"Dr. Nan de-mystifies bone health in her easy-to-read language, and reveals a clear path to better bones. This book is a life-changing resource that can help all women avoid the misconceptions surrounding calcium and bone loss. With this advice, you can successfully understand, prevent and manage osteoporosis."

— Janet Zand, O.M.D.

THE CALCIUM HOAX

Discover the whole truth behind the medical hoax that's crumbling the bones of America's women!

NAN KATHRYN FUCHS, PHD

THE CALCIUM HOAX

Readers are advised to consult with their own physician before implementing any health idea they read about, whether here or in any other publication.

Soundview Communication also publishes Nan Kathryn Fuchs' newsletter, ***Women's Health Letter***. To subscribe, or obtain information, please call or write:

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Forward

I've been writing for years about this popular nutrient that affects your heart and bones. There's been controversy about how much of it is safe and effective. This has caused a great deal of confusion.

Doctors are recommending far too much of it. And their patients — primarily women — are paying a huge price for this erroneous information. In many cases, this misinformation leads to heart disease, muscle cramps, arthritis, and osteoporosis. Yes, they're getting osteoporosis from taking a supplement that supposedly prevents osteoporosis!

Still, doctors and the media insist that they're right. I've worked for more than two decades to correct this misconception and people still don't "get it."

I'm talking, of course, about the calcium controversy.

The very first article I wrote for my newsletter 20 years ago was on this controversial subject.

Before that, in 1985, I hesitated to write about it in my first book, *The Nutrition Detective*. At that time, I was worried about being attacked for being a nutritional heretic. I ultimately decided to risk my reputation and write about what I had discovered to be true about calcium. Dozens of scientific studies and experts in the field left no doubt in my mind.

I had to tell the truth.

Today, I'm still asked about this subject more than any other. And I've watched this "new" information I've talked about for decades slowly become mainstream. In fact, many quality supplement companies reformulated their products after my book and articles became known.

But there's still a lot of work left to do. Too many women are still taking way too much calcium. I want to guide them toward vitamins, minerals, and diet changes that will truly keep their bones strong as they age. And everything you're going to read in this book has solid research, which I have followed for decades, to back it up.

This is such an important topic for women that I've put it all together in one place for you. Once you read it, the truth about calcium will make perfect sense — and you'll be able to make health decisions that can spare you from heart disease, arthritis, and even osteoporosis.

Your voice of reason in women's health,
Dr. Nan

Chapter 1:

Do You Have Signs of Bone Loss?

Do you know what the health status of your bones is right now? It used to be that doctors would offer a diagnosis of osteoporosis when an older person with brittle bones actually suffered a fracture. In recent years, however, the definition of osteoporosis has changed.

In 1991, a panel of medical experts, in a report that appeared in the *American Journal of Medicine,* redefined osteoporosis as: "A disease characterized by low bone mass and microarchitectural deterioration of bone tissue, which lead to increased bone fragility and a consequent increase in fracture risk."

In plain English, this new definition of osteoporosis simply means you have an increased risk of fracture, not that you had a fracture or will definitely get a fracture.

Your doctor will argue that it IS possible to diagnose osteoporosis in the early stages. And he has a test to prove it.

The Osteoporosis Drug and Bone Density Testing Scam!

Doctors' offices across the country now feature a breed of diagnostic machines. These machines measure your bone density and they sound like a good idea — especially if you're interested in preventing osteoporosis.

If you're old enough, you're virtually guaranteed that one of these machines will convince your doctor that you have, or are at dangerous risk of developing osteoporosis.

But watch out! The information they give is limited. Bones break when they're thin and fragile. Your bones may have thinned, yet still be strong.

Osteopenia is the normal slight thinning of bones that comes with aging. While many doctors think it's a precursor to osteoporosis, not everyone with osteopenia gets osteoporosis. "It was just meant to show a huge group who looked like they might be at risk," says an osteoporosis epidemiologist who helped define osteopenia back in 1992. It was never meant to identify a disease. What changed this? A drug company called Merck.

Merck released Fosamax in 1995. It was the first non-hormone drug said to stop osteoporosis. Fosamax was Merck's golden goose. The problem was, women weren't buying it. So Merck found some marketers to change this.

Their solution was to get more women diagnosed with osteoporosis by having bone scans. But scans were expensive and there were few testing centers. So Merck created a nonprofit organization called the Bone Measurement Institute with one sole employee: The marketer they hired to increase Fosamax sales.

He did this by funding the development of less expensive portable diagnostic machines rather than the large, expensive ones. The less expensive machines brought down the price of bone scans. One problem was that these portable machines measured bone density at the heel, wrist, forearm, or finger. Not at the hip or spine, where fractures are more likely to lead to death.

Meanwhile, Merck funded studies, leased bone scan machines to doctors, and convinced Medicare to reimburse for measuring scans. The scan helped increase sales of the drug, but apparently not enough for Merck. So they developed a low-dose Fosamax for women with osteopenia. And when women saw the word "osteopenia" on their bone scan reports, they believed they needed treatment. So did many of their clinicians.

Osteopenia Isn't a Disease!

Osteopenia doesn't increase your risk for broken bones. According to Dr. Susan Ott, associate professor of medicine at the University of Washington, Fosamax may increase your bone density, but it doesn't decrease the number of fractures. I've been saying this for years.

Also, some of these bone density machines are more accurate than others, though there are accuracy problems with all of them. In addition, many are inadequate for precisely monitoring your progress, including the results of any therapy you are using to prevent osteoporosis. Yet doctors persist in using these machines for this purpose as well. Urine tests, which measure the rate of bone breakdown as reflected in various markers, are also problematic. They can produce

day-to-day variations of up to 40 and even 50 percent. Unfortunately, there are no tests to measure bone flexibility vs. fragility. With imaging technology, we can determine flexibility to some degree. But we can't compare those to a fragility standard.

In addition, bone density is not always the same throughout your body. A high or low density reading in one area, such as the heel or lower spine, doesn't necessarily mean you have similar density elsewhere in more critical locations such as your wrist, hip, or upper spine, where fractures are most likely to occur.

Finally, to complicate matters even more, deposits of unabsorbed calcium — perhaps from arthritis — can result in an "over-read." This means the machine reports higher density than what actually exists.

The bottom line on test results is this: Don't make assumptions. Instead, get straightforward answers from your doctor about the accuracy and real meaning of any bone-density and bone-loss testing.

4 Little-Known Signs of Bone Loss You Should NEVER Ignore

Getting a bone scan isn't the only way to tell if you've already suffered bone loss. Your body could be trying to tell you by giving you one of these four often-overlooked clues:

Clue #1: Weak, brittle fingernails — Nails can tell a lot about the state of your health, including your bones. If your nails are soft and break easily, it could be a sign you're not getting enough trace minerals such as manganese and copper. These minerals play a crucial role in keeping your bones strong, in addition to your nails.

Clue #2: Decreased grip strength — In a recent study of postmenopausal women, hand grip strength was the most important factor related to overall bone mineral density. You can easily improve your handgrip strength by squeezing a rubber ball or foam device. Improving grip strength helps you prevent falls that cause fractures. You're less likely to lose your grip on handles and other items that keep you steady.

Clue #3: Receding gums — Your teeth are connected to your jaw bone. If your jaw is losing bone, your gums can recede. That's why the standard X-rays you get periodically when you visit the dentist may provide important clues into your bone health.

Clue #4: Muscle aches and bone pain – You may accept everyday aches and pains as simply part of getting older. But they can also be a sign your bones need extra support. For example, muscle and bone pain can be due to a vitamin D deficiency, which is crucial for keeping your bones strong.

If you notice any of these signs, it's important you act now to support the health of your bones. The good news is there are nutrients that can keep your bones dense and strong as you age, so you're less likely to suffer a debilitating fracture. But calcium isn't the nutrient you need. And drugs aren't the answer either.

So if your doctor is looking strictly at your bone scans, you might get "the talk" about osteopenia or osteoporosis … and drugs like Fosamax.

Osteopenia & The Osteoporosis Drugs: Bisphosphonates

Has your doctor said you have osteopenia? The first thing you can do is to stop worrying. It is just a sign of a *potential* problem. Get a vitamin D blood test to make sure your vitamin levels are between 50 and 80 ng/mL. Vitamin D will help protect your bones better and more safely than the new osteoporosis drugs like Fosamax.

This new family of drugs acts to decrease bone loss by preventing bone resorption. These drugs, called bisphosphonates, are mineral compounds whose structures have been altered to act selectively on bone. Two popular bisphosphonate drugs go by the trade names Etidronate and Fosamax.

In fact, bisphosphonates, such as Fosamax, can be more harmful than helpful. In some cases, bisphosphonates cause the jaw and other bones to become brittle and die. Over the past few years, I've seen more evidence that while Fosamax may increase bone density, it is more destructive than beneficial.

In a double blind placebo-controlled study, researchers looked at Etidronate therapy in 135 postmenopausal women without osteoporosis. At the end of seven to 10 years, women taking the drug showed a 3.42% increase in lumbar spine bone mineral density, compared to a .38% decrease among the placebo group.

What about Fosamax? It works, but at too high a cost. In fact, I consider Fosamax and other bisphosphonates to be among the most dangerous drugs you can take.

The Dangers of Fosamax

Current advice from the manufacturer, Merck, is that patients with low levels of calcium

in their blood, severe kidney disease, or who are pregnant or nursing should not take Fosamax. The manufacturer also urges that caution be used when Fosamax is given to patients with active upper gastrointestinal problems. Apparently Fosamax can irritate such problems.

The most commonly reported drug-related side effects in patients taking this drug are musculoskeletal and abdominal pain, and other digestive disturbances such as nausea, heartburn, and irritation or pain of the esophagus.

The severity of the digestive disturbances should not be underestimated. Fosamax users frequently complain of horrible burning that wasn't helped by either Tums or Maalox. The manufacturer is very aware of this.

According to Dr. Susan Ott, associate professor of medicine at the University of Washington, Fosamax may increase your bone density, but it doesn't decrease the number of fractures. I've been saying this for years.

But that's not all.

We have no long-term studies to tell us what happens to women who start taking Fosamax in their 50s and 60s for osteopenia. Do they prevent fractures later on? No one knows, and I couldn't find any studies planned to find out.

The news keeps getting worse. In the largest study of its kind, Canadian researchers at the University of British Columbia found that these osteoporosis drugs, bisphosphonates, nearly triple your risk of getting a painful, debilitating disease called bone necrosis.

Bone necrosis is a condition that leads to a permanent loss of blood supply to bone tissues. Without enough blood, the bones die and collapse. And once bone tissue dies, there's nothing you can do to restore it.

You've no doubt heard of this danger before when Fosamax was found to cause osteonecrosis of the jaw. Because of this, dentists across the country are refusing to treat patients who have been taking bisphosphonates.

Now we're finding it's not just the jawbone that can die. Fosamax, Actonel, Boniva, and all other bisphosphonates can cause death of bone tissues in shoulders, knees, and hips.

Originally, we were told that jawbone necrosis affected only 1 in 20,000 people a year. Now these researchers are saying bisphosphonates may cause triple that amount in bones throughout the body. For the 190 million prescriptions that have already been written this translates to 5.7 million people at risk every year for pain from bone death!

And Yet More Dangers…

Now there's a new study that was presented at a recent medical conference of the American College of Chest Physicians. It concluded that bisphosphonates increase a woman's risk for atrial fibrillation.

So, not only are these drugs bad for your bones, they're bad for your heart.

This study followed more than 16,000 older women on bisphosphonates, as well as a control group. Women who took the drugs were more likely to have atrial fibrillation, a condition that includes lightheadedness, heart palpitations, and chest pain. These women were also twice as likely to have serious irregular heartbeats leading to hospitalization and death.

You should also be aware of how these drugs work — by inhibiting bone resorption. This process, in which calcium moves into and out of the bones to other parts of the body, helps maintain healthy levels of calcium elsewhere throughout the body for important functions, including nerve cell communication, contraction of muscle cells, blood-clotting efficiency, enzyme function, and production of certain proteins.

If calcium is not allowed to move around freely in its normal manner, will any of these functions be adversely affected? We don't know for sure. We need more long-term studies to provide an answer.

The fact that patients with low levels of calcium in their blood are presently advised not to take Fosamax might be an early clue to a yes answer. In view of these concerns, taking bisphosphonates to prevent osteoporosis is a much riskier proposition than doctors and drug companies are letting on.

In my professional opinion, no one should take any bisphosphonates — ever. Many dentists who are seeing more jawbone necrosis would agree.

One Final Note: Osteoporosis of the Jaw and Dementia

These two conditions are seemingly unrelated, but scientists have recently found a link. The common denominator was inflammation and a buildup of plaque. Their findings may change the way you care for your teeth.

By modifying your dental regime now, you could protect yourself from osteoporosis in your jaw and stave off dementia at the same time.

Plaque is a mixture of bacteria, bacterial waste, and food particles that feed the bacteria. If

your dentist doesn't remove it, the plaque triggers an inflammatory response that can erode the socket that anchors a tooth in place. In other words, plaque can lead to tooth loss. This is the same process that weakens other bones in osteoporosis, like the jawbone.

The journal *Menopause* recently published a study of postmenopausal women. In this study, the researchers found that women who were at risk for osteoporosis were also at risk for periodontal disease. All of the women in this study had increased levels of dental plaque. This was in spite of the fact that all of them brushed twice a day, flossed, and had at least two cleanings a year with their dentist. We're finding that two cleanings a year are often not enough to control plaque.

This increased plaque could put you at risk for loss of bone density in your jaw. And lead to dementia. It's not what you think. There's no doubt that all of us should be brushing, flossing, and using interdental picks or brushes twice a day. This is the standard way to prevent the buildup of plaque on our teeth and to stimulate healthy gums.

We should see our dentists for cleanings and to take care of any infections or other problems as they arise. This should be enough to support our overall health, since studies have connected heart disease, stroke, diabetes, and lung disease to poor oral health and a buildup of plaque.

But it's not enough if you only get one or two cleanings a year. Postmenopausal women need much more, say researchers at the Case Western Reserve University School of Dental Medicine and the Cleveland Clinic. In fact, we may need deep cleanings as much as four times a year. That's what I have done most of my life, and I can tell you plaque control is an uphill battle but worth the fight.

It's time to talk with your dentist about how controlling plaque, infections, and inflammation can affect your heart, bones, and memory. Ask how often you need professional cleanings and put aside the time and money for them.

So if extra calcium and drugs aren't the answer to keeping your bones healthy, what is? Before I answer that question, you have to know why some people develop osteoporosis and others don't.

Chapter 2:

Why Do Some of Us Develop Osteoporosis?

If you listened to the general media talk around the subject, you'd believe that just taking more calcium will prevent osteoporosis.

Not so. While calcium metabolism is important, you're going to find out in this book that calcium supplements are not the cure-all for osteoporosis. And they can cause other serious health problems. As for osteoporosis, the major risk appears to be genetic, not how much calcium you take.

Different genes are necessary for bone mineral density, including some that regulate the activity of bone cells, and others that regulate your body's balance of calcium, vitamin D, and other minerals.

If you have a family history of osteoporosis, the good news is that you can overcome your genetic predisposition. But you may have to work harder to prevent or slow down your own loss of bone minerals. In this case, having a health professional evaluate you for good digestion (you need enough hydrochloric acid in your stomach to break down and use calcium), dietary mineral balance, stress reduction, and exercise.

If your family has a low incidence of osteoporosis, this doesn't give you license to eat poorly, ignore your mineral balance, and not exercise. Certain people may have a greater or lesser tendency for osteoporosis than others, but this is only a tendency.

Frailty is a huge factor of aging. By age 70, most people have at least 20 percent less muscle than they did at age 30. About 70 percent of elderly women are too frail to lift just 10 pounds, and 60 percent cannot perform such household work as vacuuming. About 35% of men are equally frail.

The good news, though, is that you're not destined to become frail. And if you're already so frail you can't do the things you really enjoy, there's even more good news — frailty doesn't have to be part of your life. In fact, studies have found that even 90-year-olds can rebuild lost muscle and bone structure with some careful exercise.

Sizing Up Your Osteoporosis Risk Factors

In the future, health-care providers may have a test to determine who is genetically at risk for developing osteoporosis. Recently, Australian researchers discovered that women with two copies of the variant of the gene for the body's vitamin D receptors reached a "fracture threshold" eight years earlier than women with two copies of the normal gene.

Until the test is developed, we must rely on other signals of osteoporosis risk. Those include:

• **Loss of estrogen**. Women are most vulnerable to osteoporosis when they go through menopause, whether it occurs naturally or is surgically induced. During these years, the body is changing the way it makes estrogen and as the amount of estrogen produced declines, bone loss increases significantly. This is particularly true in the first five to seven years after menopause when we can lose from two to five percent of bone mass each year. After that the annual rate of loss slows to about one percent.

• **Cessation of menstrual periods.** Hormone imbalance, often characterized by lack of menstrual periods, may also contribute to bone loss. High-performance athletes are at risk. One study found that 40 percent of competitive women skaters do not have a menstrual period. Many young women who diet excessively or suffer from anorexia are at similar risk.

• **Smoking and alcohol**. Researchers have found strong links between smoking and reductions in bone mass, resulting in a deficit of five to 10 percent in some cases. Because it decreases levels of calcium and vitamin D in the body, moderate to heavy alcohol use — more than two glasses a day — can also reduce bone mass.

• **Immobility.** Use it or lose it. People who are bedridden or in a cast for any length of time show evidence of bone loss from lack of use. An example of this is the astronauts who spend time in a weightless environment and get osteoporosis from their time in space. Women who exercise too little lose bone strength as well, placing them

at greater risk for osteoporosis-related fractures.

• **Ethnicity and body type**. Caucasian women are more likely to develop osteoporosis than members of other ethnic groups. Although studies show that fewer African-American and Hispanic women experience bone loss, they are still at risk and should take the same preventive measures. Thin, petite women are also more vulnerable. Although heavier women produce more estrogen and are thus better protected against osteoporosis than thin women, they also need to take their risk for the disorder seriously.

• **Medications.** Some medications given for other disorders may cause osteoporosis. The most common are glucocorticoids (steroid medicines), generally prescribed for diseases such as arthritis, asthma, and ulcerative colitis. As research progresses, we are learning that other medications, such as high doses of thyroid hormone, may also increase bone loss. Ask your pharmacist or health-care provider if any of your medications fall in this category and what, if anything, you can take other than bisphosphonates.

• **High Cholesterol**. Researchers at UCLA (University of California, Los Angeles) found an association between high cholesterol and bone density. They knew that people with osteoporosis had elevated cholesterol and more clogged arteries. And they also knew that drugs used to lower cholesterol also reduced bone fractures. What these researchers discovered was why.

It had to do with high levels of oxidized cholesterol (known as LDL).

The researchers cultured healthy immune cells (T cells) with normal or oxidized LDL cells and stimulated half of the T cells to mimic an immune response. They left the other half of the T cells alone. All of the T cells made cells with one purpose: to stimulate cells that destroy bone. High oxidized LDL does more than increase your risk for heart disease. It increases your risk for bone loss as well.

So, if you have high LDL cholesterol, it's time to lower it — and your risk for two of the most common and serious illnesses for women. Begin by cleaning up your diet. Fruits and vegetables contain antioxidants that neutralize oxidized LDL.

• **Asthma**. Is there a connection between osteoporosis and asthma? There may be if you use inhalers with steroids, says a study published in *The Lancet*. Investigators studied 200 women from the ages of 20 to 40 who used steroid-based inhalers for an average of six years. The participants had mild asthma.

Researchers estimated that the most rapid bone loss occurred in the first one to two years of using steroid inhalers. In fact, bone loss was five times greater than someone smoking a pack of cigarettes daily for 10 years!

While the amount of bone lost was small, this preliminary study is saying that someone using 200 mcg of steroids in their inhaler for one year will have minimal bone loss. Someone using 2,000 mcg of steroids a day for seven years would have measurable bone loss (1 ST, or standard deviation). Over a period of decades, the use of high doses of steroids could impact bone density. If you're using inhalers, you may want to check with your doctor to see how much you're taking and how much you really need.

Be aware that at times asthma may originate from emotional disturbances or from food sensitivities. Foods containing histamines (wine, beer, cheeses, fish, and pickled cabbage) can cause asthmatic incidents.

Try identifying the food or foods that trigger your symptoms. One study, reported by Melvyn R. Werbach, MD, in his database, Nutritional Influences on Illness, found that nearly 60 percent of the patients with food intolerances and asthma had considerable improvement after just one month of eliminating these foods. Explore every possible cause of your asthma that you can. Finding the cause could help you get away from steroids all together some time in the future and help preserve your bones.

Don't, however, stop using any medication without first consulting your physician.

Chapter 3:

Cut Your Risk of Hip Fractures And Say "NO" to the Nursing Home!

Let's face it. Broken bones aren't just hip fractures. In fact, hip fractures, which affect 17.5% of North American women over 50, and 6% of similarly-aged North American men, are not only inconvenient; they also kill, disable, and substantially increase medical costs.

The older you get, the higher your risk of suffering a serious fracture. People age 85 and older are 10 to 15 times more likely to fracture a hip than those ages 60 to 65. In fact, according to the U.S. Preventative Services Task Force, at least 15% of all women who live to be 85 will break a hip.

Most patients with hip fractures are hospitalized for at least one week, and up to 25% remain in a hospital or nursing home for at least a year. Sadly, about 1-in-5 hip fracture patients die within a year of their injury.

At least half of those who survive are less able to perform activities of daily living for at least a year. In other words, these fractures — usually the result of osteoporosis — carry a high price. To avoid paying that price, we all need to take action to prevent hip fractures.

But how?

Are You at Risk for Hip Fracture?

A study reported in the *New England Journal of Medicine* sheds some light on the subject. The study examined potential risk factors for hip fracture in 9,516 women 65 or older, confirming previously discovered factors, identifying several new ones, and disproving others.

This information can be used to identify people at risk for hip fracture, inform them of that risk and help them reduce it. It can also be used to help people in general reduce their risk of fracturing a hip.

According to the study, the risk factors for hip fracture include:

Maternal history: Women whose mothers had a hip fracture had twice the risk of having a hip fracture than women whose mothers did not. The risk increased to 2.7 percent if the mother fractured her hip before age 80.

Lack of weight-bearing exercise: Women who spent four hours per day or less on their feet had twice the risk of women who spent more than four hours per day on their feet. And women who walked regularly for exercise had a 30 percent lower risk of hip fracture than those who did not walk regularly. And their risk decreased as the distance they walked increased.

Caffeine intake: As caffeine intake increased, so did the risk of hip fracture.

Other factors found to increase risk for hip fractures are:

- A history of hyperthyroidism.
- Use of long-acting benzodiazepines (tranquilizers) or anticonvulsant drugs.
- Poor depth perception.
- Poor contrast sensitivity (ability to distinguish visual contrast).
- A fast resting pulse.
- The inability to rise from a chair without using one's arms.
- A history of fractures after age 50.

Women with multiple risk factors — which may reduce bone density or increase the risk of falls and those with low bone density itself — are at high risk of fracturing a hip. They should focus on preventive efforts, researchers stated. That includes walking for exercise (or spending four hours a day on their feet).

Factors that DID NOT increase hip fracture risk: hair color, ethnic ancestry, a maternal history of fractures other than hip fractures, the timing of menopause, past smoking status, cataracts, the use of short-acting benzodiazepines, and a low dietary intake of calcium.

Your Hip Fracture Risk-Reduction Checklist

- Increase your level of physical activity.
- Walk for exercise.

- Spend at least four hours a day on your feet.
- Engage in exercise that may improve your coordination and balance, like yoga, and free weights.
- Decrease your caffeine intake to one or two cups a day.
- Avoid long-acting sedative or hypnotic drugs.
- Quit smoking.
- Get regular eye exams and treat visual problems.
- Secure loose rugs, electrical wires, and other falling hazards.
- Use light-colored carpet, paint, or other finish on stairs to increase depth perception visibility.
- At night, use a small flashlight to light up your path from bed to bathroom.
- Install grab bars, stair rails, and other structures that can help prevent falls in your shower, tub, and by stairs.

Make Balance a Top Priority

One of the most critical considerations for such persons is balance. After all, the better your balance, the less likely you are to fall and, in turn, suffer a fracture. Other key factors that affect balance and the risk of falling are strength, mental alertness, and vision.

A general fitness and exercise program can work wonders for balance and strength, which are closely related. Increased strength can improve balance. And practically everyone can increase his or her strength and overall fitness. Even assisted-care settings often offer physical fitness programs.

Limited-ability fitness classes and video exercise tapes can also be helpful.

The bottom line here is that fitness improvements can help a person avoid a fall, and even speed recovery if a fracture does occur (the better your health, the faster you heal).

An exercise program can also improve mental alertness, by improving circulation, metabolism, oxygen to the brain, etc. Many medications, on the other hand, have side effects that dull alertness.

Work with your doctor to possibly eliminate or reduce dosages of any medication that has this effect. Also look into doing the same with other medications that might make you feel dizzy, weak, cause blurred vision, or any other side effect that might impair your ability to walk.

To maximize vision, get your eyes checked regularly and update glasses prescriptions as needed. When you get a new pair of glasses, take it extra easy until you get used to the new lenses. If glasses are interfering with your depth perception as you walk, work with your ophthalmologist or optician to get the problem resolved. And if your depth perception is better without your glasses, remember to remove them when walking on uneven surfaces or going up or down steps.

Fall-Proof Yourself…

There are also a number of ways, beyond fitness improvements, to fall-proof yourself. For starters, wear shoes with soles that have a good, gripping tread.

If you're already frail and unstable, use a cane or walker at all times. A surprising number of seniors are reluctant to do so. Yes, walking aids can be bothersome, but a severe hip fracture can be life threatening, and the worse your health, the more so.

Last, don't leave home without reminding yourself to be extra careful every step of the way in unfamiliar places — especially on steps and stairs, and when getting into and out of cars, buses, trains, and planes.

A patient of mine recently fell and broke her hip while getting off an airplane. According to the airlines, such a scenario isn't all that uncommon.

If you're on a long trip, take periodic brief walks if possible or do some in-seat exercises to make sure your legs are warmed up and ready to walk when it's time. Then proceed slowly with extra care and caution. Finally, don't hesitate to ask for wheelchair or other assistance. After all, everyone wants you to have a safe trip.

Fall-Proof Your Home

Just as important as fall-proofing yourself is fall-proofing your home, by making changes that would decrease your risk of falling. Make sure walking surfaces (inside and out) are level, and carpets and rugs are secured in their place. All steps and stairwells should be well lit, plus have side rails to hold onto when ascending and descending.

Outside steps and smooth walkways that get wet may need abrasive strips to provide more secure footing. The path from your bed to the bathroom should be well lit and free of clutter and other objects on which you might trip.

In addition, consider using handicap aids in

your bathroom. These can include raised toilet seats, sturdy grab-bars beside the toilet, and in all bath and shower stalls. Stall and bathtub bottoms should also have adhesive stripping or a large, top quality bath mat. Also consider using a chair or stool in the bath and shower and at the sink.

It's Never Too Late!

A six-month study of two dozen women over the age of 75 (the average age was 79), reports that exercising an hour a day twice a week can improve balance, other muscle coordination, and muscle strength. The exercise included warm-up, light aerobics, and calisthenics.

Loss of balance as we age is one of the most predictive risks for falls and broken bones. While more frequent exercise could improve your heart, preventing falls and broken hips ranks high on our "to do" list. Consider starting before you're 75! Join a gym with a friend if you're not disciplined, or buy a videotape or two for bi-weekly workouts.

If exercise hasn't been a big part of your life, and you're over the age of 75, it's quite possible you've become frail. If so, there are some things you need to consider before you begin exercising. And, there are some very easy exercises you can do without getting out of your chair that can work miracles. I'll tell you all about it in the next chapter.

Chapter 4:

What Determines Frailty — And How Can You Overcome It

The three main factors related to frailty are loss of muscle, bone, and balance. (Other factors, such as ligament and cartilage damage, also contribute, but not to the same degree.) While most people are aware that muscles are strengthened by exercise, few people realize that bones are also strengthened by exercise.

Bones are tissues that can grow or shrink, depending on how well you take care of them. If you've ever broken a bone, you've seen firsthand how bone tissue grows to heal the fracture. In order for your muscles to grow in strength and help you keep your balance, you have to subject them to a certain degree of stress.

Your bones are no different. The difference comes in the type of stress each responds to. While your muscles respond to contractile stress, your bones must undergo bending, compression, and twisting to experience stress. As with muscles, you can overdo the stress on your bones, which is when you suffer breaks and stress fractures.

On the other extreme, if your bones and muscles don't undergo at least a minimal amount of stress on a regular basis, they begin to atrophy. The adage "use it or lose it" definitely applies here.

The degree of stress your bones and muscles must experience in order to grow is called the minimal essential strain. This is the point that if surpassed often enough will cause the bone or muscle to call in help to deal with the stress. This help comes in the form of osteoblasts, which migrate to the area being stressed and help build more muscle and bone tissue.

As we age, our muscles and joints tighten, arthritis often sets in, and years of neglecting our body begins to take its toll. The exercise we know we need gets harder and harder to do, so a sedentary lifestyle sets in (or continues).

Let's face it, very few of us enjoy getting out of our comfort zones, especially when it hurts.

But that inactivity is a prime cause of frailty. In this chapter, we're going to look at the absolute best way to prevent and treat frailty. While we all wish preventing osteoporosis and frailty was as easy as taking a calcium supplement, it's not. There's a lot more to it. That's not to say supplements won't help. In fact, you need more than just calcium — and I'll tell you all about them later in this book. But first we need to look at exercise.

The Exercise Prescription for Prevention

Many years ago, I changed the adage "You are what you eat" to "You are what you eat and absorb." My main focus in changing this adage was directed at women and their calcium consumption.

Well, I want to change this adage one more time. Today, I'm changing this adage to "You are what you eat, absorb, and do."

Why You Need to "Just Do It"

It's no surprise that our bones benefit from exercise. But study after study is showing just how deeply exercise really affects our bones – right down to our DNA.

Young women reap the greatest benefit, since they can build bone mass up until their 30s. After that, exercise is critical to maintaining bone mass or slowing the rate of loss.

Exercise that forces the body to work against gravity (weight-bearing exercise) like jogging, walking, aerobics, dancing, and team sports, strengthens the skeletal system. Non-weight-bearing activities like cycling and swimming do not strengthen bone, but are important for cardiovascular health.

As we age, we lose muscle mass as well as bone. Weight training can improve muscle strength and tone, which contributes to bone health as well. There have been studies in the past that suggested heavier women have greater bone density than thinner women. A more recent study, however, now suggests it's not a person's weight, but the amount of muscle, that is the determining factor.

A group of nearly 250 healthy pre-

menopausal women had their bone density examined. Those who had the highest amount of both fat and muscle had the densest bones. Those with flabby muscles had low bone density — whether they were heavy or thin.

While it's possible to say that bones that are dense before menopause will continue to remain strong and healthy after menopause, this study strongly suggests that weight alone will not protect you against osteoporosis.

All women, whether heavy or light, young or old, should increase their muscle mass through regular weight-resistance exercise.

Exercise Supercharges Your Bones' Calcium Absorption

A new study in the journal *Cell Metabolism* suggests exercise is a critical component of bone health. The researchers who wrote the report discovered that you can dramatically change your DNA for the better simply by "doing."

In other words, they found that your DNA changes structurally and chemically when you exercise. And, if you've been inactive, the change can be significant. While the change doesn't alter your genetic makeup, it does alter the health of your muscles.

For years, science thought that a lack of exercise just caused your muscles to atrophy (become smaller). They didn't realize that it actually causes the health of your muscles to decline. Here's what happens.

The lead author of the study says exercise induces "changes in muscle, including increased metabolism of sugar and fat. Our discovery is that the methylation change comes first."

Methylation is the alteration of the DNA. So exercise causes this change in your DNA. Then something amazing happens to your muscles. The change opens up the cells in your muscles. When these cells open up, two things happen. First, important enzymes enter into your muscle cells, improving their health. Second, your muscles release calcium! This calcium then becomes available to your bones.

In fact, I suspect exercise actually causes the muscles to push the calcium into the bones. While there isn't any direct proof of this, we know exercise builds bones. And it has to get the material (i.e., calcium) to build from somewhere. Since this study proves exercise causes muscles to release calcium, and it causes bones to flex (opening up bone cells), it creates the perfect opportunity for calcium to transfer from your muscles into your bones.

So if you want to protect your bones, your muscles, and your overall health, you have to exercise. It doesn't have to be hard jogging. You just have to move. The more you move the better. Just don't sit down all day. Remember, you are what you eat, absorb, and do!

You don't have to train like an athlete — in fact, it's better if you don't. A good guideline is 30 to 60 minutes of exercise three or four times a week. Impossible? Even three 10-minute walks over the course of a day help.

One study that appeared in the *New England Journal of Medicine* compared mobility and strength of 100 nursing home residents between the ages of 72 and 98. Half the seniors participated in a 10-week weight resistance training program.

At the end of this short time, their muscle strength had increased by an average of 113 percent, compared to the non-exercisers. Significant improvement in mobility was also seen, which made these seniors less prone to bone-breaking falls — a very significant achievement in view of the fact that 80 is the average age of persons suffering hip fractures.

One interesting side note: If you're bedridden or can't exercise for some reason, you can still help your muscles release calcium simply by drinking caffeinated beverages. While it's not as effective as exercise, caffeine has the same calcium-releasing effect on your muscles and calcium. The most healthful caffeinated beverage you can drink for this is green tea. And if it's just your legs that keep you from walking, then make sure you exercise your arms. Every little bit helps.

Before You Start: Are You Frail?

By now, you're hopefully as convinced as I am of the necessity to exercise regularly.

But before you begin an exercise routine, you need to find out what kind of condition you're in right now. This helps you determine what type of exercise you can begin with and it sets a standard you can use to see how you're improving.

To help you in this process, researchers have come up with a way to check your "frailness factor." Roberta Rikli, PhD, a professor at California State University, Fullerton, led a study of 7,000 Americans ages 60 to 94 that established a set of tests to help you determine your fitness standards.

That's an impressive number of subjects and lends credence to the project.

If the tests signal you're at risk of becoming too frail, "we can do something to try to prevent

that," Dr. Rikli said. The exercise tests are simple enough that many people could try them at home, but it's best to do the exercises with a doctor, so you won't be tempted to overdo it.

Rikli and her colleague C. Jessie Jones devised the following simple tests:

- How many times in 30 seconds can you rise from a straight-backed chair without using your arms to push yourself up? This measures lower body strength.
- How many times in 30 seconds can you lift a weight — five pounds for women, eight pounds for men — in a "biceps curl"? This measures upper body strength.
- How many yards can you walk in six minutes, to measure aerobic fitness?
- How long does it take you to rise from a chair, walk eight feet, and return to a seated position to measure mobility?

Rikli found that fitness declined with age, on average, one percent a year. Regardless of age, people who got moderate physical activity at least three times a week were the most fit. "Our main interest is in keeping people mobile and staying physically independent as long as possible," said Rikli.

Some doctors already use similar but experimental tests to assess elderly patients' limitations. "They're very powerful predictors" of who will wind up disabled, said Dr. Jack Guralnik of the National Institute on Aging.

Getting Started With Resistance Exercises

Once you've done the simple tests above, it's time to start "stressing" your muscles and bones and re-test yourself. This will help strengthen your muscles, improve your balance, and help build bone density. Simply speaking, it can reduce frailty.

It's extremely important that you start out slowly and not hurt yourself while you're trying to improve your condition. Most exercise regimes I've seen are lengthy and difficult to do if you have any chronic pain — and most of us do, at least at times.

We need an exercise program we can keep doing even when we have a sore shoulder, pains in our knees, and an achy back. That's why I personally like the idea of specific resistance training.

Chapter 5:

The Calcium Hoax

I hear it every day from my patients and readers. They go to see the doctor, who tells them they're showing signs of bone loss. Then the doctor asks them how much calcium they're taking. If they're not taking at least 1,000 mg of calcium, the doctor will look at them in astonishment and then give them the first degree about the big mistake they're making. Their bones are at risk!

Chances are you've found yourself in a similar situation, or you worry you may be at risk of bone loss. If so, here's what your doctor isn't telling you.…

Those massive doses of calcium your doctor wants you to take could be the exact opposite of what you need. In fact, by taking as much as your doctor recommends, often 1,500 mg of supplemental calcium a day, you risk a number of health problems. And, you can even increase your risk of brittle bones. That's right, you can increase your risk of osteoporosis by taking too much calcium!

The truth is, you don't have to feel powerless about taking charge of your bone health so you can enjoy the active, independent future you deserve.…

And you don't have to worry about ending up in a wheelchair or nursing home, or becoming a burden to your family.…

That's because what you're not hearing from your doctor are the three most important secrets to help you build stronger bones naturally … and restore your bone density to where it was when you were years younger.

Keep reading, and I will reveal each of these secrets – and explain how they can help you strengthen your bones and cut your risk of a debilitating fracture by half or more.

Mainstream Media Fuels the Hoax

Since the 1950s, the medical profession has told American women that increasing the amount of calcium in their diets can greatly reduce their risk of osteoporosis. This brittle-bone disease is a leading cause of death among older women.

In turn, advertisers and the media have emphasized the importance of this one mineral over all others — suggesting that calcium is enough to prevent bone loss. As a result, sales of calcium supplements have skyrocketed and the consumption of dairy products has soared as well.

Still, a number of health problems that are the result of calcium-related imbalances, including premenstrual syndrome, arthritis, heart disease, and osteoporosis, continue to escalate.

Why?

We all need calcium for a variety of bodily functions, including good colon health and building strong bones. You need enough calcium in balance with other key nutrients. But you don't need too much calcium.

Doctors often say you should take 1,200 to 1,500 milligrams of calcium daily. Yet studies show this is much more than you need. Most women's diets contain plenty of calcium – even if you don't eat or drink dairy products.

In fact, the results of a groundbreaking study published in the *British Journal of Nutrition* raises the question whether you need to take calcium supplements at all!

Researchers compared past studies on calcium fractures from 1966 to 1999. They found NO association between the amount of calcium women took and their risk of hip fractures. That's right, NONE!

What's more, a recent study published in the *Journal of Bon*e and *Mineral Research* found that women don't need more than 566 mg of dietary calcium a day. That's equivalent to what you might get in a bowl of cereal, a serving of tofu, or salmon with broccoli on the side.

And, if you regularly eat yogurt or drink milk or calcium-fortified orange juice, you're getting much more than 566 mg of dietary calcium daily.

That's why I often tell my patients and readers not to bother taking calcium supplements. If they don't think they're getting enough calcium from their diets, I tell them to take 500 mg a day — at most.

High Calcium Intake Can Hurt Your Bones!

Taking more than 500 mg per day may be detrimental to your bone health, according to

recent studies. And it's no wonder.

Your body simply cannot absorb large amounts of calcium at one time. The more calcium you ingest at any given time, the smaller the percentage of calcium your body actually absorbs.

If we adapt to a low-calcium diet, we actually excrete less of it in our urine and increase our absorption, research shows. Yes, you read that correctly. **A low-calcium diet is more beneficial to our bones than a high-calcium diet.**

What's more, in 1988 the National Women's Health Network made a startling announcement. They said that women who lived in countries where calcium intake was low had less osteoporosis than women in this country who are on a high-calcium diet.

And indeed, a great number of studies support the idea that lowered calcium intake may benefit American women as well.

A Dutch study published in 1960 was one of the first to caution that excessive calcium could result in soft-tissue calcification, or arthritis – and it showed that one possible nutrient can help counteract this effect. I'll tell you what it is later in this book.

The Truth About Brittle Bone Disease

All this talk about calcium has a huge audience – all of them fearful (rightly so) about falling when they're old and breaking a hip.

Some 25 million Americans, 80% of them older women, suffer from osteoporosis, or "brittle bone" disease. Unfortunately, most women find out they have osteoporosis when it's too late — usually after a fracture of the wrist, hip or spine, loss of height, or curvature of the spine has occurred.

Like high blood pressure, osteoporosis is a silent, underlying condition, usually symptomless, with potentially devastating consequences. All of us lose some bone as we age, but people with osteoporosis lose an excessive amount. Their bones become fragile and brittle, and their skeleton is weakened to the point where even a minor fall can result in a fracture.

Osteoporosis leads to some 1.5 million spine, hip, and wrist fractures in the U.S. each year. Of those, about 40% are spinal, 25% are hip, and 15% are wrist. Spinal fractures will affect one out of every three women in their lifetime, while wrist and hip fractures will happen to one out of six.

Osteoporosis is like high blood pressure in another way, too. In many cases, you can prevent and treat it with a combination of lifestyle, dietary, and therapeutic approaches.

Osteoporosis-related fractures can affect any bone in the body. But it is particularly critical to do everything possible to prevent hip fractures because they can lead to loss of function and independence.

A woman's frequency of hip fracture — three times that of a man's — is more serious than most of us realize. One hip fracture alone can total more than $30,000 in direct medical costs. Half of those affected lose the ability to walk independently, and up to a third become totally dependent.

Indeed, a hip fracture is even life-threatening. Studies have shown that within one year, up to 20% of hip-fracture patients die from conditions related to the fracture or to fracture-related surgery.

It is critical that people – especially women – get a true picture of this risk. We've got to take the focus OFF calcium, and take a deeper look at what causes osteoporosis. In recent years, science has revealed much about our bones, and how we can keep them strong. I'll show you how in this book. But first, let's look at how calcium increases your risk for various diseases.

When Calcium Boosts Your Heart Attack Risk

Several years ago, researchers from New Zealand found that taking calcium supplements can significantly increase your risk of having a heart attack. I've been telling this to my patients and readers for decades. For some reason, doctors still scare many into taking 1,500 mg of calcium a day. But these researchers confirmed what I've said — taking more isn't better. It's worse.

In fact, those who take calcium supplements at these levels were 86% more likely to have a heart attack compared to those who don't. What's more, if you rely on supplements for your daily calcium intake, you're 139% more likely to have a heart attack.

They found that those participants who took a moderate amount of calcium (820 mg/day) from all sources had the lowest risk of heart attack. They were 31% less likely to have an attack than those who took much less. What's more, those who took much more (over 1,100 mg/day) had the same level of protection as those in the lowest intake group.

In other words, women who took a moderate amount of calcium were significantly less likely to have a heart attack than those with low

or high intake. That's why you shouldn't take more than 500 mg of supplemental calcium. Taking more than this can increase your risk of osteoporosis, heart attacks, and…

Arthritis Is Increasing in Women

More women than men have arthritis, and the number of people in this country with arthritis is on the rise. By the year 2020, the Centers for Disease Control and Prevention estimates that 60 million people will suffer from this disease. The reasons for the expected 40 percent increase appear to be an aging population (the older you get, the more likely you are to get arthritis and other illnesses), poor nutrition, lack of exercise, and obesity.

What's missing here? What's not being seen or addressed? We need to begin by looking at why more women than men get arthritis. Could it have anything to do with taking excessive amounts of calcium?

In my opinion, many women are giving themselves arthritis and clogged arteries through their diets and supplements, primarily calcium.

This is another reason you should consider paring down your calcium intake. This can go a long way in preventing arthritis.

But there's more. In addition to arthritis, heart disease, and osteoporosis, excess calcium contributes to kidney stones.

Does Calcium Increase Your Risk for Kidney Stones?

If you've ever had a kidney stone that was too large to pass, you know that it causes a pain you don't want to experience ever again. Recently, a neighbor asked me what a friend could do to avoid getting more kidney stones. I decided to take a close look at this painful condition and see what she could do besides drinking more water — her doctor's only suggestion.

Kidney stones are crystals formed in the urinary tract when chemicals in the urine don't dissolve as they should. They may be made from a variety of chemicals, but the most common kidney stones are made from calcium with either oxalate or phosphate.

Many kidney stones are tiny and easily pass through the body in urine. But some grow large enough to get stuck in the ureters, the tubes that go from the kidneys to the bladder.

If you've ever had kidney stones that were too large to pass out of your body in your urine, you know they can cause some of the most extreme pain you could ever imagine. And once you get one stone, you're at risk for getting others. There's a genetic component to the formation of kidney stones, but this doesn't mean you're doomed to get them if you have this gene. There are steps you can take to prevent them.

Some people believe that long-term use of calcium and vitamin D increases a person's risk for kidney stones. But in several studies, this increase was not related to vitamin D at all. Calcium appears to be the culprit. High calcium intake from supplements has been linked to kidney stones, as well as arthritis and heart disease – conditions of unabsorbed calcium. But not calcium-rich foods. For some reason, they reduce the absorption of oxalate.

In addition to reducing your calcium supplemental intake, you need to look at calcium-based antacids like TUMS™. That's because they increase the amount of calcium in your urine, putting you at risk for kidney stones. If you have heartburn, taking an antacid will treat only your symptom. It won't eradicate the source of your problem, which is a malfunctioning valve called the lower esophageal sphincter (LES). If you have a lax LES, you'll respond best to an increase of hydrochloric acid (HCl), rather than neutralizing it with an antacid. You can find more information about this on my website (www.womenshealthletter.com), and in Dr. Jonathan Wright's book *Why Stomach Acid Is Good For You* (M. Evans and Co., 2001).

While calcium can cause kidney stones, we now know there's another mineral causing the pesky stones — sodium. What's worse, though, is combining too much calcium or too much salt with not enough water. It's a sure recipe for kidney stones.

But that's not all. The researchers in a recent study found that these two minerals actually change your genes. That's right! Taking too much calcium or sodium and not drinking enough water can make you genetically predisposed to getting kidney stones.

Of course, researchers are now looking to develop drugs to inactivate the gene. And they will probably develop an expensive test for this gene. But neither one makes any sense.

Why take a drug when you can simply alter your diet and have the same impact? And why take a test for a gene when your body is already telling you the answer to the test? If you get kidney stones, you'll probably test positive for the gene. Sometimes it really is that simple.

So how can you reduce your risk of kidney stones? Simply reduce your calcium and sodium

intake and drink more water. As for sodium, try not to add table salt to your food, don't eat out too much (restaurant food is very salty), and make sure you're drinking enough water.

How much calcium is too much? Your doctor will tell you to take 1,200-1,500 mg daily. This is way too much. As I've said before, you don't need to take more than 500 mg of calcium daily. Also consider your diet. Many women drink too much dairy, which I've already discussed. But there's more you need to know about dairy.

Chapter 6:

Safe Ways to Get Calcium

For decades, there's been a huge controversy about the effects of dairy on our health. The dairy industry wants you to believe that milk from the dairy cow is the best source of calcium. But that's just not true.

I warned people more than 20 years ago that a high-calcium diet from dairy could lead to heart disease and arthritis in my first book, The Nutrition Detective. And, many people have a difficult time digesting dairy, which can lead to intestinal problems like Crohn's disease.

Since you do need a little calcium in your diet, let me show you how to get it safely. The interesting thing is, you might also lose weight.

Studies show that a diet high in calcium can increase weight loss. It does! But if you don't take some important steps, you could be a thinner person with arthritis, heart disease, constipation, or muscle spasms.

With a few little tricks, you can use calcium for weight loss, prevent bone loss, and avoid future health problems. Not just any calcium will do. It has to be well absorbed, and it needs to alkalinize your system. Cow's milk won't do either of these. Let me explain…

The Strange Fact About Dairy… and How it Causes Heart Disease, Arthritis, Diabetes, and More…

Dairy is a big red flag for numerous diseases for several reasons…

But there's one startling issue that's received very little attention. No wonder. It challenges the entire dairy industry in this country. This new information explains how milk can be either beneficial or harmful depending on the genetics of various herds of dairy cows.

This may sound farfetched, but it's not. And it's more than a theory. It's backed up by many dozens of scientific papers. If you include dairy products in your diet, this information will help you decide how much and which kinds to eat.

This story began in New Zealand in the 1990s, when two university professors discovered, quite by accident, that some people who ate dairy products came down with serious illnesses while others didn't.

Their research had nothing to do with organic vs. non-organic dairy products. Or rGBH-free vs. dairy that contains traces of this hormone. Or even raw vs. pasteurized milk, yogurt, or cheese.

In fact, you probably haven't heard about this subject before. It has to do with the type of proteins in milk.

The Good Guys vs. the Bad Guys…

All milk contains casein-based proteins, but not all of these proteins are the same. Some can contribute to disease. The New Zealand professors uncovered an important difference in milk proteins. They're either A1 beta-casein or A2 beta-casein.

A2 milk proteins are the "good guys." They are easy to digest, and they don't cause disease.

A1 milk proteins are the "bad guys." They are difficult to digest. As your body digests A1 milk, a tiny peptide called beta-casomorphin-7, or BCM7 is released. This peptide induces sleep. It is also a pro-inflammatory that contributes to a number of illnesses, including type-1 diabetes, heart disease, autism, and schizophrenia.

A team of Australian scientists added to the New Zealand research. This group conducted a study in which they gave rabbits a diet high in either A1 or A2 milk. Their results, which they published in the journal Atherosclerosis, concluded: "Beta-casein A1 is atherogenic compared with Beta-casein A2."

This means that A1 milk contributes to heart disease and A2 milk doesn't.

A1 milk has also been linked to intestinal permeability, or "leaky gut" syndrome. A2 has not. I'm not saying that A1 milk is solely responsible for intestinal permeability. But it looks like it's a major factor in its development. If you have this condition — or irritable bowel or Crohn's disease — you may want to avoid A1 dairy products. This simple dietary change may help. I suspect it will in many cases.

This makes sense. When you can't com-

pletely digest the proteins in dairy, your intestinal lining becomes more permeable. This allows proteins to pass through the intestines and get into the bloodstream, causing inflammation and contributing to various illnesses.

The Genetics of Cows Makes the Difference…

The New Zealand researchers believe that all cows originally produced A2 milk. Then, possibly thousands of years ago, for unknown reasons, some cattle in parts of Europe mutated. Instead of producing A2 milk, their milk contained the A1 protein. Meanwhile, cows in other parts of the world like Africa, Asia, and parts of southern Europe, continued to produce A2 milk.

Whether or not the milk you drink contains A1 or A2 is determined by the genetics of the various herds of dairy cows. Many herds of dairy cows around the world contain both A1 and A2 proteins in their milk. And even a little A1 can be harmful. But some herds in Asia, Africa, and parts of southern Europe still produce A2 milk.

If you're traveling to any of these areas, the milk and dairy products are probably safe. Eventually, A2 products may be widely available in the U.S.

I have some suggestions that will help you until that happens… But first, I want to share more important research about dairy milk… further evidence why you should seek an alternative to cow's milk.

Dairy Won't Help You Lose Weight… or Protect Your Bones

The studies say you can lose weight by getting more calcium in your diet. You can. But you won't lose weight drinking cow's milk or eating cheese made from cow's milk.

As I've said, that type of calcium isn't good for you anyway -- since A1 dairy products lead to heart disease and other health problems. And milk from the dairy cow causes blood to be acidic, which is not good for weight loss. Most people have no idea this is a factor in weight loss.

You see, your body's acid-alkaline balance is one of the key factors in whether or not you lose weight. When your blood is more alkaline you lose weight faster. That's because alkalinity decreases food cravings and food sensitivities. If your cravings decrease, you'll eat less. If you have fewer food sensitivities, your tissues won't hold on to excess water weight.

What are food sensitivities? They are the foods you tend to crave. People with food sensitivities have a difficult time losing weight, even when they eat just a little bit of these foods. This is because food sensitivities contribute to an acidic system.

If you can alkalinize your blood, you very quickly lose weight and bloating that come from food sensitivities. When you alkalinize your blood, cravings are minimized and may even disappear, allowing you to more easily control the type and amount of the foods you eat.

Most proteins, like dairy, are acidifying. So are grains, nuts, and seeds. When your blood is too acidic, your body sends in an alkalinizer to correct the imbalance. That alkalinizer is calcium. If you don't have enough calcium in your diet to meet this increased need, your body will pull it out of your bones — leading to brittle bones.

But it doesn't have to! You can prevent bone loss — and do it in a healthy way — by increasing your dietary and supplemental calcium. Just use the right kind of calcium and take enough magnesium.

Let's talk about the proven ways to get the calcium you need… to avoid heart disease, digestive problems, protect bones, and lose weight…

One Safe Way to Get the Calcium You Need…

What can you do if you want to avoid A1 dairy products?

It's simple. Cow's milk originating in this country contains the A1 protein — unless a product label specifically says it doesn't. Goat milk products contain only the A2 protein. They're safe. Some sheep's milk products contain the A2 protein. When in doubt, do without. But sheep's cheese is more likely to be safer to eat than cheese made from cow's milk, especially if it comes from New Zealand or Australia.

You can find goat milk products — milk, yogurt, hard and soft cheeses — in specialty grocery and health food stores. Goat milk products don't have a strong goat taste or smell. One of my favorite brands is Redwood Hill Farm. They make a variety of goat milk yogurts, kefir, and cheeses that are certified grade A and delicious.

And, the good news is, sheep and goat milk products are alkalizing… so they will help you lose weight! But there's another trick that works…

An Even Better Way to Get Calcium… Plus Lose Weight, and Protect Bones…

There's another safe way to get the calcium you need — and it doesn't involve drugstore cal-

cium supplements.

My friend and mentor, nutrition writer Betty Kamen, PhD, wrote a book about it. Betty discovered a supplement that contains the right kind of calcium specifically designed to alkalinize your blood.

Buffered Vitamin C was invented by Stephen Levine, PhD, the founder of NutriCology, for people with drug addictions. Then he found it helped people lose weight, as well.

You see, Buffered Vitamin C powder contains calcium carbonate. This form of calcium is not as well absorbed as other forms and can potentially contribute to atherosclerosis and arthritis.

But the calcium carbonate in this proprietary formula binds to the ascorbic acid in the vitamin C, and is transformed into an ascorbate form. Calcium ascorbate is well absorbed and actually makes your system more alkaline! The same is true with the magnesium carbonate and potassium carbonate in this formula. All become ascorbates and help alkalinize your system.

That's not all.

Calcium reduces food cravings in some people. When it's combined with magnesium and potassium, and added to ascorbic acid, it stops cravings even better. Calcium sends out a signal to your body that it doesn't need any more food. It also tells your body that it doesn't have to store fat for the coming famine — because there is no famine. No stored fat equals no weight gain. Buffered Vitamin C magnifies this phenomenon.

The concept of using a buffered vitamin C product with highly absorbable forms of calcium and magnesium for weight control makes sense to me.

Why magnesium? Many of us are magnesium-deficient (you'll read more about this in the next chapter). The balance of calcium to magnesium is critical to whether your bones absorb calcium or not. I'm always looking at the balance of calcium to magnesium.

For that reason, I think it's wise to consider adding even more magnesium to the Buffered Vitamin C powder than it contains. How much? As I've said many times: either take equal amounts of these two minerals or increase magnesium to bowel tolerance.

For weight loss, take one-quarter to one-half teaspoon of NutriCology's Buffered Vitamin C powder mixed in a glass of water between meals twice a day. If this is the right supplement for you, you'll get results with the first bottle.

All buffered C is not the same. You only want one with calcium, magnesium, and potassium in carbonate form. Also, the source of vitamin C in this product is cassava root, which is both gentle on the system and alkalinizing. Buffered Vitamin C from NutriCology is found in many health food stores or may be ordered by calling 800-545-9960.

If you're going to use calcium to lose weight, use the right kind, and use it responsibly.

Chapter 7:

Calcium's Partner – How This Overlooked Osteoporosis Mineral Can Help Prevent Bone Loss … AND Arthritis, PMS, and Heart Disease

As I've already discussed, calcium absorption is critical to healthy bones. But most women can't absorb the excess calcium they take. So it builds up in your arteries, your heart, and your kidneys.

To really understand how to protect your bones, you need to discover the real truth about bones. Most people think of bone as a hard permanent substance — the skeletal "infrastructure" of our bodies. But bone is living tissue that constantly undergoes remodeling. It goes through an alternating process of the removal or "resorption" of old bone, and formation of new bone.

In healthy tissue, bone-removing cells carve out cavities in the bone's surface, while cells that form bone fill in these cavities. Thanks to this remodeling process, about one-fifth of your skeleton is replaced each year.

That's right. Every five years or so, your bones are completely reformed. So the steps you take now will make a difference in strengthening those bones. No matter what your age is, you still have time to build stronger bones!

Of course, most people don't think about this when they are young. During your first 30 years, your body forms more bone than it loses. Sometime in your early 30s, you reach peak bone density, and the balance begins to shift to the loss column.

Bone loss is a natural part of the aging process. By age 70 or 80, women will have lost about one-third to one-half of their bone mass. In men, bone mass also declines as a natural part of aging — about 20 to 30% by comparison — but the decline is slower and begins from a point of higher density.

In osteoporosis, however, the loss is much greater. Your body doesn't form enough bone or it removes too much — or both. As a result, bones become fragile and break easily, leaving people vulnerable to pain and injury.

Making Bones Strong: Chalk vs. Ivory

When we talk about healthy bones, the issue of "flexibility" is an important one. Flexibility may be the determining factor in whether or not your bones break when you fall, as you get older. The more flexible your bones, the less likely you are to break them.

Yes, bone density is part of osteoporosis — but it's simply the part we can now easily measure. Bone flexibility may be even more important. New highly sophisticated tests can determine whether or not your bones are flexible or brittle. But most doctors don't have access to them yet. This is why doctors talk only about how dense your bones are. It's not all there is that your doctor can measure.

Calcium contains properties that make bones brittle, while magnesium binds to protein in your bones and keeps them supple and flexible. Take a look at two substances in nature with relationship to these properties of suppleness and brittleness: chalk and ivory.

Chalk is pure calcium carbonate, the stuff they put in most cheap mineral supplements to help you meet your daily requirements. Take a new piece of chalk and drop it. Watch it break. Then compare it with a piece of ivory the same size taken from an elephant's tusk. The ivory is a combination of calcium and magnesium. The ivory bounces and doesn't break.

Now, which do your bones need, more calcium or more magnesium?

Guy E. Abraham, MD, a research gynecologist and endocrinologist in Torrance, California, believes we can get sufficient calcium from our foods without taking additional amounts in supplement form. His supplements, which studies show can improve bones, are lower than most in calcium.

You need more magnesium to make your

bones more like ivory and less like chalk. You can get that magnesium from supplements and from food as well.

Here's what you should do when your doctor suggests you take more calcium or consider taking hormones or other prescription drugs to increase your bone density. Simply ask them what they suggest to make your bones more flexible. If they don't have an answer, tell them about magnesium.

That's because most women don't need more supplemental calcium. They need to be able to absorb the calcium they already get from a calcium-rich diet. And the absolute best way to do this is with the nutrient magnesium.

Recently, a study published in the Journal of Applied Nutrition showed an increase in bone density in postmenopausal women who took more magnesium and less calcium than has been generally recommended.

Yes, magnesium is a mineral we hear little about. I know this goes against everything you've ever read about calcium. So let's delve a bit deeper to understand magnesium's role. Please bear with me, as this gets a little technical.

When women take large amounts of calcium, the level of calcium is elevated in the blood. This can happen when taking calcium supplements, or by eating a diet high in dairy and low in whole grains and beans.

This high-calcium level stimulates the secretion of a hormone called calcitonin. At the same time, excess calcium suppresses the secretion of the parathyroid hormone (PTH). These hormones regulate the levels of calcium in the bones and soft tissues, and are related directly to osteoporosis and osteoarthritis.

PTH draws calcium out of the bones and deposits it in the soft tissues, while calcitonin increases calcium in the bones.

The optimum execution of these two delicate functions is dependent upon having sufficient magnesium. Because magnesium suppresses PTH and stimulates calcitonin, it helps move calcium into our bones.

This chemical action helps prevent osteoarthritis and osteoporosis.

A magnesium deficiency, however, will prevent this chemical action.

And taking more calcium is not the solution. While magnesium helps the body absorb and utilize calcium, excessive calcium blocks the absorption of magnesium. Taking more calcium without adequate magnesium — and what is adequate for one woman may be insufficient for another — may either create calcium malabsorption or a magnesium deficiency.

Only additional magnesium can break this cycle, as a study in International Clinical Nutrition Review reported. Researchers gave volunteers on a low-magnesium diet both calcium and vitamin D supplements. All of the subjects were magnesium-deficient, and all but one became deficient in calcium, as well, in spite of the fact that they were getting more calcium in their diet.

When the researchers gave them intravenous calcium infusions, the level of calcium in their blood rose for the duration of the intravenous feedings. When the researchers stopped the intravenous calcium, blood levels of calcium dropped again.

However, when the researchers gave them magnesium, their magnesium levels rose rapidly and stabilized, but their calcium levels did something surprising. Their calcium levels also rose within a few days even though the researchers had not given them any additional calcium. The additional calcium didn't come from diet. It came from their body. It was already there. It just couldn't be used. Now their bones could absorb the calcium they already had.

This is amazing! Magnesium clearly makes calcium easier for your bones to absorb. But that's not all. While magnesium helps move calcium into bones, to reduce risk for osteoporosis, the benefits of magnesium don't stop there.

Magnesium's Effect on Other Health Problems

Magnesium is also helpful in eliminating premenstrual syndrome.

That's because magnesium helps the body utilize B vitamins, as well as inactivate excessive estrogens. And it is these conditions, low quantities of B vitamins and high estrogen to progesterone ratios, which contribute to premenstrual moodiness and irritability.

Magnesium Also Lowers Your Heart Disease Risk!

In most studies of women and heart disease, the magnesium factor is being overlooked. In fact, magnesium may even be more important than calcium in reducing your incidence of heart disease.

Consider this: Calcium causes muscles to contract. Magnesium, on the other hand, causes muscles to relax — and your heart is a muscle.

A recent randomized, controlled trial using magnesium in about 4,000 patients with acute myocardial infarction (heart attacks) showed that there were fewer deaths in people who were given magnesium than in those who did not take this mineral.

The study recommends giving magnesium to all patients during acute heart attacks, and suggests this long-overlooked mineral may be beneficial when it is added to traditional medical treatments. Today, in many hospitals, emergency medical personnel often give magnesium at the first sign of a heart attack.

Postmenopausal women — those at highest risk of heart disease — would be wise to consider a diet higher in magnesium (whole grains and beans) and lower in calcium (dairy products).

Nutritional supplements that contain equal amounts of calcium and magnesium are available. Some, formulated specifically for postmenopausal women, already contain more magnesium than calcium.

And, high-calcium diets may actually increase the risk of stroke, another leading cause of death in women as well as men. A UCLA study recently reported in the Journal of Clinical Investigation suggests that artery wall cells are able to form bone tissue and high-calcium diets may contribute to such growth. In turn, this bone growth may contribute to the development of hardening of the arteries and blockages, which can cause strokes.

Heart disease, arthritis, osteoporosis, PMS… all negative health effects from magnesium deficiency! I'm sure, for most people, this is breaking news. Let's get to the heart of the problem…

What's Causing This Trend in Magnesium Deficiency?

To some extent, our obsession with weight control may be responsible for much of our current magnesium deficiency. We eat (or drink) too much dairy.

We have been assured that high quantities of non-fat dairy products, like milk and yogurt, were both safe and beneficial. That's simply not true. Too much dairy upsets the body's balance of calcium and magnesium.

When you increase dairy products — even low-fat or reduced-fat — you are upsetting this balance of calcium and magnesium. But that's not the only problem with too much dairy…

The high protein content of dairy, especially when combined with other animal products, can pull calcium from the bones where it's needed.

Yes, too much protein can actually deplete your bones of calcium!

One study, reported in the American Journal of Clinical Nutrition of 1,600 women, found that those who followed a vegetarian diet for at least 20 years had only an 18 percent loss of bone mineral by age 80, while meat eaters had a 35 percent bone mineral loss!

Also, dairy products contain nine times as much calcium as magnesium. If you have been eating a lot of dairy products — along with few or no grains, nuts, and beans (which are rich in magnesium) — you have probably upset your calcium/magnesium ratio even further.

In addition, most nutritional supplements contain twice as much calcium as magnesium.

But again, because we've eaten so much dairy — and so few grains, beans, and nuts – our bodies have come to need as much magnesium as calcium, or even more magnesium. For example, to bring yourself back into a chemical balance, you would have to eat three cups of brown rice every day to compensate for one small serving of dairy.

Because white rice has most of its magnesium removed, along with fiber and many other nutrients, you would need to eat 10 cups of white rice to balance one portion of calcium-rich foods.

Restoring Your Calcium and Magnesium Balance

What can you do to help protect yourself against osteoporosis, heart disease, stroke, and eliminate PMS symptoms as well as reduce your risk of arthritis?

Begin with a magnesium-rich diet.

Quit eating refined foods. Many of the foods we eat have been refined, like rice, baked goods, and pasta. And magnesium is one nutrient removed in the refining process and not added back in "enriched" products.

Increase your consumption of whole grains like brown rice, millet, buckwheat (kasha), whole wheat, triticale, quinoa, and rye.

Eat lots of legumes, including lentils, split peas, and all varieties of beans.

A whole grain cereal or bread in the morning, a cup of bean soup at lunch, a snack of whole grain crackers or popcorn, and a serving of brown rice, millet, or other grain with dinner will go a long way to help increase your magnesium intake.

Eat plenty of fresh vegetables, too. Fresh

produce and whole grains will provide your body with many other essential minerals in addition to calcium and magnesium. And it's especially important for you to not overlook one vitamin or mineral for another, since all work together to supply you with the nutrients you need.

Dark green leafy vegetables – like spinach – contain plenty of vitamin K, which is also good for bones.

Sugar, Alcohol, and Your Bones

For strong, healthy bones, it's critical to greatly reduce sugar in your diet. Refined sugar and alcohol cause magnesium to be excreted in the urine. Sugar also causes calcium to leach from your bones.

This includes chocolate. Most chocolate contains an excessive amount of sugar, so try to develop a taste for dark chocolate that is 80 to 90% cocoa.

In fact, you may think your chocolate cravings are due to a sweet tooth, but they may be an indication that you have a calcium/magnesium imbalance. Cocoa powder contains more magnesium than any other food, so you may crave chocolate if your body needs more magnesium, less calcium, or both.

Diets that are excessive in sugar contribute to premenstrual bloating and weight gain. When you increase your magnesium and decrease calcium, eventually the chocolate cravings will leave and chocolate will be more a flavor you enjoy than a craving that drives you.

How Much Magnesium?

How much magnesium does your body need?

According to the late Dr. Mildred Seelig, past executive president of the American College of Nutrition, we need about 200 milligrams more than we get in an average diet. She suggests that geriatric patients on a good diet take between 700 and 800 milligrams of magnesium supplements each day. This is considerably more than the Recommended Daily Allowances (RDA) of 350 milligrams per day for women of all ages.

Can you take too much magnesium? "It's unlikely," says Melvyn R. Werbach, MD, author of Healing Through Nutrition (HarperCollins, May 1993) and Nutritional Influences on Illness, a health practitioner's reference book. His research into medical studies has not found any cases of magnesium toxicity from taking it in the form of oral supplementation.

Guy E. Abraham, MD, a research gynecologist and endocrinologist in Torrance, California, gave postmenopausal women 200 to 1,000 mg of magnesium a day to strengthen their bones. He based the amount he gave each woman on bowel tolerance — enough magnesium to cause soft stools, but not diarrhea.

These women showed an average bone density increase of 11% in one year, by adjusting their diets to increase magnesium (600-1,000 mg/day) and lower calcium (500 mg/day).

Another study touting the benefits of magnesium for postmenopausal women, this one from Israel, also suggests it is magnesium – not calcium – that protects our bones from the thinning characteristic of osteoporosis as we age.

In the Israeli study, researchers gave 31 postmenopausal women 250 to 750 mg of magnesium each day for two years. In almost 75% of the women, their bone density actually increased — in some, as much as eight percent. Women who refused additional magnesium had a loss of bone density from 1% to 3% — an expected decrease according to most medical doctors.

Most studies on the effect of increasing the amount of calcium in the diet show that calcium merely slows the rate of bone loss by an average of around 50%, but does not prevent or reverse osteoporosis.

For many women, getting sufficient magnesium is a missing link to reduce the risks of osteoporosis, heart disease, and arthritis, as well as eliminate PMS symptoms. But magnesium isn't the only nutrient you need to really protect your bones.

Chapter 8:

Calcium's Ally — How This Little-Known Nutrient Works With Calcium to Cut Your Risk of Spinal Fracture in Half

For maximum bone support, there's a little-known trace element that can double or even triple your bone density! This supplement I think is far superior to calcium. It's a powerful, well-researched therapy that's been shown to make your bones 18% thicker … cut the risk of fracture by 50% … and even erase up to 10 years of bone loss … or more! Yet most doctors don't even know about it.

What Is This "Forgotten" Nutrient?

What is this incredibly powerful — yet overlooked — bone-building breakthrough? It is a natural mineral called strontium.

This mineral appears to be one of the most effective substances found yet for preventing and treating osteoporosis. Because of its chemical similarity to calcium, it can replace lost calcium in your bones and teeth, increasing bone density. Plus, it appears to draw extra calcium into your bones, making them thicker and stronger.

Numerous human clinical studies have demonstrated the effectiveness of strontium. They show this mineral is critical to helping you build "bones of steel" that make you resistant to life-threatening fractures. One three-year study published in the *New England Journal of Medicine* involved 1,649 postmenopausal women diagnosed with osteoporosis.

Women who took this mineral, along with calcium and vitamin D, cut their risk of fracture by 49% in the first year of treatment — that's nearly in half! Plus, they increased the bone density in their backs by 14.4% and in their necks by 8.3% on average. By contrast, those who took only calcium and vitamin D saw no increase in bone density.

In fact, studies of strontium have been appearing in prestigious medical journals since the 1980s!

Strontium is a naturally occurring element found in soil and water. The amount of strontium found in our diets is probably between 2 to 4 mg daily, depending on how much gets into fruits and vegetables from the soil and water, and how much is in our drinking water. Strontium makes bones stronger and denser when taken in larger doses.

Calcium and strontium are almost identical in their ability to accumulate in bone. Together, they increase bone density more than calcium alone.

Strontium works if you've got low bone density and have suffered at least one compression fracture. One study, published in *The New England Journal of Medicine,* looked at more than 1,600 women with low bone mineral density. All of the women had suffered at least one compression fracture in their spines.

Those who took strontium cut their risk of new fractures by 49% in the first year. That's nearly half! They also increased bone density in their backs by 14.4% and in their necks by 8.3% on average! That's equivalent to reversing 10 or more years of bone loss!

It works if you only have slightly thinning bones. In one study, researchers gave either strontium or a placebo to women with slightly reduced bone density in their spines and necks. They found women who took strontium were 52% less likely to suffer compression fractures or ANY kind of fracture. Another study included women with slight bone loss in their spines. Of those who took strontium for three years, more than 58% normalized their bone density.

It works if you're over age 80 and at high risk of hip or other serious fracture. In another study, researchers gave elderly women between the ages of 80 and 100 either strontium or a placebo. Those women who took strontium reduced their risk of fracture by as much as 59% in just the first year. After three years, up to 32% remained fracture-free. Researchers concluded, "Even in the oldest old, it is not too late to reduce fracture risk."

It works for men as well as women. A German study looked at the effects of strontium

in men with low bone mineral density. After one year, the men who took strontium experienced 30% fewer fractures, an 80% reduction in height loss, and significantly less back pain.

Strontium is able to stave off bone loss and increase bone density at the same time. That's unheard of.… NO other nutrient does both!

Yet you need a therapy that does both, because your body is always breaking down and rebuilding your bones. Believe it or not, about 10% of your skeleton is broken down and rebuilt every year! Your body completely replaces your larger arm and leg bones every 10 to 12 years. And your smaller bones, like those in your fingers and toes, are replaced every two years.

This constant bone remodeling process relies on cells called osteoclasts to remove old bone. It also uses cells called osteoblasts to produce new bone to replace the bone that's broken down.

But sometimes hormonal changes, lifestyle and dietary factors can affect this bone remodeling cycle, increasing the amount of bone that's broken down and decreasing the amount replaced. That's why you may be losing more bone faster than your body is able to rebuild as you get older. In fact, postmenopausal women normally lose about 1% of their bone each year.

The Strontium Secret to Stronger, Denser Bones That Won't Break

Here's where strontium does double duty. First, it helps your body maintain more of the good, healthy bone it already has. That's because strontium is denser than calcium and other minerals found in bone tissue. So it's much more resistant to removal by osteoclasts, the cells in your bones that constantly break down bone.

Second, strontium stimulates bone-building osteoclasts to quickly form new bone tissue. It does this by acting like a "liquid magnet" to draw extra minerals into your bones. This added mineral uptake makes your bones thicker and stronger in a relatively short amount of time – less than a year in most cases!

Sometimes you can see results even faster. One study, conducted at the prestigious McGill University in Montreal, looked at patients who took strontium for only six months. These patients showed a remarkable 172% increase in the rate of bone formation. That's pretty amazing!

Other studies show strontium can also help you stand taller and maintain your height as you age. That's increasingly important as the vertebrae in your spine grow more fragile and become prone to collapsing. One study found a 20% reduction in the rate of height loss in postmenopausal women who took strontium.

Proven to Draw Minerals Into Your Bones and Make Them 18% Thicker

Scientists have identified exactly how strontium works to increase bone density and lower your risk of fracture. In one recent study published in the *Journal of Bone Mineral Density Research*, scientists collected bone biopsies from people who had been using strontium for five years or more. Then they compared them to those from people who had been taking a placebo.

While examining these bone biopsies, the scientists analyzed the mineral layers inside the tissue that forms the bone. They looked at the number of bone-forming osteoblasts covering the bones. They also measured the thickness of the bones themselves.

The scientists found significantly higher amounts of minerals and bone-forming osteoblasts, along with bones that were 18% thicker on average. By performing these tests, the scientists were able to explain the dramatic changes in bone density and thickness seen in strontium studies. But that's not all…

Also Builds More Flexible Bones Than Other Therapies — Without Dangerous Side Effects

Another study looked at the effects of strontium on women who used this supplement for two years. Scientists used bone-imaging technology to examine the women's bone density, quality, and thickness. They found the women taking strontium developed stronger, thicker, and more flexible bones.

Why is it so important to build flexible bones? Because brittleness is what causes bones to break – even if they're dense. But if your bones are strong and flexible, they won't break if you take a sudden fall. **Strontium and magnesium are the only nutrients I know of that have been shown to make your bones more flexible.**

Strontium is also perfectly safe. In the 100 or more studies done on humans, there were NO dangerous side effects found. Some studies were done on women who used strontium for eight years. And the studies that looked at bone biopsies found the quality of bone was preserved following strontium treatment, further supporting its safety.

You can see how strontium can help you

build stronger, thicker bones that are more resistant to fractures. That's why I made sure I put a full 500 mg of strontium in each daily dose of Ultimate Bone Support, based on the latest scientific research. In a review of 116 other supplements I've found that contain strontium, almost all of them give you far less… a mere fraction of the amount seen to work in studies.

But as hard working and effective as strontium is, it's not the only nutrient you need to keep your bones strong and healthy as you age. Research shows you need a combination of nutrients to address the many different aspects of bone health…

Got an Aching Back or Joint Pain? Strontium Helps You There, Too!

If you suffer from bone loss, it's not just the fear of a painful, debilitating fracture that may be bothering you. Your back and other joints might be hurting right now!

When you have even slight bone loss in your spine, you're much more prone to compression fractures that trigger miserable backaches. This chronic back pain can take a devastating toll on your ability to exercise, walk, shop, spend time with your family and friends, get a good night's sleep, or simply enjoy life to the fullest.

The good news is, research shows taking strontium can help reduce and even eliminate chronic back pain. One study looked at women who had suffered multiple compression fractures and were experiencing frequent back pain.

Not only did those women who took strontium notice significantly less discomfort, more than 31% became completely free of back pain after 3 years. And they felt most of the improvement within the first year of treatment!

In fact, taking strontium can help you notice less discomfort in ALL of your joints—not just your back. That's because this powerful mineral helps fend off joint damage. It actually saves your joints from the normal "wear-and-tear" destruction that happens over time.

In one large Danish study, researchers pulled together a group of more than 2,600 postmenopausal women who had suffered bone loss. They gave half of them strontium and the other half a placebo. After just 3 months, those women taking strontium showed 15 to 20% less cartilage deterioration than the women taking the placebo.

You, too, can see dramatic relief for your aching back and joints once you start taking strontium each day.

How Much Strontium Do You Need?

Studies suggest it takes 300-600 mg a day of strontium, while others say a minimum of one gram. We need additional studies to know just how much strontium it takes to protect the bones of older women who already have osteoporosis. But since it appears to be non-toxic, you may want to give it a one-year trial.

Most studies on strontium have used a synthetic form called strontium ranelate. The reason for this is simple: Strontium ranelate is a drug patented by Servier Pharmaceuticals. Pharmaceutical companies can afford to pay for expensive trials, and the research on strontium ranelate is compelling.

But strontium ranelate isn't the only form of strontium that builds bone. It may only be the most expensive form. An older study used strontium lactate to treat osteoporosis at the Mayo Clinic. In this study, scientists gave 1.7 grams of strontium lactate three times a day, one hour before meals. They found that 84% of the patients in this study had marked improvement. Strontium gluconate and strontium carbonate also have been used to successfully remineralize bone.

There are enough studies on strontium's safety and effectiveness in bone health for me to suggest you seriously consider it. Strontium is completely nontoxic, even when administered in large doses.

What's more, a two-year, double-blind study found strontium to be safer than a placebo! Not only did the women taking strontium significantly increase their bone mineral density, they experienced fewer side effects than those taking the placebo.

In one study, researchers showed a significant increase in bone density for healthy, younger postmenopausal women. They found that there was a 2.4% increased benefit after taking one gram of strontium ranelate for two years. On the other hand, another study found that just 680 mg (roughly two-thirds of a gram) of strontium reduced the risk of a vertebral fracture by 41%. This is impressive.

If you're at high risk for osteoporosis, strontium may be just the ticket. With no toxicity reported, it's at least worth talking over with your doctor.

I would certainly take 450-650 mg of strontium daily before considering Fosamax or other pharmaceuticals, which have unwanted side effects. I also recommend you focus your osteoporosis treatment on magnesium and strontium

rather than overdo calcium or take supplemental vitamin K. The latter is important for your bones, but you don't want to take too much of vitamin K.

Strontium citrate, strontium lactate, and strontium gluconate can be found in some supplements in health food stores. I would choose strontium citrate, as it is very well-absorbed in the intestine – so it will have the greatest effect.

There is one important note we need to add to our discussion of strontium. Since strontium is structurally similar to calcium, it can compete with calcium. So it's vital you take strontium away from calcium and magnesium both in foods and supplements. In other words, if you're getting calcium and magnesium with breakfast or another meal, take the strontium before bed or in the afternoon on an empty stomach. This will prevent the minerals from competing with each other.

So, if strontium is the secret to truly strong, supple, unbreakable bones…

Why Isn't Your Doctor Telling You About This Exciting Breakthrough?

Chances are your doctor never heard about these studies on strontium in medical school. That's because the majority of these studies took place in just the past decade.

What's more, strontium is completely natural. So drug companies have been unable to come up with a form of strontium they could patent and use to make huge profits except for strontium ranelate which is patented by Servier Pharmaceuticals. If most drug companies aren't selling it, most doctors aren't hearing about it.

As a result, the only so-called "solutions" your doctor has to offer you are the same ones you've been hearing for years. That's why I'm writing this book… to show you the research and proven results from strontium.

And, it's why, in 2007, I created a bone health supplement that contains strontium. I called it Ultimate Bone Support. This advanced formula gives you the ideal mix of bone-building nutrients based on the latest cutting-edge science. It is the best way to help you keep your bones strong and resistant to fractures as you age. If you have difficulty finding strontium, you can get this formula from Advanced Bionutritionals by calling 800-791-3395.

So far, more than 49,000 women (and men) have started taking Ultimate Bone Support. In fact, many have been taking this powerful formula for a while. And they've been so inspired by their results to write and tell me how much it's helping them.

For example, Karen from California found out she had slight bone loss after undergoing a bone density test. Here's Karen's story…

72-Year-Old Woman Strengthens Bones Naturally and Stays Active and Healthy

Years ago, Karen saw her mother suddenly fall and break a hip, go into a nursing home, and spend the rest of her life in a wheelchair. So, when Karen's doctor told her she had mild bone loss after reviewing her bone density test results, she didn't take this diagnosis lightly.

Karen followed her doctor's recommendations at first, but decided she wanted to take a natural approach. So she increased her intake of vitamin K. She also took calcium, but was concerned about taking too much.

Karen began wondering what other nutrients she could take for bone health. Then, she received a bulletin in the mail about Ultimate Bone Support. The information on strontium looked promising, so she decided to take action.

After taking this formula for a while, she went back to her doctor for another bone density test. Her results were so good, Karen decided to write me the following letter…

February 5, 2010

Dear Dr. Fuchs:

I'm thrilled to report that after two years of taking Ultimate Bone Support (no other treatment) and your suggested amount of calcium, my bone density report came back with the following results: 10.7% improvement in the hip and 7.7% in the spine from the last test (2 years ago).

I'm so happy. I also exercise regularly (weight training, aerobics, hiking, walking, yoga). I will be 72 in April.

Thank you for your enlightened reporting on women and bone density. I will continue to use Ultimate Bone Support (my husband too) and pass on information about this excellent product to friends.

Warm regards,
Karen O'Connor

Chapter 9:

The Only Therapy That Makes Bones Stronger and Fracture-Resistant

I've got another story to tell you, that of Donna, from Wisconsin. Donna's doctor thought she was "crazy" to take a natural approach to bone loss. But Donna started taking calcium and vitamin D anyway. And when she found out about Ultimate Bone Support plus calcium and magnesium, she decided to take these nutrients instead.

Shortly thereafter, Donna began seeing a significant improvement in her bone density tests. Of course, her doctor tried to deny it was due to the supplement she was taking. But Donna's results speak for themselves. At age 70, she's able to walk four miles a day. And even though she's slipped and fallen on icy sidewalks, she's never broken a bone!

The #1 reason I believe *Ultimate Bone Support* is working so well for so many women like Karen and Donna is because it contains strontium and some of the best bone-building nutrients available. I just told you about strontium, so now I'll tell you about other nutrients that build and protect bones.

A Combination of the World's Best Nutrients to Give Your Bones TOTAL Support

Having healthy bones is about more than maintaining good bone density and fending off dangerous fractures. You need a strong skeleton to give form to your body, and allow you to sit, stand, and walk. Your bones also protect vital organs – for example, your ribs guard your heart and lungs, while your skull covers your brain.

But that's not all. Your bones also play a central role in your body's overall health. They act as a bank for vital mineral reserves, needed for all your body's organs and tissues. They produce red and white blood cells within bone marrow to support immune function and supply oxygen to your body.

What's more, new research at Columbia University Medical Center shows your bones secrete hormones that help control blood sugar metabolism and weight.

You can see how complex your bones are. In fact, so many factors are involved in keeping your bones strong and healthy, several nutrients besides strontium play an important role. That's why *Ultimate Bone Support* also gives you nine other crucial bone-building nutrients to ensure peak bone health.

You may not be getting enough of these superstar nutrients in your diet or from supplements. In fact, some of these nutrients are hard to find anywhere except in this formula. Let me explain what they are and why I included them, starting with…

The Essential Bone-Building Partner You're Not Getting Enough Of

You may not realize this, but vitamin K isn't a single vitamin. It's actually a group of plant compounds. And they're found mainly in dark-green, leafy vegetables like kale, turnip greens, collards, and Swiss chard.

If you don't eat at least one generous serving of these vegetables every day, you're probably not getting enough vitamin K from your diet. It's found only in trace amounts in meat, cereal, and other grains. And most multivitamins leave out this important nutrient altogether.

Yet you need vitamin K for strong bones. In fact, vitamin K is required for getting calcium into your bones—and keeping it there. That's especially important since calcium is what your body uses to actually build bones.

The trouble is the calcium you get from your diet and supplements doesn't always get into your bones. As I've said before, much of it ends up elsewhere in your body, where it creates big problems.

Keeps wayward calcium out of your joints and arteries and moves it into your bones – where it's needed most

Excess calcium settles in and around your joints, causing them to swell up and become painful. It sticks to your artery walls, turning into artery-clogging plaque. It builds up in your brain, where it triggers poor memory and mood problems.

That's why you need vitamin K. Vitamin K makes sure the calcium you consume gets where it's needed most—your bones! In fact, I'm not surprised research shows vitamin K may be more useful for increasing bone density than calcium supplements.

In a study of postmenopausal women already suffering from bone loss, researchers gave some of them calcium and some vitamin K. Those women who took vitamin K showed a significant increase in bone density. Meanwhile, the women who took calcium actually saw their bone density decrease!

Upping your vitamin K intake can also cut your risk of hip fractures. This was proven in a 7-year study by the U.S. Department of Agriculture (USDA) and Tufts University. The study found that older adults with higher dietary intakes of vitamin K were 57% less likely to break a hip during that period. That's right, they cut their risk by more than half—simply by getting more vitamin K!

A Natural, Easily Absorbed Form You Can Take With Confidence Even if You're on Blood Thinners

You can see why it's so important to get enough vitamin K. But you also have to make sure you're getting the right kind. Vitamin K2 is better than the cheaper K1 form typically found in supplements. It's also safer.

That's because vitamin K1 is primarily used by your liver to promote blood clotting. Too much K1 can interfere with certain blood-clotting therapies.

Vitamin K2 doesn't interfere with these therapies. That's because it's used by your body's tissues — such as your bones and teeth – instead of your liver. It draws calcium in where it's needed and keeps it from building up where it doesn't belong.

Ultimate Bone Support gives you vitamin K2 in its natural form, called menaquinone-7 or MK-7 for short. MK-7 comes from natto, a fermented food derived from soy. Because it's natural, this form is much more easily absorbed by your body—as much as 10 times better absorbed.

Now let me tell you about another powerful nutrient that can help keep your bones strong no matter how long you live, even into your 100s…

The New Hops Breakthrough that Slows Bone Loss to a Crawl

Last year, in Washington, DC, Betsy Stanford celebrated her 107th birthday. Betsy still has a keen mind and lives on her own on the third floor of a row house. So what does she consider the secret to her remarkable longevity and continued independence?

"I drink stout. It's good for you, baby!" this feisty lady recently told The Washington Post. She admits to a particular fondness for a smoothie made of Guinness stout mixed with Ensure®, a drop of vanilla flavoring, and a sprinkle of nutmeg.

Betsy is right – beer is a rich source of nutrients that can keep your bones strong. That's especially true of beer with high amounts of hops, like stout.

Now there's a better way to enjoy the bone-building benefits of hops, thanks to a patented hops. A hops extract, which I included in *Ultimate Bone Support*, contains potent compounds that can slow bone loss to a crawl.

Saves Healthy Bone From Being Needlessly Destroyed

As I explained earlier, your body is constantly breaking down and rebuilding bone. But once you hit age 40, there's often more bone broken down than is rebuilt. That's because hormonal changes can trigger an imbalance in bone metabolism.

This imbalance can throw your entire bone remodeling process out of whack. Osteoclasts may become overly active, breaking down perfectly healthy bone. At the same time, osteoblasts have a harder time turning minerals into new bone.

This makes your bones become thinner, weaker, and more prone to fracture. Not only do you lose bone, you can gradually lose inches in height.

Hops extract helps reverse this destructive cycle. It actually halts the abnormal breakdown of bone by slowing down bone-destroying osteoclasts. So it reduces bone loss by saving healthy bone from being needlessly destroyed.

Chances are you're not getting these potent compounds found in hops in your daily diet. That's why I included it in *Ultimate Bone Support* to give you an added boost to stave off bone loss.

But there's another nutrient you're probably not getting either. And you need it to form the connective tissue that keeps your bones and joints strong.

The Collagen Secret to a "Hard as Nails" Skeleton

You probably don't think of your bones as connective tissue. But they are. So are the cartilage that makes up your joints and the fibers that make up your tendons and ligaments. Even blood is considered connective tissue!

Collagen, the main building block of connective tissue, is also a crucial ingredient in bone tissue. Both collagen and minerals are important for strong bones – although most people only think about getting enough minerals and ignore the importance of healthy collagen.

Why is collagen so important? Think about building a wall out of plaster. You need wire mesh to hold the wall together. Then you put plaster over the mesh to solidify it. When it comes to your bones, collagen acts as the mesh and minerals act as the plaster.

An amino acid called L-lysine helps lay down the "mesh" that holds your bones together by linking together collagen fibers. This builds the foundation for strong, flexible bones, as well as cartilage. In fact, lysine is a necessary building block for all protein, and promotes tissue repair as well as recovery from muscle injuries.

Lysine also helps your body better absorb the calcium you get from your diet or other supplements you may be taking. But while lysine is found in cheese, eggs, red meat, and other foods, it's best to take it in a supplement to ensure that you get enough each day. That's why I've included it in *Ultimate Bone Support* to help you maintain a strong skeleton. Plus you also get…

A Ray of Sunshine to Protect Your Bones from Fracture

Vitamin D is known as the "sunshine" vitamin, meaning your body can make it on its own when you're exposed to sunlight. But unless you get at least 15 minutes of sun exposure three days a week – and avoid slathering on sunscreen whenever you're outdoors – your body can't make enough of it.

What's more, older adults get an average of just 100 IU of vitamin D each day from food and supplements—a fraction of what's been shown in studies to cut your risk of fracture. In fact, the National Academy of Science's Institute of Medicine just raised its recommended daily amount of vitamin D to 600 IU daily, and I believe many of us need from 4,000 to 5,000 IU/day for protection against numerous health conditions.

If you're wondering if you're getting enough vitamin D, one sign could be those everyday aches and pains you may think are due to simply getting older. Muscle and bone pain is an often overlooked, yet well-documented sign of vitamin D deficiency. Even more important, if you're not getting enough vitamin D, you're at much greater risk of fracture.

In a study published in the *Journal of the American Medical Association* (JAMA), 50% of women hospitalized for hip fractures were found to have a vitamin D deficiency. And in a large controlled study of elderly French women published in the *New England Journal of Medicine*, there was a 43% reduction in the number of hip fractures in those treated with 800 IU of vitamin D.

Based on this research, I made sure you get at least a full 800 IU of vitamin D3 in each daily amount of *Ultimate Bone Support*. Vitamin D3 is the natural form of vitamin D your body makes on its own when it's exposed to sunlight. It's also the easiest form for your bones to absorb.

Plus this comprehensive formula gives you five more bone-building superstars you may be missing out on, including:

Boron—Boron is an important nutrient for healthy bones and joints. Not only does it help get calcium and other minerals into your bones to keep them strong, it promotes proper bone metabolism to help slow bone loss. Multiple animal studies show boron increases bone strength and preserves bone mass. There is also scientific evidence that suggests a link between low levels of boron and increased joint stiffness and discomfort.

Silicon—Silicon is required for forming collagen and connective tissue. It is also needed for your bones to absorb calcium in the early stages of bone formation. In a recent study of the offspring of participants in the well-known Framingham Heart Study—including more than 1,200 men and nearly 1,600 women—researchers linked silicon intake to higher bone density.

Manganese—Manganese is a trace mineral that's used by the body to promote bone growth and the development of cartilage and joint fluid. Animal studies show manganese slows the loss of bone mass and is required for normal bone formation. Another study on humans found a lower rate of bone loss in women who took manganese, zinc, and copper along with calcium, compared to those who took calcium only.

Copper – Copper is needed for making collagen, which makes up your bones, joints, and other connective tissue. In studies of both healthy

adult men and elderly, bed-ridden patients, increased copper intake slowed bone loss by reducing the breakdown of bone.

Zinc—Zinc provides many healthy benefits. But when it comes to your bones, it's vital for proper bone formation and mineral uptake. Zinc has been shown to promote normal bone growth in adolescent girls and in babies before they are born. Plus, a study on men shows it can increase bone formation.

The Easy, Worry-Free Solution to Keep Your Bones Strong for Life

You can see how all ten nutrients you get in *Ultimate Bone Support* act as a team to promote bone health. From building new bone to slowing bone loss to creating strong connective tissue, all your bases are covered when you take this advanced bone-building formula each day.

Plus, *Ultimate Bone Support* is so much easier than mixing and matching different nutrients to try to get the ideal combination. All the work has already been done for you! I've seen other bone formulas, but none with strontium and these other bone building nutrients.

You're assured of getting the right amounts, so you don't take too little of one nutrient or too much of another. In fact, you can safely take this formula along with your regular vitamin, since it's designed to fill any bone-building "gaps" and complement the levels of nutrients you're already getting.

A daily dose of *Ultimate Bone Support* contains all these:

- 500 mg Strontium – Stimulates bone-building and slows bone loss
- 300 mg Hops Extract — Saves healthy bone from being broken down
- 400 mg L-lysine – Links collagen fibers for a sturdy foundation
- 800 IU Vitamin D3 – Decreases bone pain and fracture risk
- 40 mcg Vitamin K2 – Increases bone density and calcium absorption
- 2 mg Boron – Supports proper metabolism to slow bone loss
- 4 mg Silicon – Promotes bone growth and builds cartilage
- 10 mg Manganese – Promotes bone growth and builds cartilage
- 2 mg Copper – Helps produce collagen and slow bone loss
- 15 mg Zinc – Enhances bone formation and mineral uptake

Ultimate Bone Support gives you the ten most important bone-building nutrients you're probably not getting enough of from your diet and supplements. I haven't found another bone health formula that comes close to giving you the maximum support to help keep your bones strong for life.

All of the potencies in *Ultimate Bone Support* are based on the latest scientific research, and only the highest-quality ingredients are used. I wouldn't settle for anything less! Take a look at everything this cutting-edge formula gives you each day.

You can see how this advanced formula gives you the total bone support your body needs so you can stay active and independent as you age.

Frequently Asked Questions About *Ultimate Bone Support*…

What makes *Ultimate Bone Support* better than other bone health supplements?

Because it's not just another calcium supplement. It contains strontium — and it gives you the right amount based on scientific research. Only a handful of other supplements include strontium, and most give you a mere fraction of the amount you need to maintain strong, healthy bones, like hops extract and L-lysine. These supplements also skimp on potencies, or don't use the natural, more easily absorbed forms of vitamins D and K like you get in *Ultimate Bone Support.*

Why doesn't *Ultimate Bone Support* have calcium in it?

Calcium competes with strontium for absorption. Since research shows strontium dramatically cuts your risk of fractures, I left calcium out. Too much calcium also interferes with your body's absorption of other minerals, making your bones weaker and more prone to fracture.

While calcium has a role in building strong bones, you probably get too much of it from your diet and supplements already. What's more, excess calcium can lead to a build-up of calcium deposits in your joints, heart, and kidneys… even your brain… causing memory problems, artery-clogging plaque, joint discomfort, and other health problems.

Should I have any concerns about strontium? Is it dangerous?

You don't have to worry, since the natural form of strontium is what you get in *Ultimate Bone Support*. This safe, non-toxic mineral has been shown in at least 100 human clinical studies to promote strong, healthy bones. What's more, none of these studies found ANY dangerous side effects — and some were done for as long as eight years.

Other studies on bone biopsies show the quality of bone is preserved supporting its safety. The only type of strontium that's dangerous is strontium-90. Strontium-90 is a radioactive form that's created as a waste product of uranium and plutonium in nuclear reactors or during a nuclear explosion.

What's the best way to get started on *Ultimate Bone Support?* How much should I take each day?

I recommend you begin by take two tablets morning and night for two to six months. Then take a maintenance dose of one tablet morning and night. That way you'll get the ideal amounts of nutrients shown in studies to support your bones. You can order *Ultimate Bone Support* by calling 800-791-3395 or by going to the website www.advancedbionutritionals.com/Products/Ultimate-Bone-Support-offer.htm.

Chapter 10:

The Only Drug You Should Ever Take For Osteoporosis

I've found that most women can avoid osteoporosis with regular bone-stressing exercises, dietary changes, and bone-conserving supplements like *Ultimate Bone Support.* But there are still a few women who need more support no matter what they do.

They may have waited too long before making healthy changes in their lifestyle. Or their bone loss may be due to genetics. Whatever the reason, whenever a woman needs an osteoporosis medication, her doctor tends to suggest Fosamax, Actonel, Boniva, or other bisphosphonates.

But, as I've told you, bisphosphonates can destroy bone tissues in your jaw, knees, hips, and shoulders. If you need to do more than make lifestyle changes and take extra supplements to build bones better — or if you can't make enough of these changes to protect your bones — there is just one medication I've found that's both safe and effective.

Unfortunately, many doctors either don't know about this medication or are misinformed about its benefits. That's what JoAnn found.

JoAnn's Story

JoAnn is a long-time subscriber to my newsletter. She wrote to me after hearing some disturbing news. Her doctor had just informed her that she had the beginning of osteoporosis. JoAnn had been doing everything right. She did bone-stressing exercises five days a week, ate a healthy diet, and had been taking *Ultimate Bone Support* with added vitamin D and strontium for over a year. She also was getting sufficient calcium and magnesium (500 mg of each, plus more from her diet). Her bones should have been fine.

JoAnn's doctor found the osteoporosis by accident. Her doctor wanted to check her for a possible lung problem she'd discovered and had ordered a chest X-ray. Ordinarily, JoAnn wouldn't have had an X-ray. In fact, she was so sure that her bones were strong that she hadn't ever had a bone density scan though she was in her mid-60s. The X-ray showed no lung problem — but found two mild compression fractures in her spine.

JoAnn was shocked. She had no back pain or other indication of any bone loss. So what was going on? After talking with her, I realized she had several unavoidable risk factors she had overlooked. Her mother had suffered from osteoporosis, and both JoAnn and her mother were slight, white, fair-skinned women. Genetics appeared to be at the core of her problem.

Actually, JoAnn was fortunate. Most compression fractures are discovered only after they cause pain. Hers were so mild that there was no pain or discomfort. If she hadn't had an X-ray or a bone density test, she wouldn't have known that genetics had caught up with her. It was time to look for more support.

JoAnn's doctor agreed. "I'd suggest you take Fosamax," she said. But JoAnn had read some of the horror stories about bisphosphonates, including disintegrating jawbones and refused this dangerous drug.

"No," she told her doctor, "I won't take Fosamax. But I'm willing to take calcitonin. I've heard that it's safe and effective."

What is Calcitonin?

Calcitonin is a hormone made by the thyroid gland. It slows down bone loss and helps rebuild bone. Most vertebrates, including humans, naturally make calcitonin. Calcitonin made from salmon is 40 to 50 times stronger than human calcitonin and lasts longer, which is why it has been used as a drug. But until recently, studies didn't back up its efficacy. Now we know it's an excellent option for osteoporosis prevention and reversal. Here's why:

Remember, bone is living tissue that's constantly building up and breaking down. Osteoclasts remove old bone, and osteoblasts lay down new bone. Calcitonin slows down the removal of bone, and at the same time it promotes bone formation. In plain language, it increases bone density and bone strength.

Calcitonin is not a bisphosphonate and has no nasty side effects. It won't destroy jaw bones or any other bones. Other drugs interfere with the formation of bone. Calcitonin doesn't.

In the past, doctors had to inject calcitonin. Now it's available in an easy-to-use nasal spray. And it works beautifully. One study found that the nasal spray reduced fractures by two-thirds in older women with moderate osteoporosis. It also increased bone density in the spine much better than calcium alone. A number of studies have found that the optimal dose is 200 IU per day given intranasally, along with 500 mg of calcium. Both higher and lower doses of calcitonin were less effective.

Is Calcitonin Dangerous?

The FDA thinks it may be, and the future availability of calcitonin may be in its hands. Two FDA committees are about to examine the evidence. The problem appears to be that some studies found a cancer-risk signal present in salmon calcitonin. However, the first study only found a higher risk of prostate cancer in men when taken orally — not in women. And women have taken calcitonin as a nasal spray.

Still, the FDA insists that "the potential for a cancer risk associated with calcitonin use appears plausible, and certainly cannot be ruled out with the data reviewed."

The FDA does admit that there hasn't been a dose relationship between calcitonin and cancer. So what's going on? Are they just looking out for our well-being? Perhaps. But I find it suspicious that TV ads for a testosterone gel warn that it can cause a slight risk of prostate cancer, yet is widely available, while calcitonin may become unavailable to women although there is no known risk for them.

Misinformation about Calcitonin

The FDA staff says there are no long-term studies on the safety and efficacy of calcitonin nasal spray. Yet they cite a 5-year, double-blind, placebo-controlled study that showed a 35% decrease in spinal fractures. Based on this information, JoAnn decided to go forward and use calcitonin nasal spray.

JoAnn's doctor admitted that she hadn't used calcitonin on many of her patients even though she knew there could be serious problems with the more popular bisphosphonates like Fosamax. And unfortunately, she was not well informed about its benefits.

"Calcitonin is primarily used to reduce the pain from osteoporotic fractures," she told JoAnn. "It doesn't build bone. And it's extremely expensive." None of this was true. JoAnn and I had read studies that showed calcitonin did, indeed, preserve and build bone. And, as far as cost, she was willing to pay just about anything for an answer that wouldn't cause more harm than good. But just to put her mind at ease, JoAnn spoke with her pharmacist.

He assured her that calcitonin did, indeed, increase bone density as well as reduce pain from fractures. He had seen good results with it with many of his clients. Dozens of good, sound scientific studies backed up his observations.

"Your prescription is for Miacalcin," he told JoAnn. I can give you the same product under another name, Fortical. It will be much less expensive." After her insurance discount for prescriptions, JoAnn's charge was just $8.00 a month.

Daily or Intermittent?

JoAnn's doctor prescribed the appropriate dose of 200 IU of calcitonin nasal spray daily. It's too early to tell, but new studies indicate that you may need to take calcitonin daily only every other month according to a one-year randomized, controlled study conducted in Greece.

They gave women with osteoporosis daily supplemental calcium (500 mg) and small amounts of vitamin D3 (400 IU). Then half of them took 200 IU of an intranasal salmon calcitonin every other month for one year. The group that used calcitonin had significant increases in their spine, neck, and hip bone over those on calcium and vitamin D alone.

Whether you take a salmon calcitonin nasal spray continuously or every other month, have your doctor monitor your progress. In my opinion, it's the best choice for women who need more than calcium, magnesium, vitamins D and K, and strontium.

You also need to remember, whether you already have osteoporosis or just want to prevent it, be sure to eat a healthy diet (including plenty of dark, leafy green vegetables like spinach), reduce your stress, and do bone-stressing exercises.

And lay a good foundation by taking *Ultimate Bone Support*. You can order *Ultimate Bone Support* by calling 800-791-3395 and give them the special offer code ABNFHOAX.

A FINAL WORD

Calcium is the most popular, most prescribed nutrient in the world. It's also the most misused. It is best absorbed from foods, and yet

the majority of women take too much of it from supplements that cause more problems than it solves.

Calcium can help save your bones or make them more brittle. It can contribute to heart disease and arthritis or not. It's all a matter of how much and which form you take. This is a complex matter and one that deserves an explanation you can understand and use.

I wrote this book to help you understand the reasons for the on-going calcium controversy. It is my hope that this information will help you feel better about making decisions your doctor may not agree with, and lead you to a stronger, healthier body.