin C." Nobelist Linus Pauling,Ph.D., however, recommended a maintenance dosage of 4 to 6 grams per day.[50]

Bioflavonoids taken together with vitamin C help to preserve the vitamin C and add their own antioxidant characteristics. Citrus bioflavonoids are commonly used, usually in amounts 1/10 to 1/2 the amount of supplemental vitamin C.

## Minerals

According to Dr. Bucci, several minerals are of vital importance to cartilage metabolism and are also deficient in Osteoarthritis patients. Of primary concern are calcium, magnesium, zinc, iron, copper, manganese and selenium. Daily supplemental amounts of these minerals should reach 100% of RDA amounts, as recorded below:

## Specific Dietary Supplements

for Osteoarthritis
(Daily Amounts)

***Vitamins***:

B vitamins — 100-500% of RDA [Except that niacinamide might be required temporarily in higher dosages spread out evenly over a ten hour period.[13,44]]

A — 5,000-10,000 IU

D — 400-800 IU

E — 30-1,200 IU

C — 1-2 grams [Many physicians recommend 4 to 6 grams daily.[50]]

***Minerals***:

Calcium, magnesium, iron, zinc, copper, selenium all 100% RDA manganese — 5-50 mg.

In addition to the above, Dr. Newnham recommends 8-10mg of boron and cobalt in vitamin $B_{12}$.[12]

***Oils***:

Fish oils — 3-9 capsules

Gamma linolenic acid (GLA) oils — 3-6 capsules

***Enzymes***:

Proteolytic enzymes — 2-8 tablets 3 times daily

Antioxidant enzymes — 2-6 tablets 3 times daily

***Plant Compounds***:

Yucca saponins

Gamma oryzanol/Ferulic Acid (FRAC)

Bioflavonoids — 10-1,000 mg

***Chondroitin Sulfates***:

(Purified) — 1-2 grams

***Antioxidants***:

Beta carotene — 5,000-25,000 IU

Vitamin C (ascorbate) — 1-2 grams [Many physicians recommend 4-6 grams daily.[50]]

Bioflavonoids — 10-1,000 mg

Vitamin E (tocopherol) — 30-1,200 IU

Coenzyme $Q_{10}$ — 1-100 mg

Selenium — 25-200 mcg

Sulfur amino acids (cysteine, methionine, taurine)

Superoxide dismutate (SOD), catalases/peroxidases

Plant phenolic acids and derivatives

Usually, a calcium and magnesium supplement (but not carbonate

or phosphate forms) is required to reach RDA levels for these minerals, unless a very high calorie diet is eaten. Soluble, organic forms of minerals are always preferred.

Glucosamine is the starting point for the synthesis of many important large molecules, including glycoproteins, glycolipids, and glycosaminoglycans (muccopolysaccarides). These large molecules in turn are used to build body tissues such as synovial fluid in the joints, mucous membranes in the digestive and respiratory tracts, and blood vessels and heart valves.

Cartilage needs sulfur to regenerate properly. Both inorganic and organic forms of sulfur can be utilized, but organic forms (such as the amino acids cysteine, taurine and methionine) are closer to the final product — glycosaminoglycans (GAGs). Glycosaminoglycans (GAGs), especially chondroitin sulfates, are made up of sulfated sugars. Up to several grams per day of each sulfur amino acid may be supplemented for long periods of time. Glucosamine is a key up-regulator of glycosaminoglycans (GAGs) synthesis.

Although only injectable glycosaminoglycan polysulfuric acid (GAGPS) was used in a 1 year double-blind, randomized, placebo-controlled study of 80 patients with Osteoarthritis of the knee by Associate Professor Karel Pavelka, M.D., Ph.D.,[100] Director of Institute of Rheumatology Prague, Czech Republic, "the index of severity of knee Osteoarthritis decreased after the end of the injection period by 34% from baseline, and this effect persisted to 26 weeks. . . . The same results were shown by other assessment criteria," including pain and knee function, although the significance measured was somewhat lower for these last two.

Dr. Bucci draws special attention to two relatively overlooked nutrients with important ramifications for Osteoarthritis. These two are antioxidants and chondroitin sulfates.

Chondroitin sulfates, Dr. Bucci reports, are the most important single dietary supplement for Osteoarthritis. Chondroitin sulfates (CS) are the major type of glycosaminoglycans -- GAG -- the new name for mucopolysaccharides -- found in cartilage. Chondroitin sulfates are large polymers of sulfated, modified sugars synthesized by chondrocytes. Chondroitin sulfates (CS) give elastic, weight bearing and cushioning properties to cartilage.

Calf trachea and green-lipped mussels (*Perna canaliculus*) have been two crude sources of chondroitin sulfates, but their limited bioavailability means that an effective dose is a handful of powder.

Chondroitin sulfate (CS) has been purified and these supplements are preferred. One to two grams per day has shown reduction of symptoms and regeneration of cartilage. Since chondroitin sulfate (CS) is nontoxic, more may be taken if desired.[9]

Richard A. Kunin, M.D. writes that "N acetyl glucosamine and glucosamine sulfate have also proved beneficial in treating cartilage, tendon and joint inflammation, including both Rheumatoid and Osteoarthritic conditions. Usually it takes a couple of weeks before the tenderness abates, but once it is gone it tends not to come back. Golfers are particularly grateful to find their hip pain fading away.

Several products have now been marketed which contain beneficial mixtures of the above substances. One such product is ARTH-9 which "provides essential nutrients for bone, joint, ligament, and cartilage function. It contains glucosamine sulfate, chondroitin sulfate, compounds which occur naturally in joint cartilage. Glucosamine sulfate, an aminomonosaccharide, has been shown to play an integral role in maintaining healthy connective tissue and cartilage." The mixture is fortified with Vitamin C, calcium citrate, zinc gluconate, all of which aid in tissue repair, and also bromelain to help joint flexibility, *Boswellia serrata*, supplying 60% boswellic acids, and *Curcuma longa*, supplying 90-95% curcumin.

A chemical fraction of curcuma oil has been shown to have anti-inflammatory and antiarthritic activity. . . .There are many medicinal plants of great therapeutic value referred to in the ancient treatment systems of Ayurveda. According to studies, *Boswellia serrata* appears to act by mechanisms similar to non-steroidal groups of anti-arthritic drugs, but free of side effects and gastric irritation."[89]

Richard Kunin, M.D., San Francisco, California, has written: "Speaking of hips, everyone needs to know that hip pain is aggravated by Fluoride. Since Fluoride is a reactive molecule, it binds to albumin and other proteins and tends to stay in the body, accumulating to very high levels in the course of a lifetime. Fluoride is cleared out of our blood in a few hours time, then deposited in our bones, such that concentrations increase thousands of times in the course of a lifetime."[65]

Sherry A. Rogers, M.D., private practioner and author in Syracuse, New York writes, "There is a treatment for pain that is safer and does not have side effects: It doesn't make Osteoarthritis worse; is cheaper; does not require a prescription; and helps to restore the proper chemistry and rebuild or heal the osteoarthritic cartilage. Glucosamine suflate -- an amino-monosaccharide naturally present in cartilage -- is the substance

that can do all this."[60]

### Enzymes

Proteolytic enzymes can offer short-term relief of symptoms in a majority of patients, but continued proper usage is difficult. The antioxidant enzymes superoxide dismutase (SOD) and catalase will be considered separately.

### Other Dietary Supplements

Another supplement with some reported benefits is yucca plant saponins. Several other dietary aids such as glandulars, garlic, aloe vera and alfalfa have some anecdotal support but need to be studied further.

### Antioxidants

Free radicals -- chemicals that have a strong need to combine with good tissues, thus destroying their proper functioning -- are known to be the major reason cartilage is destroyed in Osteoarthritis.

Lack of oxygen from poor circulation increases free radical damage. Whenever an antioxidant reaches moderate to high levels in the body, reductions in cartilage degeneration and improvements in healing have been seen.

Vitamin C[7], vitamin E[6], bioflavonoids, selenium and the sulfur amino acids are all major antioxidants that have already been mentioned.

The other major antioxidants in our bodies are beta carotene (carotenoids), coenzyme $Q_{10}$, SOD, catalase, dietary phenolic acids and their derivatives. These antioxidants are available in supplement form; dietary phenolic acids and their derivatives (one example is curcumin) are found in plants and frequently account for medicinal properties seen for herbs. Recently, one of these compounds, gamma oryzanol, has been shown to be a potent antioxidant. Its water-soluble active component, ferulic acid, is available in supplemental form as FRAC (Ferulic Acid).

Mixtures of antioxidants usually work better than a single antioxidant. Many such products abound. For use in Osteoarthritis, the manufacturer's suggested usage should be doubled or tripled. Fortunately, antioxidants are quite safe, except for massive doses of selenium.

### Shark Cartilage

Shark cartilage is one of the latest substance to become widely accepted among those with Osteoarthritis as well as for cancer.

Shark cartilage has one of the greatest amount of anti-angiogenesis (halting growth of blood vessels) agents of any substance known on earth, containing large amounts of mucopolysaccharides, which are carbohy-

drates that form chemical bonds with water.

These mucopolysaccharides stimulate the immune system and reduce pain and inflammation of arthritis. According to I. William Lane, Ph.D., an independent consultant on marine resources, oral dosages are believed to actually help repair damaged human cartilage.[5]

"Jose Orcasita of the University of Miami School of Medicine gave six elderly patients suffering from 'significant-to-unbearable' Osteoarthritis doses of dry shark cartilage for a period of three weeks. In all cases, each patient reported that pain was grealy reduced and quality of life was vastly improved."[64]

Eighty percent of Osteoarthritis patients at Comprehensive Medical Clinic in Southern California responded well. The percentage of response for Rheumatoid Arthritis patients studied in other research was 50 to 60 percent.[5]

Usually, after two to three weeks of therapy, improvement should be noted, but if not, then this treatment probably won't help.

A daily dose is taken 3 times daily in equal amounts about 15 to 30 minutes before meals. One gram of dry powdered shark cartilage is to be taken for every three to five pounds of body weight. A 120 pound person would take between 40 and 60 grams, 3 times daily.

It's non-toxic and so you can't overdose. Best, however, that you blend the substance with fruit juices or water, or take it in capsule form.[64]

### Bovine Cartilage

In contrast to the above, Gus Prosch, Jr., M.D. of Birmingham, Alabama feels that his clinical successes are better with bovine cartilage than with shark cartilage, and he also feels that bovine cartilage will be the preferred substance in the future.[76]

Henry Kriegel, of Kriegel & Associates,[88] cites several interesting studies on the use of bovine tracheal cartilage in the treatment of arthritis.

John F. Prudden, M.D., Med.Sc.D. published in 1974 (*Seminars in Arthritis and Rheumatism*) studies showing that of 28 patients, over a period of 3 to 8 weeks receiving daily subcutaneous injections of 50 cc of bovine cartilage solution, 19 were classified as "excellent," 6 were "good," and 2 noted "some" benefit. No toxicity was reported, and the pain relief lasted an average of 7 months after completion of the study.

Dr. Prudden later tested the effects of orally ingested bovine cartilage, 9 grams daily. Of 700 cases of Osteoarthritis treated with bovine cartilage, 59 percent experienced "excellent" results and 26 percent experienced "good" results for a total amelioration rate of 85 percent. The average length of remission was 6 to 8 weeks.

A long term, double-blind study in 1987 at Charles University in Prague, Czechoslovokia confirmed Dr. Prudden's results. Pain scores dropped an average of 50 percent in 194 participants.

### Dietary Summary

The general dietary guidelines shown for specific nutrients should allow useful concentrations of nutrients to reach cartilage cells (chondrocytes). When chondrocytes are fed, they are more able to perform their function — repair cartilage. Combined with other treatment modalities to reduce the wear on cartilage, optimal nutrition allows the cartilage cells (chondrocytes) to perform to their capabilities, meaning a net result of healing. The most important single nutrient for cartilage cells (chondrocytes) is chondroitin sulfates.

One of the advantages of nutrition is that all cells are affected, meaning improvements in vascularization are possible when nutritional status is improved. Thus many factors contributing to Osteoarthritis can be favorably modified by judicious use in diet and specific nutrients.

### Low Selenium Blood Levels

Low blood levels of selenium have been found in those with various forms of arthritis, cancer and arteriosclerosis. Author Jean Barilla, M.S.[27] in *The Antioxidants*, reports on a British Arthritic Association three-month study with a formulation of selenium, plus vitamins A, C and E. "The trial included the worst cases, and yet 64 percent reported considerable reduction in pain within the three months."

According to herbalist and massage therapist, Thomas Gervais, selenium deficiency is common, usually triggered by alcoholism, smog ozone exposure, heavy metals and processed/cooked foods.

Deficiency symptoms include heavy metal poisoning, some cancers, hair and nail loss, heart problems (including heart disease, stroke, high cholesterol levels, hypertension, and heart attack); increased free radical damage leading to sclerosis/loss of elasticity in many tissues, and resulting in arthritis and premature aging; muscle degeneration; stunted growth; pancreatic and liver problems; increased frequency of infections; inhibited oxygen supply to cells, especially to those of the heart, resulting in many cancers; mental retardation; vision impairment and cataracts; nerve disorders; infertility (sperm is a storehouse for selenium); fatigue; kidney dysfunction; and crib death.[59]

Excess usage of selenium can also lead to arthritis, as well as dental caries, intestinal irritation, dizziness, paralysis, spinal cord inflammation (myelitis), teeth, hair and nail loss, skin problems such as dermatitis and

various eruptions and yellowish color, lassitude and lethargy, irritability, fever, increased respiration, diabetes, liver and kidney impairment, garlic breath odor, and metallic taste in the mouth.[59]

Clearly selenium, like other antioxidants, can be taken in too little as well as in too large a quantity. Considering the state of the modern world's nutrition, however, the chances are much greater that an individual will be short of selenium, rather than long in it. In any case, as with other valuable nutrients, a good blood test by a properly trained physician will provide the necessary monitorship.

The Case of Charles Ware

Seventy four year-old Charles Ware, The British Arthritic Association's president, had developed arthritis of the hip after a fall during World War II. "'I thought that I would never get rid of the pain. But now I have full movement of my hip and no pain whatever.' The British Arthritic Association is now recommending selenium plus the antioxidant vitamins A, C, and E to all its members.[27]

*Environmental Medicine*

The Case of a Physician

Sherry Rogers, M.D. is a Diplomat of the American Board of Family Practice, a Fellow of the American College of Allergy and Immunology and a Fellow of the American Academy of Environmental Medicine. Although she is well trained in many medical fields, she has also learned many of her special techniques the hard (but most accurate) way -- by solving her own personal problems.

The path of Dr. Rogers' education also parallels her books, which every patient would do well to read. These books are: *The E*[nvironmental] *I*[llness] *Syndrome*; *Tired or Toxic?*; *You Are What You Ate*; *The Cure is In the Kitchen*, *Macro Mellow*, and *Wellness Against All Odds*. These books can be purchased thru Prestige Publishing, Box 3068, 3500 Brewerton Rd., Syracuse, NY 13220.

Sherry Rogers, M.D.[85,86] of Northeast Center for Environmental Medicine, Syracuse, New York, author of many health books, describes a 46-year-old physician with a long history of chronic back pain resulting from lifting a boat 26 years earlier, and thereby rupturing a disc in his spine (L5). Although bedrest and analgesics helped initially, after a few years the physician began having recurrent pain while doing home landscaping. Eventually the pain worsened, and so the physician daily went on the standard treatment of analgesics, muscle relaxants and non-steroidal anti-inflammatory drugs.

After ten years of this standard treatment, the pain dominated his

movements whenever he tried to garden, play tennis, go motorcycle riding, or other activities. He got to a point where he could function in but a limited way, despite the standard medication.

Now came the second stage of standard treatments: immobilization of the lumbar region: corsets with steel stays that ended with fiberglass cast by which he could strap himself daily. Also he began back-strengthening and stretching exercises, and chiropractic adjustments."

For six years this physician suffered, also having frequent radiologic examinations verifying what he already knew.

Outside of his medical practice he had no other activities.

The third stage of standard treatment was at last offered: surgical lumbar spinal fusion. Fearing the dubious benefits of this kind of surgery, he began searching for other alternatives, starting with environmental medicine where it was revealed that "he had predictably three types of triggers: (1) foods (red meat and nightshades: tomatoes, paprika, cayenne, all peppers, potatoes, eggplant and tobacco), (2) chemicals (formaldehyde and natural gas), and (3) nutrient deficiencies (magnesium and manganese).

After learning how to avoid exposure to formaldehyde and natural gas, avoiding red meat and nightshades, and correcting his nutritional patterns, the physician has been pain-free now for 5 years, and has also been able "to resume all prior acitivities, uses no medications, and has had no surgery."

Sherry A. Rogers, M.D. Clinical Principles of Environmental Medicine

- Chronic pain lasting several years after healing should have taken place tells us that something must be perpetuating the pain. "The target organ for environmetally-induced symptoms is often an area of weakness or previous damage, and indeed scar tissue can disturb not only lymphatic flow but also the 'energy meridians' of Oriental medicine."
- Numerous studies have shown that many who suffer from various forms of arthritis and body pain have hidden food sensitivities. Dr. Rogers says that "for back pain and arthritis, red meats and the nightshade family are particularly common."
- You must stay free of suspected foods for at least 10 weeks. When those who stay free of these foods for but a few days, or several weeks, by abandoning the diet, they never discover the culprits. Suspected foods can also be hidden in various spices, natural flavorings, soups, and so on, and so one must be knowledgeable and careful when using an elimination diet.

• One of the chief nutrient deficiencies (among others) is that of magnesium. One must be knowledgeable and careful of the nature of tests used to screen for this deficiency.

• Various triggers and stressors can accumulate to overburden, and worsen symptoms.

• Sustained use of non-steroidal anti-inflammatory drugs create the "leaky-gut" syndrome, allowing the passage of food molecules into the blood stream where they are recognized as foreign invaders. We build anti-body defenses against these "antigens," and thereby create an increasing number of food allergies. The target organ for these antigens may be any part of the body, including the musculoskeletal system. The actual drugs normally prescribed for pain (non-steroidal anti-inflammatories) actually cause the leaky gut syndrome.

• Dr. Rogers also treats against infestations of organisms-of-opportunity, such as *Candida albicans*, and other parasites, and she's developed a number of treatments which she may recommend, including various forms of detoxification or cleansing.

*Root Canal Detoxification*

Lee Cowden, M.D., Dallas, Texas, says that "In my experience, Osteoarthritis will always show up eventually in a joint associated with a bad tooth, a root canal tooth, or a place where infection has been left behind after an extraction. Occasionally you can get osteitis cavitation (jaw-bone inflammation due to infection) after a piece of food gets down between the tooth and the gums and causes an infection at the base of the tooth without ever having been extracted or filled with a root canal.

"A lot of times [older people] have had their teeth removed without having had dental ligament removed and the osteitis cavitation necrotic (dead) bone scraped out from beneath the dental ligament.

"For example, I had a fellow that came in about four years ago, who was about fifty years old, crippled up and couldn't get around because he's in a wheelchair. All the joints of his body were crippled and his pattern looked just like Osteoarthritis, but a very severe case, I mean as severe as I've ever seen.

"When I questioned him, I found that he'd had some dental work. His gums went bad first, and then his teeth fell out. He never had dental extractions or the surgery to clear up the infection underneath where the teeth were, and by electro-medicine (electroderm) testing, he had multiple infections in his jawbone. We sent him back to a biological dentist, who scraped out all the infection in his jawbone, and his arthritis went away.

"He'd had severe developing peridontal disease (gum disease) and that progressed to tooth disease, and that caused the teeth to fall out, and the osteitis cavitation infection developed."

*Fluoridation*

"Skeletal fluorosis is the unseen counterpart of dental fluorosis, which occurs when people have been taking in too much fluoride, according to Rex Newham, D.O., N.D., Ph.D., of North Yorkshire, England, "Some parts of India and Africa have from two to five parts per million (ppm) fluoride in the drinking water, and they have developed endemic skeletal fluorosis, which is a very severe type of arthritis. They cannot work normally and can barely stand up; they cannot stand up straight since their backs are nearly parallel with the ground."[9,12]

Routine treatments used by Dr. Newnham for those who have various forms of arthritis, including Osteoarthritis, are homeopathic remedies that will assist the body in removing excess fluoride. Of course, as with other knowledgeable physicians, Dr. Newnham also recommends not drinking water or soft drinks that contain fluoride, and also refrain from mouth washes and toothpastes that contain fluoride.

*Herbs*

The Nature of Herbs

Somehow in America our children grow not knowing that for the most part herbs and vegetables are historically the same kind of beneficial, growing plant.

Author of *Eat the Weeds* (and *Comfrey: What You Need to Know*) pharmacist Ben Charles Harris,[93] quotes Professor L.H. Baily (*Standard Encyclopedia of Horticulture*) as defining a vegetable: It "is an edible herbaceous plant or part thereof that is commonly used for culinary (kitchen or edible) purposes."

"Believe it or not," Harris says, "the word *vegetable* came into existence only about 200 years ago, since that time all of our everyday vegetables were known as *herbs* -- yes, even such commoners as the beet and carrot. And until vegetables came into use as we know them today, many were used years ago as curative medicines, just as today these very ones are so highly recommended by the medical laity as 'protective foods' or 'preventive medicine' without which the various organs of our body cannot properly function."

A few examples described by Harris are:

- Lettuce leaves were eaten, or a tea prepared of lettuce. The lettuce plant offers vitamin B complexes which overcome nervous exhaustion.
- At one time the juice of asparagus and beets, a herbal tea, was used

for dropsy (morbid accumulation of fluid and swelling in tissues and cavities) or kidney diseases. Today many pharmacists dispense "asparagin," an extract of asparagus.

• Onions and garlic have been used for hundreds of years for high blood pressure and asthmatic conditions. Their use for either curative or food purposes has not diminished.

• Carrots, onions and berries were at one time wild plants whence our ancestors plucked them for food while foraging, eventually planting their seeds and selecting out those that gave the best yields or the finest tastes.

• In every land, every culture, there are so-called weeds, roots, stems, barks, trees or bushes, or their produce, that has been selectively chosen for effective nutrition or healing: breadfruit, bananas, coconuts, sugar cane, papayas, yams, almonds -- even the inside of certain palm trees. In the deserts, Professor Robert S. Harris of the Massachusetts Institute of Technology told the American Academy of Arts and Sciences "of his analysis of more than 1,500 unusual food plants in Mexico, Central America and China, . . . some people in the Mexican desert are well fed because they eat native plants we would spurn, but which experience has taught them can provide the essentials of good diet as well as meat, milk and eggs which we consider necessary. Iron, calcium and needed vitamins can be obtained from what we consider weeds." The Southwestern desert barrel cactus, *Ferocactus acanthodes*, nick-named "water-barrel" has saved lives for centuries. Long bean pods of the mesquite, *Prosopis juliflora* variety *glandulosa* are gathered by Indians, dried and ground and placed in mush or soups.

• The War Department's manual of emergency plant foods (TM 10-420) lists for grounded fliers and "bushed" soldiers: ground cherry, black nightshade, water chestnut, dayflower, seaside morning-glory and purslane.

• Even common grass can be dried and eaten, cooked or uncooked. Corn, wheat, oats, and other common foods are descendants of wild grasses.

Jesus Christ said, "Consider the raven, for they neither sow nor reap; and they have no storeroom nor barn; and yet God feeds them; how much more valuable you are then the birds!

"And which of you by being anxious can add a single cubit to your life's span?

"If then you cannot do even a very little thing, why are you anxious about other matters?

"Consider the lillies, how they grow; they neither toil nor spin; but I tell you, even Solomon in all his glory did not clothe himself like one of these." [*The New American Standard* Version; [Luke 12: 24; Verses 24-26]

Our tribal ancestors -- on each and every continent -- passed down the wisdom and knowledge of nutritional and medicinal survival. This precious survival knowledge was held by all tribal members, not a select few -- and passed along to every stranger, so that none may go hungry or sick in varying regions.

This chapter, or this book, or any single book cannot do justice to the vast store of survival wisdom held by our ancestors. What is offered in these pages is but a tiny, minute fraction of that wisdom held in store by a handful of health professionals who've dedicated their lives to nutrition and healing.

## Recommended Herbs

According to Louis J. Marx, M.D.,[92] "Osteoarthritis has three causes. The most important cause is nutritional deficiency, mainly mineral deficiency. The treatment is similar to that of osteoporosis, and it is likely that both conditions coexist. The most important mineral is magnesium followed by calcium, potassium, manganese, boron, and silica. These minerals need to be in *organic* form to be useful. I primarily use the mineral ascorbates: [calcium ascorbate, magnesium ascorbate, etc.]

"In Osteoarthritis, the body is not able to build new tissues in the joints resulting in wearing down of the joints. Along with the above minerals, vitamin D is needed, and the thyroid and parathyroid need to be evaluated. The thyroid hormone is necessary to deposit the minerals in the bones and joints. The Epstein-Barr virus is almost always the cause of low thyroid. The chicken pox virus can produce an inflammation of the parathyroid gland resulting in loss of calcium in the bones and joints.

"Chronic infections are the second most important factor in Osteoarthritis.

"The third factor is body pollution which invites infections, damages the immune system, and generally interferes with regeneration of tissues. These pollutants are chemicals in our food and all sorts of environmental poisons.

"Of course, each person must be individually evaluated to determine what set of causative agents are involved in the person's disorder." Having made these observations, Dr. Marx then speaks of the proper use of herbal remedies, reminding us that a specific formulation of herbal remedies are what a particular person needs at that time; "others with the same

symptoms may need very different formulas."

Various herbs[16] have been useful historically for treating arthritics, especially in treating inflammation without the serious side-affects attributed to aspirin and non-steroidal anti-inflammatories (NSAIDS). These are *Glycyrrhiza glabra*, *Medicago sativa*, *Harpagophytum procumbens*, and the proanthocyanidins, cherries, hawthorn berries and blueberries[17,18]

CF Randall[103] reports in the *British Journal of General Paractitioners* beneficial effects of two elderly people who used stinging nettle (*Urtica dioica*). One, an 81 year-old man, with confirmed unilateral hip (one hip) Osteoarthritis, "found great relief where ibuprofen had previously failed. He had to apply the leaves only once every few days to maintain the effect.

"An elderly woman of unidentified age had similar benefits for inflamed, arthritic fingers."

Michael T. Murray, N.D. of Bellevue, WA, author of many medical articles and books on the use of natural healing methods, also suggests the importance of sulfur-containing foods such as garlic, onions, Brussels sprouts, and cabbage, as these will increase the sulfur content in sufferers who are often deficient in sulfur.[47]

Reported in the *Alternative Medicine Digest*[96] are new (1995) clinical studies from Sun Yet Sen University of Medical Sciences in China demonstrating that devil's claw root (*Harpagophytum procumbens*) extract can bring some relief to Osteoarthritis. In that study, a total of 40 patients, aged 38-52, received daily dosages of Pagosid™, a standardized water-based extract of devil's claw root for 4 weeks at the dosage rate of 500 mg daily.

Doctors rated effectiveness of the herb at 85%, while the patients rated it 90%.

A parallel study (1995) consisting of 38 patients at China's First Military Medical University gave arthritis patients one gram of Pagosid every day for 4 weeks. Doctors rated it 79% effective as patients reported relief from their arthritic conditions, including joint swelling, morning stiffness, and lowered grip strength. Effectiveness for Osteoarthritis was 85%.

Kombucha Tea is grown from a Manchurian mushroom in one's own refrigerator. The fungus is placed in a tea base where complicated biochemical processes take place. According to Debbie Carson,[71] "Fermentation produces a small amount of alcohol (0.5%), carbon dioxide, B vitamins, Vitamin C and various organic acids that are essential to human metabolism." Its most important products are said to be glucuronic acid

and polysaccharides.

The glucouronic acid has the property of bonding to harmful substances in the body, rendering over 200 substances harmless, and also helping to "form connective tissues, cartilage, gastric mucous membranes and the vitrious body of the eye."

The polysaccharides "strengthen the body's immunity responses to pathogenic bacteria, yeasts, viruses, and increases the body's resistance to these diseases."

Anecdotal evidence seems to support the view that feverfew (*Tanacetum parthenium*) decreases the pain of headaches as well as some rheumatic pains. The active ingredient, parthenolide, must be present in sufficient concentration, which is not always the case with various species, or as presented to the marketplace.[85]

*Homeopathy*

Homeopathic remedies usually need to be designed for specific individuals to fit specific personalities, physical condition and constitution, although there are some helpful general guidelines.

The Case of Edward Rybak

Edward Rybak[66] of Colorado Springs, Colorado reported that when his hip joints were painful from Osteoarthritis, James G. Gitlin, M.D., Medical Director of the Arthritis Treatment Center in Huntington Beach, California gave him a homeopathic remedy which eased his pain to the point where he could get off from the non-steroidal anti-inflammatory indomethacin.

The ingredients of the homeopathic remedy were 30C each of : *Rhus toxicidodendron*; *Causticum*; *Kalmia latifolia*; *Bryonia; Apis mellifica*; *Symphytum officinalis*; *Lycopodium clavatum*: *Rhododendron chrysanthum*; *Ledum palustre*; *Colchium autumnale*; *Pulsatilla*; *Calcarea carbonica*; *Hekla lava*; *Belladonna*, all blended into an herbal base.

Dr. Andrew Lockie[72] recommends the use of the following, to be taken every 4 hours for up to 2 weeks:

*Rhus toxicidodendron* 6c when the pain is relieved by heat but aggravated by cold and damp, and it is more insistent when resting but wears off with continued movement.

*Bryonia* 30c when there is severe pain made worse by heat and movement, but relieved by cold applications.

*Pulsatilla* 6c when heat and warm rooms make the joint pains worse, and the person feels weepy.

*Calcarea phosphorus* 6c when the affected joints feel cold and numb, and the pain and stiffness increase when whether changes, and

there is weakness upon climbing the stairs.

*Ledum* 6c may be used for after-effects of steroid injections, or for small joints, especially toes, which give pain and make cracking noises, and the joint pains seem to progress up the body, but the pain is relieved by cold applications.

*Arnica* 30c when the joint pains are a consequence of or made worse by inury.

The Case of Henry Dibold

As reported by *The Alternative Medicine Digest*,[81] forty-one-year-old Henry Dibold suffered a back injury for 4 years, which developed into "a chronic sacroiliac strain marked by sharp, digging pain in his lower back and occasional lameness every day." Tori Hudson, N.D., Portland, Oregon, prescribed horse chestnut (*Aesculus hippocampus*) 6C for 1 month. "After 3 days, all his back pain was gone, the medicine discontinued," and Lori Dibold reported that he "feels great."

*Hormonal Replacement Therapy*

Hormonal replacement therapy is practiced by many physicians who recognize that our organs decrease in ability to perform as we age. Their goal is to achieve a natural balance of all hormonal factors, which is presumed to be an assist to restoration of health that was once ours.The fact that Osteoarthritis is most frequent among women after menopause is a critical correlation and probably a strong clue, as both estrogen and progesterone may be decreased or unbalanced with aging and especially after menopause. Testosterone, often thought to be simply a male hormone, must also be considered when treating women.

According to Raymond F. Peat, Ph.D. of Eugene, Oregon, "Stress-induced cortisone deficiency is thought to be a factor in a great variety of unpleasant conditions, from allergies to ulcerative colitis, and in some forms of arthritis. The stress which can cause a cortisone deficiency is even more likely to disturb formation of progesterone and thyroid hormone, so the fact that cortisone can relieve symptoms does not mean that it has corrected the problem.

"Besides the thyroid, the other class of adaptive hormones which are often out of balance in the diseases of stress, is the group of hormones produced mainly by the gonads: the 'reproductive hormones'."[21]

There is often need to consider hormonal replacement, not just in serious cases of thyroid deficiency, but also in marginal cases. A physician who understands the relationship between stress, hormones and disease should be consulted, and, in the case of determining thyroid deficiency borderline cases, many will recommend the method of Broda

Barnes, M.D.[22] who developed a method of measuring marginal thyroid deficiency based on taking armpit temperature before arising every morning, as laboratory tests -- blood tests -- are not geared to discover marginal deficiencies.[22]

A more recent advance on Dr. Broda Barnes' method has been developed by E. Denis Wilson, M.D. who has shown that so long as the glands are functioning properly, hypothyroid conditions may be permanently reversed by the proper treatment.

Replacement hormones for hormonal replacement therapy can usually be obtained through the services of a compounding pharmacy. In years past, all pharmacies were health stores, where a doctor's directions were carefully followed by actually manufacturing -- compounding -- individual remedies at the time needed by the patient, in great contrast to present-day pharamacies where pills of the same kind, regardless of individual differences between people, are simply counted out and handed to patients by the tens of millions.

A compounding pharmacy, with your physicians' prescription, can prepare a natural hormonal replacement mixture for either women or men (dehydroepiandrosterone [DHEA], estrogen (3 kinds), progesterone, testosterone) that can be taken orally or can be simply wiped on the skin, and there absorbed as needed, thus bypassing any possible gastrointestinal problems of digestion and absorption.[48]

Usually these "sex" hormones are also compounded with dehydroepiandrosterone (DHEA) a precursor to many other hormones.

Lita Lee, Ph.D.,[87] writing on "Estrogen, Progesterone and Female Problems," reports that according to Raymond F. Peat, Ph.D. "topical DHEA as well as progesterone, can stop the pain of arthritis and other inflammatory conditions. Even in 84 year-olds!"

Dehydroepiandrosterone (DHEA) may be an important and relevant replacement hormone.[23]

"As pregnenolone converts to both progesterone and DHEA, it is a much safer therapy," according to Dr. Peat. "Peat says that 102 mg is the maximum dose he would recommend for anyone other than an elderly, sick person. Only in the latter case, would he recommend 12-15 mg daily and even then, not without pregnenolone, progesterone and thyroid therapy."[87]

*Hydrotherapy*

Agatha Thrash, M.D. and Calvin Thrash, M.D. describe a method for giving hydrotherapy, using a heating pad to apply heat to a joint: "Wring out a large towel from tap water, and wrap it around the affected

joint. Cover the towel completely with two layers of plastic wrap. A large plastic bag can be used, and for an extremity, both ends of the sac can be opened and the bag used as a sleeve over the wet towel, the excess being folded over and taped with scotch or masking tape.

"Next, place a heating pad over the plastic cover and attach in place, turning the control to low or medium.

"Apply this once a day for one to two hours at a time.

"A radio placed at the bedside, using the same electrical outlet as the heating pad, will crackle with static as a warning if the heating pad is getting wet and beginning to short. Tune the radio to a blank place on the dial and set the volume loud enough to attract attention."

*Julian Whitaker, M.D. Wellness Program*

Dr. Whitaker,[70] of California, editor of the nation's largest alternative health newsletter, has defined a wellness program in *Dr. Whitaker's Guide to Natural Healing* that fits almost all disease conditions, and he has supplemented this central core set of recommendations with special needs for arthritics.

1. Adopt a healthy lifestyle.
    - Take personal responsibility for your health
    - Have a positive mental outlook on life
    - Eat nutritious foods and maintain ideal body weight
    - Develop a healthy heart and circulatory system through good nutrition and physical activity
    - Have high energy levels
    - Handle stress and challenges well
    - Balance the stress of life with adequate rest and recreation
    - Do not use alcohol, tobacco, or illegal drugs.
2. Become more active
3. Take a multiple vitamin-mineral formula
4. Take extra antioxidant nutrients
5. Take extra magnesium and potassium
6. Take an Omega-3 oil supplement
7. Eat a lowfat, high-complex-carbohydrate diet

Using the above as a base, Dr. Whitaker then provides the following 4 steps for those suffering from Osteoarthritis:

1. Follow the Whitaker Wellness Program described above.
2. Take two tablets Armax (Enzymatic Therapy), 3 times daily.
3. Take one or two servings of Green Magma™ (Green Foods) or Kylo-Green™ powdered drink mixes of the dried juice of young barley leaves, 1 tablespoon, once or twice daily.

4. Apply capsaicin-containing creams topically.

*Light Beam Generator: Pulsing Magnetics and the Lymph System*

A member of the Board of The Arthritis Trust of America/The Rheumatoid Disease Foundation and this author visited ELF Laboratories,

The application end -- a glass tube -- of the Light Beam Generator is about the size of a medium-sized flashlight, with wires at one end that are attached to a camera carrying-case.

Inside this case are electronic circuits which, when plugged into the wall circuit, sends pulsed electromagnetic radio frequencies through the tube filled with a mixture of argon, neon and xenon.

This hand-held device emits an intermittent pulse of light and a stream of (negative) electrons which temporarily disorganize the electrical bonds of non-functional protein chains, lumps, and accumulations, especially in the lymph system. These waste protein chains can result from a breakdown in the normal operation of the lymph system, and, as they are poorly bound electrically, they disassociate under gentle influence of these negative electrons, whence, liquified, the breakdown products -- waste -- pass out through our lymph system.

As ELF Laboratories personnel were proud of the Light Beam Generator, in its ability to reduce or eliminate certain kinds of pain completely, we were skeptical. This writer explained about a finger that was stiff and sore, and had been unexplainably inflammed for at least a full year. No traditional medicine, or, up until then, no non-traditional medicine, had been able to solve the problem.

ELF representatives asked this writer to hold the Light Beam Generator on the inflammed finger while we talked around their conference table. Skeptically, this was done, and lo! -- twenty minutes later the sore finger was no longer sore, and the inflammation was gone, and also the stiffness.

The finger is still well after seven years.

The author has also purchased a Light Beam Generator for personal use.

The accompanying board member had swollen lymph glands where a sore throat was beginning to form. She held the Light Beam Generator on each of these glands, and they visibly reduced to normal before our eyes, within minutes.

It is believed that if you can catch a sore throat before it has gone very far, the action of cleaning out these lymph glands will often, by itself, halt

the progress of the sore throat.

Massage Therapist, Thomas Gervais,[39] of Franklin, Tennesssee, and other knowledgeable therapists, believe that the combined use of the ELF International Ltd. Light Beam Generator (LBG) with the Vodder Method of Manual Lymph Drainage Massage (MLD) -- a method to be explained -- is yet another effective means for sustaining good health. Working together, these techniques powerfully aid the lymph system in cleansing the body of accumulated protein wastes, when buildup of the latter has occurred. Though the primary focus of LBG/MLD is to simply clean out the lymph system, this often leads to a variety of health benefits.

## Lymph

Lymph is an integral part of the body's circulatory system, being the connecting medium between enclosed arteries/capillaries/veins, and the cells/tissues outside of those blood vessels. It is composed of water, inorganic mineral salts, and white blood cells. To this base constituency is added the food nutrients and oxygen which it carries to cells, the waste products which it transports from cells, and a variety of other wastes (dead cells, particulate/environmental pollutants, post-infection debris, etc.). In general, the veins absorb the smaller proteins and most of the fluid present in the lymph, and then return these to the heart. The slow-moving lymphatic system (it functions against gravity and without the assistance of a strong heart pump) returns the larger proteins, excess fluid, and remaining wastes to the kidneys (by way of the heart) for processing and elimination.

## Significance of Lymph

The lymphatic system includes the following functions:

- carries food and oxygen to the body's cells and tissues
- carries wastes from the body's cells and tissues
- removes larger protein wastes from the body's regions between or inside of organs ( interstitial regions).
- maintains fluid balance in the connective tissue
- removes excess protein from many sources (antigen-antibody complexes, dead cells, androgens, estrogen, enzymes, lipoproteins)
- removes foreign particulate and environmental toxins
- transports long-chain fatty acids (in food) from the small intestine to the liver
- provides the medium in which the immune system functions, and intimately assists with that function

In short, the lymph is an indispensible part of the human cleansing, homeostatic, and defense systems.

### Significance of the Light Beam Generator

The Light Beam Generator -- LBG -- seems unique in its ability to safely soften nodules of accumulated wastes located in the lymph. For a short time following LBG application, a formerly tightly-bonded congestion will exist in a now un-bonded state. If the obstruction is quickly removed, the area will clear. If not immediately removed via massage, however, most of the waste material re-bonds in place.

### Vodder Manual Lymph Massage (VMLM)

The Vodder method of Manual Lymph Draining -- MLD -- is a European tool for gently stimulating movement (peristalsis) of the lymphatic vessels, and increasing the drainage of connective tissues. It has been successfully used to treat post-mastectomy patients who subsequently develop severe disease of the lymph nodes (lymphadenopathy), but used by itself, it gets lymphatic results relatively slowly. The MLD seems superior in its ability, among dozens of other massage techniques, to effectively move lymph from a given area of the body, back to the heart and kidneys, for waste processing and elimination.

### Recommended Method

The lymphatic detoxification method, using both the Light Beam Generator and either the Vodder Manual Lymph Massage or Bruno Chikly, M.D. Lymph Drainage Therapy more quickly and effectively cleans out the lymph system than any either massage technique alone. (See "Lymph Drainage Therapy," and "Lymphatic Detoxification," http://www.arthritistrust.org.)

It involves first using the Light Beam Generator over an area of the body, followed immediately by using the Vodder Lymph Drainage Massage or Chikly Lymph Drainage Massage over the same area.

Applying either approach alone greatly reduces the benefits which can be experienced. The LBG does little to transport waste material out of an area, once the latter is temporarily un-bonded.

When combining the two in clinical practice, a massage therapist can achieve in just one session what previously took eight sessions, when working with massage alone.

Two other approaches can be helpful adjuncts -- gently exercising on a high-quality mini-trampoline and lying down with legs and feet slightly elevated, as on a slant board, which causes the lymph to move with gravity instead of against it -- but these do not replace the core combination of LBG/MLD.

When the LBG and MLD are combined, a client may notice some improvement after one session, usually shows marked improvement

after six weeks; and is normally finished after three months.

The focus of this method is on cleansing the body of unneeded, and obstructing wastes by improving lymph flow. When this occurs, a broad range of health improvements may follow. This method is not a medical treatment, and any medical ailment demands appropriate attention by a qualified physician. But the following conditions have been frequently found to improve/be favorably influenced by, the LBG/MLD method and its lymph cleaning:

- stored environmental pollutant levels
- general inflammation
- inflammation of cellular or connective tissue (cellulite)
- cysts and fibrosis
- immune function by optimizing it
- cellular nourishment and cleansing (homeostatic systems)
- healing of many bruises and injuries by accelerating healing
- arteriosclerosis (prevention)
- breast/prostate cancer (prevention)
- cutaneous scar tissue
- lymphostatic swelling (edema)

In varicose veins, resulting from the blockage of main flow of blood, the body compensates by pushing blood through small vesicles which then show up as blue threads along the legs. The Light Beam Generator apparently unblocks the main tubing, and the blue lines immediately disappear.

If a condition of thrombosis is known to exist, until more is learned about the safety of using the Light Beam Generator on this condition, it probably should not be so used. Although it is believed that a large clot will not break off and cause heart problems, this belief must be tested out only by the specialist who is familiar with the medical condition.

As of this writing, The Light Beam Generator may be obtained from ELF Laboratories, RR #1, Box 21, St. Francisville, IL 62460, (618) 948-2393; the Omega Ray and Photon Sound Beam may be obtained from Sunshine Company, 223 W. 3325 N, North Ogden, Utah 84414 or Energize! Products, Inc., PO Box 286, Hastings, MI 49058 (616) 948-9732, Fax (616) 948-8703; The Omega Ray is a more advanced development than the Light Beam Generator, using a random pattern or varying cycle of frequencies, and reported to work in a gentler manner. Most advanced of all is Electro-Acuscope/Myopulse System, Electro-Medical Incorporated, 18433, Foundation Valley, CA 92708; (800) 422-8726; (714) 964-6776.

*Magnets*

The Case of Lori Humboldt

Lori Humboldt,[80] 58-years-of-age, housewife in Murfreesboro, Tennessee, had two problems. One problem was a persistent back ache that no other form of treatment had helped. She'd tried chiropracty, homeopathy, rheumatology, internal medicine practitioners, osteopathy, and herbs. None had given her the relief that she sought for the back pain.

Lori's second problem was pain in her feet, especially when she walked.

She probably was not aware of Reconstruction Therapy (Sclerotherapy), or she might also have tried that approach, and been relieved permanently.

However, lacking any other knowledge, she rather gingerly investigated the use of magnets, not being sure whether this was or was not just another form of quackery.

She purchased a large magnet for her mattress upon which she laid at night, and also smaller, pliable magnets to fit over the pain of her feet, being careful to use the negative (South seeking) polarity.

Within a day her pains in both back and feet had eased. Within several days, they disappeared altogether, and they stay gone so long as she uses the magnets.

The Use of Magnets

In the past practice of medicine, chemistry has been applied to the human body more than the knowledge of physics. Many physicians and researchers are now exploring physics in relation to the body, and one important area is the effect of electromagnetics and/or powerful specially built (i.e. ceramic) magnetics primarily for the relief of pain."[37,38]

As the use of magnets, and their accompanying magnetic fields, interfere with the natural magnetic field of the cells and the body, one must be very careful not to use these magnets indiscriminately.

William H. Philpot, M.D., a physician who has spent years sucessfully experimenting with the use of magnetics in medicine, reports that "The human body functions on a direct current circuit and thus, references to positive and negtive are most appropriate. A positive electric field produces a positive magnetic field. This parallel makes it possible to appropriately use the electric terms of polarity.

"The brain makes a pulsing response to the magnetic field it receives. When increasing the positive magnetic field the brain frequency increases and the amplitude decreases. When the brain is exposed to a negative magnetic field the brain frequency decreases and the amplitude decreases.

Many people have learned that strong, permanent magnets can reduce localized pain. The North seeking side of a permanent magnet produces a positive magnetic field (and is attracted to a negative field), and the South seeking side of a magnet produces a negative magnetic field (and is attracted to a positive field).

If you wish to reduce local pain, and also to assist cellular metabolism, use the South seeking, or negative, pole of the magnet.

If you wish to tear down cellular structure, as with a wart or unwanted growth, use the North seeking end of a permanent magnet.

### The Role of Exogenous Energy Sources

Physiologists figure that no more than 70% of human biological life energy comes from the food digested. Energy is required to process this food and therefore the net gain of energy is about 70%. Where does the 30% extra (exogenous) energy come from and what can we do to enhance this 30%?

Dr. Philpott explains that humans live in a magnetic field and become ill if not in a magnetic field. Astronauts are provided an artificial magnetic field to prevent illness. A fluid passing through the friction of a magnetic field produces electromotive energy. This is used industrially. Blood flowing in the human body, which is flowing through the earth's magnetic field in which the human lives, will provide the production of some electromotive energy. This energy production can be enhanced by placing a magnet over the heart.

Using the negative magnetic pole also keeps the cellular elements properly magnetically poled so they do not stick together.

Also, oxygen and water are paramagnetic and can carry this magnetic field to the entire body through the blood circulation.

The earth's magnetic field is waning and therefore humans are living in a magnetic deficient environment. This can be corrected by sleeping on a negative poled magnetic bed pad and/or with the head in a negative magnetic field.

Many people purchase and use magnetic mattresses, seat cushions and so on without regard to whether there is a mixture of magnetic polarity inside, or if the polarity is the kind that heals or tears down.

It is very important, according to William H. Philpott, M.D. that the correct polarity be used for either healing or destruction of tissue.

A mixed polarity mattress, for example, instructs the body to both heal and to tear down simultaneously, which is certainly not what most people want.

A catalog of various kinds of magnets as well as experimental treat-

ment protocols may be obtained from William H. Philpott, M.D., Chairman, Bio-Electro-Magnetics Institute, Institutional Review Board, 17171 SE 29, Choctaw, OK 73020.

Wearing the negative pole of a magnet on the heart will help correct the magnetic deficient environment.

Any treatment of the body with a magnetic field will to some degree have a systemic energy increase since the oxygen and water passing through the magnetic field become magnetized, which then goes to the entire body

It is of interest to note that insects and sharks obtain 90% of their energy from external magnetic (exogenous) sources whereas humans receive only 30% of their energy from external (exogenous) sources.

There have been excellent reports from many sources regarding the beneficial effects of the use of magnets on a wide assortment of diseases. As strong magnets can now be obtained for a reasonable price that will wrap around a leg or arm, or heavy ones that can be placed at the top of the head up against the headboard at night, there is a great deal of anecdotal clinical case history available.

William H. Philpott, M.D., diabetes, allergy and biomagnetic researcher from Choctaw, Oklahoma, through personal experiences in his own family, as well as from good reports from patients, has a large store of documented information. He began his quest for information on the healing powers of magnetics through his own personal experience.

William H. Philpott, M.D. Personal Experience With Magnetics

"Twenty-one years ago when I was 54 years old I became dizzy. The next morning I ran a chemistry screen on my blood and discovered a fasting blood sugar of 250. I had already discovered that food reactions were the cause of maturity onset diabetes mellitus.

"I went through the deliberate food testing the same as I had been doing for my patients during the research process in which I was engaged. I discovered that wheat and other cereal grains containing gluten produced my high blood sugar.

"When I drank milk I had Bursitis, tender elbows, a tender right wrist.

"Through the years I had had bouts of Bursitis, pain in my elbows that had developed a Carpal Tunnel Syndrome with [contracture of palmar fascia causing ring and little fingers to bend into the palm so that they cannot be extended] (a Dupuytren contracture) in the right wrist and hand. Several times I had to inject cortisone into my wrist in order to

straighten out my hand and fingers.

"I placed myself on a four day diversified rotation diet. Twenty-one years later I have been free through the years of diabetes, Bursitis, Arthritis, Tenosynovitis, and the Dupuytren contracture.

"When I began to understand the role of the negative magnetic field in health and healing I started sleeping in a negative pole magnetic bed pad with magnets at the crown of my head. I slept soundly and had more energy the next day.

"I had been troubled with cessation of breathing (apnea) in which I would quit breathing and suddenly start breathing heavily. This has been a great concern to my wife and it would wake her up and she would shake me and wake me up. After a few months on the bed pad with the magnets at the crown of the head the breathing problems -- apnea -- disappeared.

"Apnea is often known to be produced by lack of melatonin. This was evidence that melatonin was now being produced by my pineal gland.

"Before I started using magnets I had also developed a dry eye and found it necessary to carry eye drops with me to keep my eye moist otherwise, it was continually red. I considered that I must be developing some evidence of arteriosclerosis that would cause this. I began sleeping with a magnet on the side of my head where the dry eye was. In a few weeks the dry eye syndrome had disappeared. A few months later, when I had my eyes examined by an ophthalmologist he remarked that he had never seen a person of my age without some evidence of arterioslcerosis in the eye grounds. This was evidence that the magnetic treatment at the sides of my head had corrected the arteriosclerosis.

"At 75 I am healthy without diabetes, any rheumatoid disease process, evidence of any apnea, or arteriosclerosis.

"At 54 I was falling apart with aches and pains, high blood sugar, and I had lost all my molars due to infection, over a three year period before I discovered I had diabetes. I have not lost a tooth in the last 21 years."[38]

*Mineral Infrared Therapy*

The Case of Elsie Riddenbach

Eighty-seven-year-old Elsie Riddenbach was suffering from lower back pain. When she complained to Dr. George Ritter[69] of Las Vegas, Nevada, he put her on a device known as Mineral Infrared Therapy, or MIT, for a half hour each day for eight consecutive days.

Elsie's pain completely subsided, and once again she could move about freely and unrestricted.

The Case of Cynthia Carpenter[69]

Cynthia Carpenter, another women in her eighties who had been

handicapped for many years with arthritis, was treated successfully with Mineral Infrared Therapy by Dr. Stuart Golden of Orlando, Florida. Even the slightest body movement caused Cynthia excruciating pain.

Dr. Golden treated Cynthia for seven days. She was then able to move about without pain and she began to cook again, the pleasure of which she'd been deprived for many years.

The History and Nature of Mineral Infrared Therapy

According to reports published by biochemist Dr. Tsu-Tsair Chi, N.M.D., Ph.D., Mr. W. B. Gow, physicist, was appointed the director of a century-old ceramic factory in a rural region of China. The factory needed many repairs and was in poor condition. Workers stood in the mud throughout their work day, and Mr. Gow became concerned over his worker's health, believing that there would be many who would develop arthritis and other ailments.

On investigating, Gow learned that none of the past or present factory workers had cancer, or arthritis, and that they seemed to live longer than normal.

On experimenting and studying the surrounding environmental work conditions, Gow discovered that, on the firing of the black clay which produced their ceramics, there were many trace elements which are necessary for proper human functioning. Eventually these studies led him to develop the Mineral Infrared Therapy device.

The working surface of the device used to administer Mineral Infrared Therapy is no larger than a dinner plate that is coated with ceramic minerals containing many trace elements such as iron, selenium, manganese, zinc, cobalt, nickel, copper, cadmium and so forth.

The infrared frequency generator for this coated material is at a frequency range which is easily absorbed by body tissues (4 to 15 micrometers), and further, there is an absorption of the trace element minerals that has a great beneficial effect, especially on suffering people who lack these minerals.

The operating surface of the device is held about 27 centimeters (about 11 inches) from skin surfaces, producing a surface temperature of about $38.8^0$ C (about $102^0$ F).

By the end of 1985 Gow's device had been successfully used "to treat over 30 different human and animal diseases and disorders, some 30 million people had received medical treatment," according to Dr. Chi. China, Australia, Japan and Mexico have all seen wide use of the Mineral Infrared Therapy device, and now it is also available in the United States.

According to Dr. Tsue-Tsair Chi, this device has the "ability to

alleviate inflammation, tranquilize pain and improve micro-circulation, as well as stabilize the metabolism. Undisputed evidence was gathered substantiating that the use of the Mineral Infrared Therapy was conducive to cell-growth, multiplication and restoration, along with promotion of specific types of enzyme activity and immunity levels."[69]

The Case of Gene Dunkin[69]

Rhode Islander Gene Dunkin, 40-years-of-age had been on a business trip for seven days, when the recurrence of his lower back pain prevented him from sitting, so he wasn't able to return home on an airplane. Heat, diathermy and ultra sound treatments were all tried on Gene without any effect.

Dr. Golden of Rhode Island used Mineral Infrared Therapy for 20 minutes, after which Gene was relieved sufficiently so that he could sit down, and so he was able to return home on the next available flight.

The Case of Frederick Balleny

Frederick Balleny was 5'8" tall and weighed 200 pounds. He went to Los Vegas, Nevada to see Dr. George Ritter for his "degenerative" arthritis in his neck, middle and lower back.

Dr. Ritter treated Frederick for about 40 minutes 3 times a week for 2 months getting very good results.

The Case of Katherine Casey

For years Katherine Casey had had severe arthritis in both knees, and could only move about with the use of a cane. She was 60-years-of-age, 5'2" tall and weighed 140 pounds.

After 15 days of use of the Mineral Infrared Therapy under reflexologist Hal Camp, Katherine was able to throw away her cane, and her pain was considerably reduced.

*Myopulse System (Electro-Acuscope)*

A device more advanced than the Light Beam Generator or Omega Ray is the Electro-Acuscope/Myopulse system.

The Case of Debbie Carson

Debbie Carson was a 35 year-old fitness instructor and mother of an 11 month old child, who approached Stephen Center, M.D.,[92] San Diego, California, with back pains of four months duration, interfering with her job and household duties. Debbie recalled no accident or other major trauma, but suspected that the care of her child contributed to her problem.

Symptoms near her shoulder (left medial scapular border) were described as "a burning knot," and was associated with numbness in her left arm and hand. Symptoms were aggravated by neck motions. Debbie

was not on any medications.

She was diagnosed as having pain from a location near her neck and shoulder (cervical radiculitis affecting left C5-6 myotome, especially medial scapular border; possible cervical subluxation).

Debbie received seven treatments using the Electro-Acuscope at specific nerve root/facet joints, including micro-acupuncture points related to the cervical and thoracic spine muscles and discs, as well as points of support and various organ points.

As the course of treatment progressed, additional trigger points for the hands was included, and later, in a third treatment, attention was addressed to the spinal cord (T4, C7, T1).

"By the seventh treatment, the patient was entirely asymptomatic," according to Dr. Center. "At the time of her final exam . . . she reported that her pain had completely disappeared and she has had no symptoms. . . . she was performing all of her usual household and job activities without symptoms."

The Case of Carole Vickers

Carole Vickers,[92] 32 year-old, suffered of low back pain with muscle spasms associated with pain radiating to the right buttock and right thigh, almost to the knee, when she approached Dr. Center for help.

Carole's pain had resulted from an automobile accident in which she was the driver. A vehicle had struck her left, rear passenger door.

X-rays were negative, and she was initially treated with a non-steroidal anti-inflammatory drug and also stayed out of work for a week. She had gastro-intestinal side effects from the drug, and was placed on antacids and another non-steroidal anti-inflammatory.

Dr. Center diagnosed Carole as having acute lumbosacral sprain, muscle injury, sciatica secondary to disc irritation,and cervical sprain.

Carole was placed on a course of treatment using the Electro-Acuscope and Myopulse instrument, including treatment of the spinal cord from the upper lumber to the lower sacrum. These included micro-acupuncture sites, treating the anatomical sites of pain as well as the various organ points and points of support.

She received a total of fourteen treatments initially three days in a row. After a gap of a week, treatments were decreased to two to three times per week for four weeks, later increased to weekly intervals for four weeks.

Carole became free of all pain and was able to cross-country ski without pain.

*Neural and Reconstructive Therapy*

## Neural Therapy

Reconstructive Therapy is labeled "Sclerotherapy" by DOs, and "Proliferative Therapy" (or "Prolo Therapy") by M.D.s.

Strangely enough, and little known to many physicians, scar tissue from past penetrations of the skin can also cause skeletal mis-alignment problems, and these are usually treated at the same time as the use of Reconstructive Therapy using Neural/FascialTherapy,[29] a treatment developed by German physicians, and especially Ferdinand Huenke, M.D. and Walter Huenke, M.D.[30]

In the Huenke Neural Therapy, an anesthetic such as procaine or lidocaine is injected into nerve sites of the autonomic (independent) nervous system, acupuncture points, scars, glands, and other tissues. Through the pathways of the autonomic nervous system, energy to cells short-circuits the disease or injury and serves to regulate biological energy.

Although an individual injection can relieve pain, it is a series of injections that follow along a physiological pattern that serves to provide the most relief.

Premised on the idea that illness begins when the normal flow of biological energy is disrupted, Neural Therapy seeks to release these energy blockages, and sometimes the results are quite spectacular, providing an almost instantaneous "miracle" cure.

Any part of the body that has been damaged or traumatized can cause these energy blockages, thus the injections may follow old wounds, surgical scars, past body blows, "stored" illnesses, and so forth.

Neural Therapy can also assist in unblocking the lymph system.

Conditions that normally respond to Neural Therapy include: allergies, arthritis, asthma, arteriosclerosis, back pain, bladder dysfunction, chronic pain, circulatory disorders, colitis, depression, dizziness, ear problems, emphysema, gallbladder disease, glaucoma, hayfever, headache, heart disease, hemorrhoids, hormonal imbalance, inflammatory eye disease, kidney disease, liver disease, menstrual cramps, migraine, muscle injuries, postoperative recovery, prostate disorders, sinusitis, skin diseases, sports injuries, thyroid disease, ulcers, and whiplash, to name but a few.[5,29]

Dietrich Klinghardt, M.D., Ph.D. of Santa Fe, New Mexico adds that "In my experience, between one and six treatments, given twice weekly, are all that's needed."[5,29+]

"Intraneural Injections" as discovered and developed by Prosch/Pybus/Wyburn-Mason are not the same as the Huenkes' "Neural

Therapy," but these two and the proper use of Proliferative Therapy (Sclerotherapy) seem to be excellent and perhaps sure answers for certain Osteoarthritic problems, provided the ever-present nutritional factors are also taken into account.

Reconstructive Therapy

A chief cause of the pain of Osteoarthritis is defective skeletal posture resulting in pains remote from the source of defect or mis-alignment, and also pain from Osteoarthritic calcium spurs often located along the spinal column and rubbing on branching nerves from the spine, said pain then becoming referred to another bodily location.[27]

According to Gus J. Prosch, Jr., M.D. of Birmingham, Alabama, "If you really think about what we are trying to do, we will have to come to the conclusion that Osteoarthritis is not a joint disease! It is a nerve disease -- if we and our theories are correct. Of course the end result is a joint disease, but the etiological (causative) factor is the nerves -- and not the joints -- as far as where the disease originates."[11]

More than 30 years ago demonstrations on laboratory animals showed that loosened, stretched or torn tendons and ligaments could be tightened up by means of inserting just beneath the skin, in the proper location, a natural bodily substance (Sodium Morrhuate) which would promote the growth of collagen tissue and fibroblasts. Other substances besides Sodium Morrhuate are also used.

As we age, our tendons and ligaments tend to stretch or can be torn from their connections to fascia through sports or accidents, or can be weakened through poor nutrition, disease or unbalanced chemistries. As the body's skeletal posture is held together by means of tendons and ligaments — not the muscles per se — an undesireable lengthening of one set of tendons or ligaments will be unconsciously compensated for by other pulley/belt and lever/fulcrum mechanisms in remote parts of the body.

According to masseur Thomas Gervais,[31] of Franklin, Tennessee, "Tendons are muscle ends. Fascia gives ligaments and bones their proper place/structure. The fascial connective tissue thickens and becomes most rigid at places of greatest/most frequent use and demand. This 'ossification' process of fascia makes a return to good posture difficult."

One compensatory mechanism is the production of Osteoarthritic spurs in the spine. Although the body's problem is lax or torn ligaments or tendons elsewhere, the body's chemistry attempts to compensate by creating calcium spurs along the spinal column. Were these calcium spurs cut out (as is often done for symptomatic relief through surgery), the

body's tendon and/or ligament problems will persist, and the body will continue to attempt to compensate for the tendon or ligament laxness.

To illustrate: James A. Carlson, D.O. of Knoxville, Tennessee was asked to look at a patient's right index finger-joint nearest to the fingernail (between the distal phalanx and the middle phalanx). The joint had been inflammed for months and was deforming. After study Dr. Carlson deduced that the cause was a left-foot heel-bone out of alignment through a series of interconnecting lever/fulcrums. This may sound peculiar until one is versed with the manner in which the skeleton is held together, and the means by which the human body compensates. A bone awry at one place affects structure remotely connected. Using Osteopathic manipulation, he placed the heel bone back as well as affected joints in the palm, and then using reconstructive therapy, Dr. Carlson placed near the proper tendons and ligaments substances that promoted the body's ability to keep the bone in place.The finger immediately ceased its pain and deformation stopped.[32]

In a similar instance, the finger nearest the small one on the left hand was unable to touch the palm of the hand. It was very stiff and often hurt. Dr. Carlson determined that the cause was an arch-bone in the left foot out of alignment. Again he manipulated the bone to its proper location and then used reconstructive therapy to place the bone permanently where it belonged. The pain immediately disappeared and the patient had restored ability to touch the palm of the hand with that finger.[32]

We know from the work of many physicians that this therapy has beneficial effects on the Osteoarthritic condition. On a visit to his office, Dr. Mittelstadt of Ft. Lauderdale, Florida introduced the author to a patient who had had Osteoarthritis so badly that she had been unable to move her fingers easily. She demonstrated the improved flexibility that she now had after a number of treatments.

James A. Carlson, D.O. of Knoxville, TN explained that Sclerotherapy can reduce Heberden nodes in Rheumatoid Arthritis![28]

Many other instances -- much more spectacular[27,29] -- can be described for all parts of the body where Osteoarthritis is presumed but in fact it is the slackness or disruption at the connective base of ligaments and tendons that slowly create Osteoarthritic-like symptoms.[27]

According to William Faber, D.O. of Milwaukee, Wisconsin and Morton Walker, D.P.M., medical journalist and author of many medical books, "Typical musculoskeletal lesions that may be permanently corrected are: bunions, heel difficulties, finger dysfunctions, knee (patellar) problems, migraine headache, neck pain, chronic shoulder dislocation,

shoulder (rotator cuff) tears, generalized back weakness, herniated disks, mid-level backache, low back pain, compression fractures of the vertebrae, Ankylosing Spondylitis, Spondylolisthesis, Fibrositis, Fascitis, Tendonitis, pain after severe injury, pain after stroke, jaw [temporomandibular joint (TMJ)] syndrome, post-orthopedic surgery pain, dysfunctional hip joint, chronic and acute knee disability, ankle weakness, tennis leg, tennis elbow, wrist pain, Carpal-Tunnel Syndrome, and most forms of arthritis, especially the type derived from wear and tear (Osteoarthritis), and more disabilities.

Reconstructive therapy is often a medical alternative to orthopedic surgery, hand surgery, podiatric surgery and other traditional techniques of musculo-skeletal repair."[27]

The Case of Diana Beachamp

Diana Beachamp, 40-years-of-age, came to Ross Hauser, M.D. of the Caring Medical & Rehabilitation Services, Oak Park Illinois, for severe back pain with radiation down the left leg. Dr. Hauser says, "Diana could not work and was having difficulty walking. She did have a history of back pain in the past laying her up for weeks at a time."

A previous magnetic resonance imaging (MRI) made 3-1/2 years earlier had revealed degenerative disc disease in the lumbar and sacrum, as well as mild disc bulges. There was also a mild narrowing of nerve passages (stenosis) in portions of the lumbar region. A physical examination revealed marked spasm in the lower back with tenderness in this area as well as the sacroiliac joints. There was also some evidence of a pinched nerve.

Reconstructive Therapy (prolotherapy or sclerotherapy) was done on Diana's lower back and sacroiliac joints. Nerve blocks were also used in two of the lumbar regions.

Diana felt great after this first treatment.

The treatment was repeated 18 days later and again 11 days after the second treatment. When seen again, Dr. Hauser reports that "Diana's previous numbness was gone, her flexibility better, and she was smiling again.

"Follow-up a month later found Diana with inceased energy and feeling great. She was given some stretching exercises and told to come back when needed."

The Case of Terry Woodworth

Terry Woodworth, 36-years-of-age, came to the clinic of Ross Hauser, M.D. with severe tempomandibular joint syndrome (TMJ). According to Dr. Hauser, "Terry could dislocate his tempomandibular

joint at will, and also had severe grinding of the joint which could be heard as well as felt."

Dr. Hauser used prolotherapy (reconstructive therapy or sclerotherapy) injections on both joints.

Three weeks later Terry was improved, but there was still clicking of joints, and so he was treated again.

Five weeks after his second treatment Terry reported that he had not noticed any clicking of these joints except once when he yawned widely. "Physical examination of the joints revealed them as completely normal. Even Terry's dentist was amazed that the joints remained normal."

### The Case of Kenneth Plumer

Kenneth Plumer is a 30-year-old recreational volley ball player who noted his right shoulder popping out of joint when doing a slam. On physical examination Dr. Hauser noted shoulder instability.

Prolotherapy (sclerotherapy or reconstructive therapy) was performed and on follow-up visit Kenneth's shoulder was completely normal, the joint stable without any recurrence of dislocation.

### The Case of Julia Merrywhether

Julia Merrywhether, 64-years-of-age, suffered from a diffuse body aching, and she also had documented osteoarthritis in many joints (polyarticular osteoarthritis), which affected her spine, knees and hands. On her initial visit she also had disabling back pain with radiation of pain into the left leg. Physical examination showed tenderness over the iliac crest, lumbosacral junction and sacroiliac joints.

Dr. Hauser treated Julia's low back and knees with prolotherapy (sclerotherapy or reconstructive therapy).

On follow-up four months later, Julia reported 95% improvement in her pain. "A few tender spots remained around her lateral collateral ligaments of her knee and these were treated. No additional treatments were required on her lower back."

### The Case of Carrie Johnston

Carrie Johnston was a 42-year-old who had had 14 surgeries on her left knee, and was still having difficutly walking because of the pain. She'd had cartilage removed and was getting arthritis in that joint.

"After 4 series of prolotherapy injections Carrie became essentially pain-free, except when she underwent extreme exertion. Overall she was 95% pain relieved."

### The Case of Bessie Woody

Bessie Woody, 35-years-of-age, had had severe pain in the elbow, neck and back since her second child was born. On physical examination

Dr. Hauser found that she had "hypermobility syndrome" a condition which caused many ligaments and tendons to stretch after some pregnancies. Bessie was not going to have any more children because of her intense pain.

Injections were started on neck, shoulders, elbows, hips and lower back regions.

A month later, Bessie noted that she felt 90-95% better, and she stated "I don't know if I need a second series of injections."

When she was seen four months later, she noticed some neck pain, but essentially the rest of her pain was gone.

A year and three months later, Bessie gave birth to her third child.

Gus Prosch, Jr., M.D. of Birmingham, Alabama, reported that Intraneural Injections and Reconstructive Therapy cannot be performed at the same time, as the chemistry of the two therapies work in opposition to one another.[7, 27]

However, Curt Maxwell, D.C., N.M.D. of Los Algodones, Mexico (across from Yuma, Arizona), has concluded that, since the two therapies are localized, there are many conditions which will successfully respond to simultaneous use of both modalities: Sclerotherapy and Intraneural Therapy.

When is Reconstructive Therapy Indicated?

One type of joint pain that disturbs some of us greatly cannot be attributed to active Rheumatoid Disease or Gout. Often this kind of pain is the result of having had Rheumatoid Disease or is traditionally identified as Osteoarthritis, and stems from the absence of cartilage, the friction of bone (clicking joints as we move them), or weakened tendons, ligatures and muscles where they should attach to bone surfaces through tearing, stretching or physical damage. For example, forty-five year-old Sonny Wentworth had severe tempomandibular joint syndrome (TMJ), with numerous surgeries in the past, including implants.

When he first visited Dr. Hauser, his clicks were noticeable and the joints were extremely painful.

After one prolotherapy (sclerotherapy or reconstructive therapy) treatment Sonny was 20-30% better.

Seven weeks later Sonny described his condition as better, the clicking down significantly, with some pain on the right side of his jaw.

Three months later, with the cumulative effect of his treatments, Sonny noticed that the syndrome bothered him only when he was tense. Dr. Hauser said that "No further TMJ treatments was necessary or done, as the patient feels 90-95% better."

Dr. Faber[27,29] explains: "X-rays cannot show anything but bones, and do not show torn ligaments which stabilize joints by holding bones in place. When ligaments are torn they are unable to effectively function to hold bones in place which causes friction as bone rubs against one.

According to William Fabor, D.O., the body's structure and form is held together by the ligaments and tendons, not the muscles, which simply provide power across the equivalent of pulleys/belts and levers/fulcrums in the body.

"The body attempts to correct this problem caused by the torn ligaments by creating 'arthritis'. In this instance 'arthritis' [including calcium spurs which create pain] is the body's attempt to compensate for the torn ligament's inability to hold the bones in place.

"This," says Faber, "explains why anti-inflammatory drugs and cortisone are often not effective. Excess friction, not inflammation, is the cause of the joint pain. Reducing inflammation will not eliminate the problem nor provide long-term relief. Only strengthening the ligaments will correct the problem."

Since ligaments contain no muscle fibers, exercise also will not correct the problem or provide long-term relief.

When should "proliferative" therapy be considered?

According to Drs. Faber and Walker, under the following conditions.

1. When ligaments are either lax or torn, then the ligaments can be strengthened.

2. When any joint has pain lasting longer than six weeks. A healthy body should be able to heal torn or lax ligaments within six weeks. If joint pain persists beyond six weeks, it is an indication that the body has not been able to handle it on its own and that the joint is unstable from lax or torn ligaments.

3. Any joint that is helped by a support or brace. A brace or support functions as ligaments do. That is, they function to stabilize the joint. If a support brace helps, proliferative therapy is indicated as it strengthens the ligaments, enabling the necessary support.

4. Any joint that fails to respond to manipulation or adjustments. Many joint problems can be resolved with manipulations/adjustments and often manipulation/adjustment is the treatment of choice. Manipulation is highly effective when bones are out of alignment as a result of bad posture or injury. When manipulation or adjustment doesn't provide lasting relief it is because the ligaments are lax or torn and can't hold the joint in place.

5. Any joint that is worse after surgery. When injured joint spacers are removed in surgery (discs, cartilage) this causes the ligaments to become lax. This laxity causes the joint to become unstable and eventually form arthritis.

6. Any joint that is better with rest and worse with exercise. Rest allows the body to heal itself and also reduces friction which is caused by a torn or lax ligament in a weakened joint. Exercise of an unstable joint makes it hurt more as it creates increased friction. Because of the decreased blood supply in ligaments, rest alone is often not sufficient for the body to heal itself. And, because ligaments and tendons do not contain muscle fiber, exercise will not heal an injured ligament or tendon.

7. Any popping, snapping or clicking joint. A joint that is unstable snaps, clicks or pops. Proliferative therapy causes strengthening of the ligaments and thus stabilizes the joint thus eliminating the popping, snapping and/or clicking.

8. Any torn tendon or tendonitis that does not resolve after six weeks. Tendons are like ligaments in that they are fibrous tissue and they attach to the bone. They also have a lack of blood supply like ligaments, and therefore have a poor healing ability. Proliferative therapy causes a permanent strengthening of torn or lax tendons just as it does for torn or lax ligaments.[27]

*Niacinamide*

**The Case of Jane Trowhouser**

*The "Incurable Disease"*

Dr. Kaufman was a medical researcher and instructor at the University of Michigan Medical School as well as at Yale University School of Medicine. Awarded many honors, Dr. Kaufman was recipient of the Tom Spies Memorial Award presented by the International Association of Preventive Medicine.

Jane Trowhouser, seventy-eight year old widow, came to William Kaufman, M.D., Ph.D. at his private medical practice in Bridgeport, Connecticut, seeking help for "uncurable degenerative arthritis." She also had Rheumatoid Arthritis, two conditions that sometimes appear together.

Now everyone knew (or knows) that "degenerative arthritis" is a natural condition of aging.

Right?

Jane should have been sent home with a package of pain killers and told to "learn to live with it."

Right?

Jane had enjoyed excellent health until 6 months earlier, when her

younger sister, aged 75, had a stroke.

Before her sister's illness, Jane had never done much physical work. However, since the sister did not wish to be hospitalized, or to be taken care of by strangers, Jane undertook to give nursing care to her sister at their home.

Bedrooms were on the second floor, and Jane made many extra trips up and down the rather steep flight of stairs, usually carrying her sister's meals to her. She was so busy with her sister's care that she neglected to eat her usual abundant diet, substituting starchy foods for high-protein foods.

After a month Jane became aware of pain, stiffness and swelling in her joints. She took 8-10 aspirin tablets (0.3 G) a day with only slightly increased comfort.

Now she was unable to climb up the stairs without gripping the banister with her left hand and pulling herself upward step by step.

Jane's sister improved over a period of several months, so that workload was lessened, but Jane's high-carbohydrate diet remained the same. Her joints continued to give trouble. She now had constant neck pain, severe low back pain, and painful swelling joints at the knees, ankles, wrists, hands, elbows and shoulder joints. She also had persistent numbness and tingling of her hands, which were so swollen she could not make a fist.

Many of Jane's joints were hot to the touch, and she noticed that she had considerable joint noise on movement (crepitus).

Every morning for several hours she felt stiff, until the aspirin reduced the pain, and then the stiffness recurred toward evening, when it was not at all relieved by the aspirin.

Changes in weather brought about increased joint discomfort. She lost 16 pounds during 3 months, and felt that she was becoming progressively weaker, feeling exhausted most of the time.

When Dr. Kaufman examined Jane, she was in great pain, and she seemed mentally dull, her voice quavery and querulous, and she walked with an extreme slowness and with some loss of sense of balance.

Jane's combined Joint Range Index -- a measure devised by Dr. Kaufman of how far patient's joints could comfortably move -- showed severe joint dysfunction.

Her knees, ankles, wrists, hands, elbows and shoulder joints showed the marked swelling seen in classic Rheumatoid Arthritis, with prominent venous swelling around the knees, joints hot to touch, and a few nodules below the skin on the ulna and tibia, the two lower arm bones.

Jane's skin was yellow-brown and somewhat wasted. Her gums were swollen, and there were many other physical signs of either Osteoarthritis or Rheumatoid Arthritis, including laboratory findings and also those found on the tongue, liver and by her poor reflexes and loss of tickle sense.

Jane was prescribed niacinamide (the amide of niacin) to be taken 150 mg every 3 hours for 6 doses daily (900 mg/24 hours). After 22 days of therapy, much of her joint swelling had disappeared, although she still complained of pain and stiffness. She walked and sat more erectly than on her first visit, and with better balance, and also more rapidly. Her liver tenderness was improved, and her Joint Range Index measurement changed from severe joint dysfunction to that of moderate joint dysfunction.

After 84 days of therapy, her Joint Range Index stabilized. She had slight swelling around the ankle and other joints. Only one aspirin a day now sufficed for her pain, and her voice had lost its quaver; she seemed also to be more mentally alert and more vigorous physically. Her tongue and mucous membrane of the mouth were improved considerably.

In 172 days of treatment her laboratory tests also had improved, and she was emphatic that she was better, no longer requiring aspirin for pain. Her liver was no longer enlarged or tender.

At the end of 280 days of treatment she was able for the first time in a year to go upstairs without either pulling herself up by the banister or climbing up the steps hand over hand, foot over foot.

Her skin had become more elastic and less wasted, and her color improved, the yellow-brown having disappeared.

No evidence of joint swelling could be observed, and even the ulnar and tibial nodules beneath the skin were gone, and further, she had no evidence of liver enlargement or swelling of the liver.

Since the mucous membrane in her mouth had responded slowly, her niacinamide intake was increased to one capsule every 3-1/2 hours for 5 daily doses (950 mg/24 hours).

*Jane Trowbridge Is Cured*

On the 417th day her Joint Range Index and laboratory tests were further improved.

At this time Jane became euphoric and could not remember when she'd felt so well. She was physically and mentally vigorous, her voice clear, resonant and decisive. She reported a renewed interest in being with people and in entertaining guests.

Jane looked younger than when first seen, appearing to be closer to

60 than to 80 years of age. She was entirely free from bone and joint symptoms and had not taken any aspirin for 8 months. She could walk up and down stairs without difficulty and without any sense of physical impairment or exhaustion. Her carriage was erect, although she still had some moderate curvature of the spine. Her skin was smoother, softer, less wasted and more elastic than when first examined. She had no noticeable joint swellings or deformities, no liver tenderness or enlargement, and the mucous membranes of her mouth were recovering much more rapidly.[13]

Osteoarthritis (and some Rheumatoid Arthritis) is an "uncurable degenerative disease," a natural condition of growing old.

Right?

*The William Kaufman, M.D., Ph.D. Treatment*

William Kaufman, M.D., Ph.D.,[13] after distinguished research and teaching at the University of Michigan Medical School and Yale University School of Medicine, set up private practice in Winston-Salem, NC. Then -- and throughout his career -- he was able to demonstrate in his clinical practice, research and through published books and research papers the reversal of Osteoarthritis and some Rheumatoid Disease joint dysfunction by use of niacinamide together with other vitamins and minerals.

Among other means to satisfactorily measure the degree of improvement, Dr. Kaufman invented a device for measuring achievable range of joint motion.

Dietary supplements often used were: niacinamide[13] (under close medical supervision), methionine, glycosaminoglycans, superoxide dismutase, vitamins A, E, pyridoxine, pantothenic acid and zinc and copper.[14] He often supplemented with other B vitamins as well.

Vitamin $B_3$ occurs in two forms: nicotinic acid, called niacin, and nicotinamide, called niacinamide. A serious deficiency in this vitamin produces a disease known as pellegra involving symptoms of dermatitis, diarrhea and dementia. Whole grains contain the vitamin, which is lost on processing into refined flour.

Alan Gaby M.D. reports that both forms of vitamin $B_3$ can prevent or cure pellagra, but there are differences between niacin and niacinamide. Niacin can lower cholesterol and triglyceride levels, whereas niacinamide cannot. Taking niacin can cause temporary flushing of the skin, but niacinamide does not.[78]

In treating more than 600 patients over a 10 year period, Dr. Kaufman found that "the manner in which the daily dosage of niacinamide

is divided has an important bearing on the therapeutic results achieved; e.g., 300 mg niacinamide given three times daily (900 mg/24 hours) is inferior in its therapeutic action to 150 mg niacinamide administered over 3 hours for 6 daily doses (900 mg/24 hours).

Results -- improvement -- should become apparent within 3 to 4 weeks, and thereafter progressive improvement should occur. However, if the patient discontinues the niacinamide, the joint problems gradually return.

Large dosages of niacinamide can be damaging and should be taken only under medical supervision. Alan Gaby, M.D.[74] writes that "niacinamide can on rare occasions cause damage to the liver. Nausea and queasiness are early warning signs of stress on the liver; the dosage of niacinamide should be reduced if these symptoms occur. Anyone taking more than 1,500 mg/day of niacinamide should have a blood test for liver enzymes after three months of treatment and annually thereafter. If the levels are elevated, the dose should be reduced. When this precaution is kept in mind, niacinamide is remarkably free of side effects.

"We have not seen anyone develop significant or permanent liver damage while taking this vitamin. However, to be on the safe side, you should ask a health-care practitioner to monitor your therapy. And, if you have liver disease, you should avoid this treatment."

How does simple niacinamide work?

According to Dr. Kaufman, two enzymes, formerly called coenzyme I and coenzyme II, now called " nictonimide adenine dicucleotide," and "nicotinamide adenine dinucleotide phosphate," respectively, control more than 200 different metabolic reactions, and are essential in every cell of the body, and particularly abundant in the brain, kidney, heart, liver and muscles.[13]

When the following three conditions are true, properly distributed dosages of niacinamide in the proper amount can bring about near miraculous improvements. These conditions are, according to Dr. Kaufman:[13,44]

1. Eating diets adequate in protein and calories;

2. The joints have not been excessively -- irreversibly -- damaged by aspects of work, life-style or for whatever reason;

3. Joints have not been so damaged by arthritis prior to treatment as to leave them with no chance for improvement.

Alan Gaby, M.D. reports that from his experience, "patients with Osteoarthritis usually require between 1,500 and 3,000 mg/day of niacinamide in divided doses. Using sustained-release niacinamide allows for

less-frequent dosing, such as half of the daily dose every twelve hours.

"Many of our patients have been extremely pleased by what niacinamide has done for their arthritis. Knee joints seem to respond the best, but other joints in the body also improve."

Dr. Gaby also cautions that sustained-release niacin is more toxic to the liver than ordinary niacin, and while niacinamide is safer than niacin, very large doses can also harm the liver. However, sustained release niacinamide does not seem to be more risky than regular niacinamide.

Also of special importance is the excellent work of William Kaufman, M.D., Ph.D. in the use of niacinamide for both Osteoarthritis and Rheumatoid Arthritis. Dr. Kaufman, through clinical observation, determined that lack of sufficient niacinamide was persistent with those having joint problems of Osteoarthritis or Rheumatoid Arthritis. He invented a measuring device easy for other doctors to use, and thus standardized by an objective measure improvement, or lack of improvement, in patients. Over many years and with the help of many patients, including those with aging problems, Dr. Kaufman developed an oral schedule of niacinamide per day, the niacinamide being taken in frequent intervals during the day in, usually, varying dosages because of the quickness by which niacinamide flushed from the body.[13] Usually the dosage is dependent upon severity of the joint dysfunction.

The Case of June Svenson

June Svenson, 61, married housewife, looked older than her age. She had tenderness on finger pressure on the sternum and other joints, including the hip joint. Curvature of the spine and hump were noted. Her tongue showed evidence of atrophy of small elevations (papillae).

Her liver was tender, tickle sense absent and sensations from the bottom of her foot were minimal or absent (dysesthesia).

Mrs. Svenson had severe joint dysfunction.

Her treatment consisted of 100 mg of niacinamide every 1-1/2 hours, and in a month she had experienced marked improvement in her Joint Range Index, a method Dr. Kaufman used to measure range-of-motion improvement.

Joint discomfort improved, as did sensations at the bottom of her feet and her tongue atrophy and other symptoms, including fatigability or insomnia, also improved.

She continued to make good progress for over 300 days, when she reduced her niacinamide intake from 1200 mg/24 hours as originally prescribed, to 1000 mg/24 hours in divided doses of 100 mg per dose. With this self-administered dosage her Joint Range Index decreased, and

so she was asked to increase her dosage to 150 mg every 1-1/2 hours as originally prescribed. Her Joint Range Index increased. The niacinamide was increased to 200 mg every 1-1/2 hours (2000 mg/24 hours) with an additional increase in her Joint Range index.

In a period of almost two years, Mrs. Svenson's improvement changed from severe to slight joint dysfunction.

Dr. Kaufman anticipated that continued adequate niacinamide therapy would bring about no joint dysfunction, in time.

Using Kaufman's Joint Range Index figures, a weighted average of 20 joint ranges throughout the body, Kaufman[43] found that niacinamide taken in divided dosages over a 24 hour period were required for various degrees of joint dysfunction. His schedule is listed below:

| **Degree of Dysfunction** | **Dosage per Day Ranges** | **Schedule/Day** | **Niacinamide** |
|---|---|---|---|
| Slight | 150-250 mg | each 3 hrs. for 6 doses | 900-1,500 |
| Moderate | 250 mg | each 3 hrs for 6 doses; or 250 mg each 2 hrs. for 8 doses | 1,500-2000 |
| Severe | 250 mg | each 2 hrs. for 8 doses; or | 2,000-2,500 |
| | 250 mg | each 1-1/2 hrs for 10 doses | |
| Extreme | 250 mg | each 1-1/2 hrs for 10 doses; or | 2,500-4,000 |
| | 250 mg | each hr. for 16 doses | |

*Qigong for Arthritis*[79]

The balancing or distribution of biolectrical energy to body parts in need can be an important therapy.

Author of Arthritis -- *The Chinese Way of healing and Prevention (Qigong for Arthritis)*, Dr. Yang Jwing-Ming is an unusual master -- teacher -- as he has translanted at our Western shores wisdom that was ancient -- and mostly hidden at the time Jesus Christ was preaching the Beatitudes. In the West, with Christ's unfortunate sacrifice there continued a gigantic struggle between good and evil; while in the Orient the identification and controlled use of "life's energy," Qi (pronounced "Chi"),

slowly became apparent through a tapestry of trial and error, rational reasoning, experimentation, and self-knowledge involving balance, harmony, and slowly accumulated observation of the effects of many interactive influences.

Once hidden and reserved for the few, many "self-knowledge" branches grew from initial Chinese understandings: acupuncture, meditations, breathing techniques, philosophies and religions, functional Qi circulation, massages, martial arts, Shaolin and Taiji exercises, disease prevention, and health restoration. Each of these borrowed and loaned, from and to respectively, India, Korea, Japan and many other countries.

Since the 1970s we Westerners have at last come to accept many historical Oriental discoveries. Even the slowest, dumbest oxen of all -- traditional Western medicine -- has finally begun to accept acupuncture and meditation.

Now that author Yang Jwing-Ming, Ph.D. has borrowed the paradigm of "bioelectrical energy" for the Chinese concept of "Qi," Westerners will find Qigong (pronounced Chi Gong) quite understandable.

Lucid exposition of an historically complex subject has at last communicated the nature of Qi, and Master Yang Jwing-Ming -- obviously also master of language -- easily leads the reader to understand how to cultivate the very "breath-of-life," and how to control and expand its influence on the human body: exercise with awareness and control. Many exercises are defined in Qigong, and one can eventually design their own to fit their situation and needs.

As a compassionate person who wishes everyone free of crippling diseases, I can only energetically recommend to all arthritics Master Yang Jwing-Ming's clear exposition, understandings, and Qigong exercises that hundreds of millions of Chinese citizens (during the past several thousands of years) have also known will bring about a painless, comfortable wellness.

### *Rolfing®*

To solve what was diagnosed as Rheumatoid Disease, Ida P. Rolf, Ph.D.[33] developed and applied her "massage" discovery in what is now called "Rolfing."[27] Dr. Rolf may or may not have had Rheumatoid Disease, but her discovery has wide application to all forms of arthritides, as well as other structural and pain problems.

Fascia is found throughout the body and surrounds all organs. If healthy, it is slightly elastic with strong resistance to stretching. It can break or tear however.

Rolfing, as a form of massage and therapy, works by stretching the

body's fascial tissues. Pressure is applied by the masseur with fingers, knuckles and elbows to release fascial adhesion. Tissues are thereby helped to reorganize back to their intended position, and bodily structure is restored, including the relationship of each part of the body to each other. Less energy is thereafter utilized to perform the same motions, such as walking and running, or standing, then before the Rolfing series of massages.

According to the Rolf Institute,[33] founded to carry on Dr. Rolf's work, "Fascia belongs to a family of closely related connective tissues found throughout the human body. Although fascia is technically a tissue, Rolfers sometimes speak of it as the 'organ of form' because it literally holds your body together and gives it shape."

The nature of fascia is to fasten and hold. According to the Rolf Institute: "1) Slack strands of fascia can adhere to one another [adhesions] and shorten a fascial structure, thus distorting the three-dimensional fascial network and pulling the skeleton (and body segments) out of alignment. This can occur in response to poor postural or movement patterns, injury, [chronic emotional patterns] or surgery. . . ., 2) Adjacent fascial structures can adhere to one another and bind two structures together. Even in a healthy body, the fascial envelopes of adjacent muscles may adhere to one another. Two muscles, which should glide over each other, become yoked together; neither muscle can function independently and efficiently."[33]

Fascia can adhere to itself and change shape causing the fascial network to become distorted, but this plasticity, fortunately, can also work in the other direction, restoring the structural integrity with the proper Rolfing applications of pressure.

According to Dr. Ida Rolf, ". . . the 'joint' is much more than the bone of the ball-and-socket. All muscles and ligaments that weave or support its structure are part of it. This is true of any joint. Trouble in any of the component parts -- muscles, ligaments, bones -- is apt to be interpreted or at least verbalized as being in the joint. Unumbered, casual, hasty diagnoses of 'arthritis' reflect nothing more serious than a shortened or displaced muscle or ligament resulting from a recent or not-so-recent traumatic episode.

"True arthritis, on the other hand, is deterioration of the joint, characterized by chemical change in the blood and in joint tissue.

"Arthritic pain is the result of joint compression.

"Not all cases of true arthritis are painful; where there is adequate capsular space, the individual may well be pain-free. When your shoulder

or your hip hurts, it is well to paraphrase an old adage: not only is all that glitters not gold, but, even more hopeful, all that hurts is not necessarily arthritis. It may be merely pseudoarthritis, a disorder in the tendons and ligaments. . . . Appropriate muscular organization can give the pseudoarthritic movements and render him pain-free."[33]

Rolfing, through restoration of fascial integrity, restores natural posture which, for the arthritic and pseudo-arthritic alike, means more freedom of movement and lessened pain, and also improvement of metabolism, circulation, neural transmission, joint and tissue repair, emotional stability, and, generally, an overall increase in available energy that was otherwise bound up in maintaining the poor muscular imbalances.

*Stress*

Stress[19] is a factor that is perhaps most often overlooked by the normal medical practitioner. According to research of L. Ron Hubbard, author of *Dianetics: The Modern Science of Mental Health*, and developer of the philosophy of the Church of Scientology, often there is one or more persons in the close work or home enviroment who are suppressive to the one who is sick, such suppression expressing itself in a way that constantly invalidates the sick person's actions, thoughts or emotions. It is a negative stimulus that depresses our beingness, our will to want to engage in friendly exchange of ideas or activities.

A person who is so affected by another will often suppress his/her emotions and behavior in ways that express outwardly in the form of hormonal changes and accompanying clinical sicknesses.

The medical terminology is "psychosomatic," indicating that the person's mind governs his emotions and bodily condition. This is true to the extent that a person permits suppressive conditions and "suppressive" people to influence his/her mind/body.

As few physicians have training in recognizing the causative patterns, and would probably be resisted by their patients if they mentioned them, stress sources are often ignored in treatment, although they may be the largest component of all diseases, acute or chronic.[7, 20]

*Vitamin $B_6$*

John Marion Ellis, M.D., a pioneer in the use of vitamin $B_6$, pyridoxine, was able to demonstrate remarkable reduction in swelling of hands and fingers, improvement of coordination and flexion of fingers, improvment in their sensations, reduction in swollen feet, leg cramp improvement and other benefits.[46]

Dr. Ellis collaborated with the Institute of Biomedical Research at

the University of Texas, where laboratory data confirmed his clinical research.

*Water Treatment and Body Thirst Signals*

As a result of many years of clinical and scientific research, F. Batmanghelidj, M.D., who received his training at St. Mary's Hospital Medical School of London University, developed an elegantly simple explanation and hypotheses for prevention and cure of arthritic pains and many other common diseases.

Dr. Batmanghelidj holds that "The separation of low back pain from rheumatoid joint pains elsewhere in the body is inaccurate. The mechanisms of pain producing in these joint conditions seems to be the same. They denote the same physiological phenomenon in the body . . . For the one, one goes to a rheumatologist and for the other to an orthopedic surgeon or a chiropractor. The outcome is the same in both, pain management rather than its cure. Basically both conditions have the same pathology, except they are in different locations."[40]

According to Dr. Batmanghelidj, chronic recurring pain of the lower spine and joints of the hand and legs "is a signal of water deficiency in the area where the pain is felt."[40,41] A deficiency in water circulation prohibits the acidity and toxic substances to wash out from the affected area, and the pain is a cry from part of your body for more water.

Low back pain is composed of a muscle spasm and disc cartilage degeneration. The muscle spasm is very much like that described by Roger Wyburn-Mason, M.D., Ph.D., Dr. Paul K. Pybus, and Gus J. Prosch, Jr., M.D. as a reflex arc from the spinal column to the joint, which creates the tension in joints leading to insufficient cartilage nourishment. The degeneration of cartilage is a secondary effect of the lack of appropriate nourishment, in this case, water.

Cartilage consists of large components of water, and water is necessary in joints for padding, and to provide a smooth, frictionless gliding surface upon which joints can operate. Lack of sufficient water intake leads to prolonged dehydration in the cartilage, which creates friction and sheering stress at the joint's points of contact.

The joint environment is normally alkaline, but under dehydration, becomes acidic, and the acidity sensitizes nerve endings that will register pain. Lack of water at the joint cartilage not only decreases gliding ability, but sends out a signal of alarm -- pain, otherwise the cartilage would die and peel off from contact surfaces.

During the process of "shunting more circulation to the joint through its outer capsule, for its lubrication and repair process, pain is also

produced. This joint pain is an indicator of local dehydration and the inability of the joints to cope with the extra demands for its movement."[40]

Salt -- sodium chloride -- helps to wash out the acidity in the cells of joint cartilage, and such activity is a continuous process, and so, therefore, both water and salt are essential for treatment and reduction of joint pain, whether the pain has been labeled as Osteoarthritis, or Rheumatoid Arthritis.

When joint cartilage begins to decompose through high acidity and abrasive action, the body's ability to repair is accompanied by the secretion of powerful hormones to stimulate repair activity. According to Dr. Batmanghelidj, "Several things happen when these hormones are secreted.

1. The dying tissue is broken up from inside the cells and the broken fragments are extruded only to be ingested by the "garbage collectors" and to be recycled.

2. More blood circulation is brought to the area, even if it has to come to the nearest sites in the fibrous capsule covering the joint. It is the swelling and stretch in the joint capsule that causes stiffness and eventually added pain.

3. There is an associated protein breakdown and more amino acids are mobilized for the "pool" that may be needed for the repair of the damage.

4. In the inflammatory environment inside the joint, some white cells begin to manufacture hydrogen peroxide and ozone for two obvious purposes. One, to keep the joint space sterilized and prevent bacteria from infecting the joint cavity. Two, to supply with adequate oxygen to the cells that are engaged in the repair process and, because of their local isolation and the stagnant nature of the inflammatory exudates, have less of an access to the blood oxygen.

5. There is a local 'remodeling growth factor' that promotes the growth of tissue along the line of greater force.

6. Knowledge gained from its on-going experience by the brain is put to use for the rest of the body. The remodeling and 'fortification' of the other similarly structured joints will also be carried out. This seems to be the reason why rheumatoid joints of the hands will often show a mirror image inflammation and eventual deviation of the actual joints on both sides.[40]

Dr. Batmanghelidj reports that seventy-five percent of the weight on bearing surfaces of each joint vertebrae is held up by the hydraulic properties of the discs between them. When not drinking sufficient water

on a regular basis, the body mass squeezes the vertebral discs, they become less supportive, less easy to move, and, in their dehydrated condition, can shift so that they press on local nerves. "This pain is called sciatic pain and is far more serious than the local pain in the back. It means the spinal joint structure has become so disorganized that one of the discs that have to shock absorb for the spine -- 95% of cases the lowest lumbar disc . . . is now out of its normal position and is pressing on the nerve."[40]

When dehydration becomes more severe, facet joints, "four small vertically positioned joints, two on either side of the back of each vertebra," become weight-bearing, contrary to their design intent.

Osteoarthritis results when "cartilage in the joint dies, the bone to bone contact begins, be it in the back, the legs, or the hands. Whereas the cartilage cells had a water-given resilience and survived the trauma of movement against one another, the hardened bone surfaces produce an inflammatory process that destroys the bone surfaces. Thus Osteoarthritis of the joint will establish -- a second stage process to dehydration that first destroyed the cartilage surfaces."[40]

Dr. Batmanghelidj recommends at least two quarts of water daily. This daily intact does not include "caffeine-containing fluids and alcoholic beverages that further dehydrate the body."

"Water should be taken at regular intervals. Its intake should become a habit. One cannot rely on the thirst perception to recognize the urgency to drink water. As we grow older, we lose our thirst perception. . . . My rule of thumb: for every ten 8-ounce glasses of water one should add about 1/2-1/4 teaspoon of salt to the daily diet; if the food is already salty, the lesser amount. If the food is bland, the full measure. Frequent cramps in the leg muscles should be taken to mean salt shortage in the body.

"With the new information about the emergency calls of the body for water -- and the role of water and salt in the integrity of joint functions -- I can predict a virtual disappearance of back pain and rheumatoid joint pains as we enter the 21st Century."[40]

## Figures

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