



The best way to gain control over any chronic condition, including osteoporosis, is to be well versed on the subject. Below is a list of Web sites we recommend as good sources of information on osteoporosis. There are thousands and thousands of sites and we offer these as a jumping-off point. If you don't have access to the Web at home, your local library does. Often librarians can help you navigate. Happy surfing.

**National Osteoporosis Foundation**

[www.nof.org](http://www.nof.org)  
202-223-2226

The top site for information about osteoporosis, its treatment and related conditions. The site is easy to navigate. It also provides a link to find out about osteoporosis support groups.

**WebMD.com**

[www.webmd.com](http://www.webmd.com)

The quintessential medical site on the Web. It contains a host of information on the disease, as well as links to must-read articles.

**Osteoporosis and Bone Physiology**  
[courses.washington.edu/bonephys](http://courses.washington.edu/bonephys)

Dr. Susan Ott, an associate professor with the Department of Medicine at University of Washington, maintains this educational site for physicians and patients. It has a comprehensive index, making it easy to look up information.

And, there is a special section for children, Bone Biology for Kids.

**National Institutes of Health**  
**Osteoporosis and Related Bone Diseases**  
**National Resource Center**

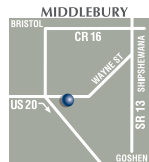
[www.osteoo.org](http://www.osteoo.org)

The National Osteoporosis Foundation established this site in collaboration with The Paget Foundation and the Osteogenesis Imperfecta Foundation to provide technical information to patients and physicians. The foundation established the National Institutes of Health in 1994.

**Foundation for Osteoporosis Research & Education**

[www.fore.org](http://www.fore.org)

This non-profit organization's stated goal is to prevent osteoporosis through research and education. It acts as a resource center for physicians and patients.



**OSMC is Michiana's leading center for orthopedic care.** Since its founding in 1973, OSMC, formerly Orthopedic & Sports Medicine Center, has held a vision of comprehensive orthopedic care which includes proper diagnosis, treatment, rehabilitation, and wellness maintenance.

**OSMC Physicians**  
**Orthopedic Services**

- Robert K. Ellis, MD.
- Louis C. Sfreddo, MD.
- Mark A. Klaassen, MD.
- Leonard J. Kibiloski, M.D.
- Gregory A. Peyer, M.D.
- Craig W. Ereksan, M.D.
- David A. Cutcliffe, M.D.
- Scott J. Trumble, M.D.

**Pain Management**

- David A. Beatty, M.D.
- Gene W. Grove, M.D.

**OSMC Divisions**

- The Hand Institute
- Center for Sports Medicine
- Knee & Hip Center
- Back & Spine Center
- Foot & Ankle Center
- Work Injury Care Center
- The Pain Management Center

- OSMC Outpatient Surgery Center
- OSMC Therapy Center

Information in this publication is general in nature and should not be construed as diagnosis by a physician. To get an accurate diagnosis, you need to be seen by a physician.

This vision is exemplified today by an expert medical, surgical, therapy and support staff, working together for your good health and well-being. Located on California Road in Elkhart, OSMC staff and services are organized in several divisions: The Hand Institute, Center for Sports Medicine, Knee & Hip Center, Back & Spine Center, Foot & Ankle Center, Work Injury Care Center and The Pain Management Center.

Spacious facilities (more than 35,000 square feet) include an on-site Outpatient Surgery Center and Therapy Center. OSMC also offers physician and therapy care in Nappanee and Middlebury and physician care in Wakarusa. For more information please call (574) 264-0791 or 1-800-398-2058.



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574-264-0791 • 1-800-398-2058 (toll free)  
[www.osmc-online.com](http://www.osmc-online.com)

Where can I find calcium? Here's a few examples:

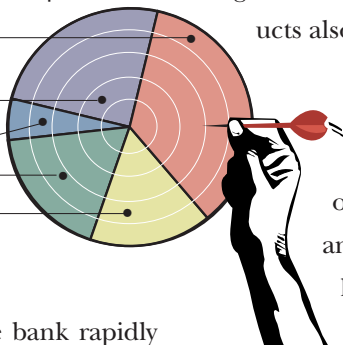
1 serving of milk or yogurt has about 350 milligrams of calcium.

1 cup of spinach, 244 mg.

1 naval orange, 56 mg.

1 cup of boiled broccoli, 180 mg.

1 cup of white beans has 160 mg.



digestible. Lactose-reduced or lactose-free products also are available.

Other sources of calcium are cereals, leafy green vegetables, many nuts and seeds and dried fruits. Some orange juices are fortified with calcium and canned fish which has bones in it, like sardines, are good.

of calcium deposits from the bone bank rapidly increase. Sorg said the average 55-year-old male produces more estrogen than the average 55-year-old female.

A calcium rich diet is a good way to fight osteoporosis. Kids who do not ingest enough calcium, do not attain maximum bone density. Older people who do not get enough calcium, do not have the bricks and mortar their body needs to rebuild bone.

Milk products are the best source of calcium, according to Connie Weaver, who heads the department of food and nutrition at Purdue University. "Bone health requires a lot of nutrients and you're likely to get most of them in dairy products," she said in an article in FDA Consumer. "They're a huge package rather than just a single nutrient." Lactose intolerance can be countered with lactase pills or drops that make milk products

The question remains: How much calcium is necessary? This is a question you need to answer in conjunction with your physician. Calcium requirements vary with age and the person's condition. The Food and Drug Administration recommends a daily intake of 1,000 milligrams (mg). As much as 2,000 mg of calcium seems to be safe for most people, but those at risk for kidney stones may want to talk to their doctors, according to the FDA.

Some people need to take calcium supplements; others get sufficient amounts through their diet. A serving of milk or yogurt has about 350 milligrams of calcium. A cup of white beans has 160 mg.; a cup of boiled broccoli, 180 mg; one naval orange, 56 mg.; a cup of spinach, 244 mg. If supplements are employed, they are most effective when taken with a meal.

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the onset of menopause occurs around age 50 to 52. When menopause occurs, estrogen levels in the body fall drastically. Women can lose up to 20 percent of their bone mass in the five to seven years following menopause. This is one reason why women are more susceptible to osteoporosis than men. This is the time when women should have their first bone density test. Often women will begin



hormone replacement therapy (HRT) to counteract the impact of menopause. In HRT, doses of estrogen and progestin are administered, either orally or with a skin patch.

**61 AND OLDER:** Both men and women are now at extreme risk for osteoporosis and the broken bones that come with it.



# Don't break the bank

**B**one is a living, growing tissue made up of collagen and calcium phosphate. The skeletal system undergoes a process called “remodeling,” in which bone tissue is broken down and rebuilt. The process is continuous throughout life; a full cycle of remodeling takes two or three months.

And, while the process is continuous, the rate at which it occurs varies according to age. Try thinking about the skeletal system as a very special savings bank. For the first 35 years of your life, you make more deposits in the bank than withdrawals. After age 35, the rate of withdrawal outpaces deposits. Osteoporosis is equivalent to bankruptcy.

“People usually attain peak bone mass at age 35 and that peak bone mass dictates whether an individual will contract osteoporosis down the road,” said John Sorg, M.D., director of the Regional Center for Bone Health. “Insufficient amounts of calcium in the diet before age 35, gives your account less to draw on after 35.”

Calcium is the nutrient needed for the building process. Vitamin D is necessary for the body to absorb the calcium and to get it to the bones where it is used in the building process.

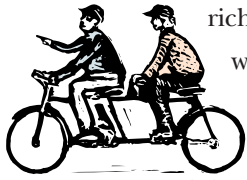
Even after age 35, bones continue to rebuild – just not as fast as they are torn down. What happens with osteoporosis is the bone destruc-

tion process far outstrips the building process to the point where bones become brittle and prone to breaking.

One reason women are more susceptible to osteoporosis than men is menopause. At the onset of menopause, the level of estrogen in the female body dramatically falls. To carry our bank analogy a little bit further: when the estrogen factory goes on strike, your withdrawals



IF YOUR BONES WERE A BANK,  
CALCIUM AND VITAMIN D WOULD BE  
THE INTEREST BEARING DEPOSITS



density added now, the better. The secrets to adding bone density remain the same: a calcium rich diet and weight bearing exercise. This would include walking and running; lifting weights also helps. Certain drugs, including steroids and asthma medication, can inhibit formation of bone mass. Female athletes should be careful of over training.

**31 TO 40:** About midway through this decade of life, the cells that break down bone tissue begin to outpace those that build up tissue. Individuals should make sure they are getting about 1,000 mg. of calcium daily. Vitamin D, whether from sunshine or fortified milk, also is important. This is the decade when people begin to reduce their activity level. Let's face it; kids, careers and life in general seem to make regular exercise less important. That's not a good choice for your bones.

**41 TO 50:** Ask folks in their 40s what is happening to their bodies and invariably they reply, "It's falling apart." This is midlife and the body is changing. All those aches and pains seem magnified and it takes longer to recover from muscle strain. About midway through this decade women enter perimenopause, the time leading up to menopause. During this time, they may experience some of the symptoms of menopause including decreased estrogen levels. Many individuals have difficulty controlling their weight. While it can seem easier just to let things slide, the choices you make now will affect your body later. A calcium rich diet with adequate amounts of vitamin D is very important. Your bones are losing mass and the calcium is necessary to combat that. Exercise also is important but stretching exercises should be added.



**51 TO 60:** This is a critical decade for women. Medical authorities generally say

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## An Osteo-Warrior

Physician blends love of engineering, medicine in his fight against osteoporosis  
ELKHART – There may not appear to be much of a connection between engineering and medicine but John Sorg, M.D., has found it. Sorg is the specialist to whom physicians at OSMC refer patients suspected of having osteoporosis.

Sorg earned an undergraduate degree with highest distinction in engineering at Purdue University. He then attended Indiana University's School of Medicine in Indianapolis, Ind. When he graduated in 1986, it was with highest distinction.



Dr. John C. Sorg

"I was looking for a way to blend engineering and biology," said Sorg. "Medicine seemed the way to do it." He goes a step further with his specialization in osteoporosis. "This is a disease involving the mechanical structure of the bone. This is a disease that distorts the micro-architecture of bone leading to fragility and an increased risk of fracture."

Sorg is medical director of the Regional Center for Bone Health based at Elkhart General Hospital. He also is a board certified internal medicine physician on the staff at Elkhart Clinic. The center's mission is to create a community standard for screening, treating and preventing osteoporosis. He sees patients at OSMC on Friday mornings.

Sorg was born and raised in Anderson, Ind., and attended a year at General Motors Institute, Flint, Mich., before going to Purdue in West Lafayette, Ind.

He attended IU's School of Medicine and served his internship and residency at St. Vincent Hospital & Health Care Center in Indianapolis.

Elkhart County Council on Aging named him Physician of the Year for 1997. The International Society for Clinical Densitometry certified him as a clinical densitometrist in 1998. He is an associate member of the American College of Physicians and belongs to the Indiana State Medical Association.

Sorg and his wife Ann have two children. They make their home in Goshen.

# It's preventable!!!

At one time brittle bones and the associated painful fractures were considered part of the aging process. No longer. Physicians know that osteoporosis can be prevented; loss of bone density can be slowed; broken bones do not have to be a way of life.

The human body is constantly changing. It goes through definite stages of growth, maturation and aging. And, at each stage, there are actions you can take to strengthen your bones and stop osteoporosis. The following is a general guide; obviously each person is unique with his or her own set of circumstances.

**BIRTH TO 10:** A child's body grows rapidly during his or her first decade. This growth must be sustained with a well balanced diet, rich in calcium. Young children

should be encouraged to exercise. (In many cases, the encouragement is not necessary. The average 8-year-old boy would run everywhere, if he could.) Most of all, kids should be encouraged to adopt the good habits of a healthy lifestyle. An unsettling trend over the past couple of decades in America is the tendency toward obesity.



**11 TO 20:** Now is when exercise is very important. Weight-bearing exercise applies tension to the muscles and bones. The bones respond by adding as much as 2 percent to 8 percent density per year. This also is a very important age for girls. Estrogen levels increase as a young woman begins menstruating. Female athletes who train very hard and girls with eating disorders, like anorexia nervosa, may stop having their menstrual cycle. This results in low estrogen levels and loss of bone mass density when bone growth is at its peak. These conditions can be treated with oral contraceptives and increasing caloric intake.

**21 TO 30:** By the third decade of life, outward growth has ceased. However, bones continue to add density. The more



NO MATTER WHAT YOUR AGE,  
YOU CAN TAKE DIRECT ACTION  
AGAINST OSTEOPOROSIS

Sorg said the bone density exams are relatively easy to perform; the clinic can do 27 a day. “We’ve scanned 8,000 people here since 1996,” he said.



One in two women and one in eight men over age 50 will have an osteoporosis-related fracture in their lifetime.



While the scan itself is not time consuming, creating an effective program for the community is. “I really think for the size of Elkhart and the surrounding area, we have a pretty good program. Word is getting out about osteoporosis and what must be done to counteract it. Word also is getting out that diagnosis is relatively easy. This is a very similar initiative to blood pressure screening back in the ‘50s or ‘60s,” said Sorg.

There are two times in a woman’s life when she should have a bone density scan. The first is when she reaches menopause, about age 52. Estrogen levels fall rapidly at the onset of menopause. This accelerates bone loss. Women can lose up to 20 percent of their bone mass in the five to seven years after the onset of menopause. Women should have another scan around – ages 62 to 65, when they become eligible for Medicare. This again is a time when they

are most susceptible to bone loss.

Sorg looks at several other risk factors when screening people for osteoporosis:

- The biggest risk factor for osteoporosis is being female. Women have a five times greater risk than men.
- Being thin and small framed.
- Advanced age and an inactive lifestyle.
- A family history of osteoporosis.
- An abnormal absence of menstrual periods resulting in low estrogen levels. This is of particular concern for young girls who exercise excessively or have certain eating disorders.
- Use of certain medications, such as corticosteroids and anticonvulsants.
- Low testosterone levels in men.
- Smoking and heavy alcohol use interfere with the body’s ability to absorb calcium, a nutrient necessary for building bone density.
- Being Caucasian or Asian.

Osteoporosis is a major health threat to more than 28 million Americans, 80 percent of whom are women.



18 million more have low bone mass.	8 million women in America already have the disease.	2 million men in America already have the disease.
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The risk factors are only a starting point for screening. An individual can have all of the risk factors and not develop the disease or have none of them and contract it. The only sure method of diagnosis is a bone density exam.



Osteoporosis is responsible for 1.5 million fractures each year. That is 4,110 fractures every day; one every 20 seconds. Among those fractures are:

- 300,000 hip fractures
- 700,000 vertebral fractures
- 250,000 wrist fractures
- 300,000 fractures at other sites

**Osteoporosis, which literally means “porous bone,”** is a disease characterized by low bone mass and structural deterioration of bone tissue. This usually occurs without symptoms until bone fragility reaches the point where a sudden strain, bump or fall causes a bone fracture.

# It's treatable!

The Regional Center for Bone Health seeks to treat, and eventually eliminate, osteoporosis in Elkhart County. Osteoporosis is a quiet disease, sapping bones of their strength.

You have no idea there is a problem until a simple, every day activity, like getting out of bed, results in a painful bone fracture.

Nevertheless, there is good news. Osteoporosis is very treatable and can be prevented. "This is a disease that we can eliminate," says John Sorg, M.D., who is leading the local campaign against osteoporosis.

Sorg is an adult medicine specialist practicing at the Elkhart Clinic. He also is director of the Regional Center for Bone Health at Elkhart General Hospital. "The Regional Center for Bone Health is a program that I created to provide a community standard for screening, treatment and prevention of osteoporosis," said Sorg.

While Sorg is based at the Elkhart Clinic, the regional center is an outreach program working closely with other medical practices.

He spends Friday mornings seeing patients at OSMC and he is developing a similar program for the Women's Health Center at Elkhart General Hospital. In both cases, Sorg is the expert to whom other physicians turn when they suspect osteoporosis. Sorg's goal is to identify people at risk of the disease, to screen them and to get them on an effective course of treatment.

"We are trying to identify people who are at risk," said Sorg. Once identified, they are

encouraged to have a bone density examination with a machine called a DEXA. The DEXA employs a low-dose form of radiation called dual-energy X-ray absorptiometry. One of two such machines in Elkhart County is located at the Elkhart Clinic and Sorg is a certified clinical densitometrist.

Testing with a DEXA is the most reliable method of diagnosing osteoporosis. It is painless and non-invasive. Once Sorg has taken the scan and read the results, he will make a recommendation to the patient's treating facility. In a particularly tough case, he will conduct an in-depth consultation with the patient. Sorg recommends a follow-up scan of patients with osteoporosis after about 12 months to ensure the course of treatment is remedying the situation.



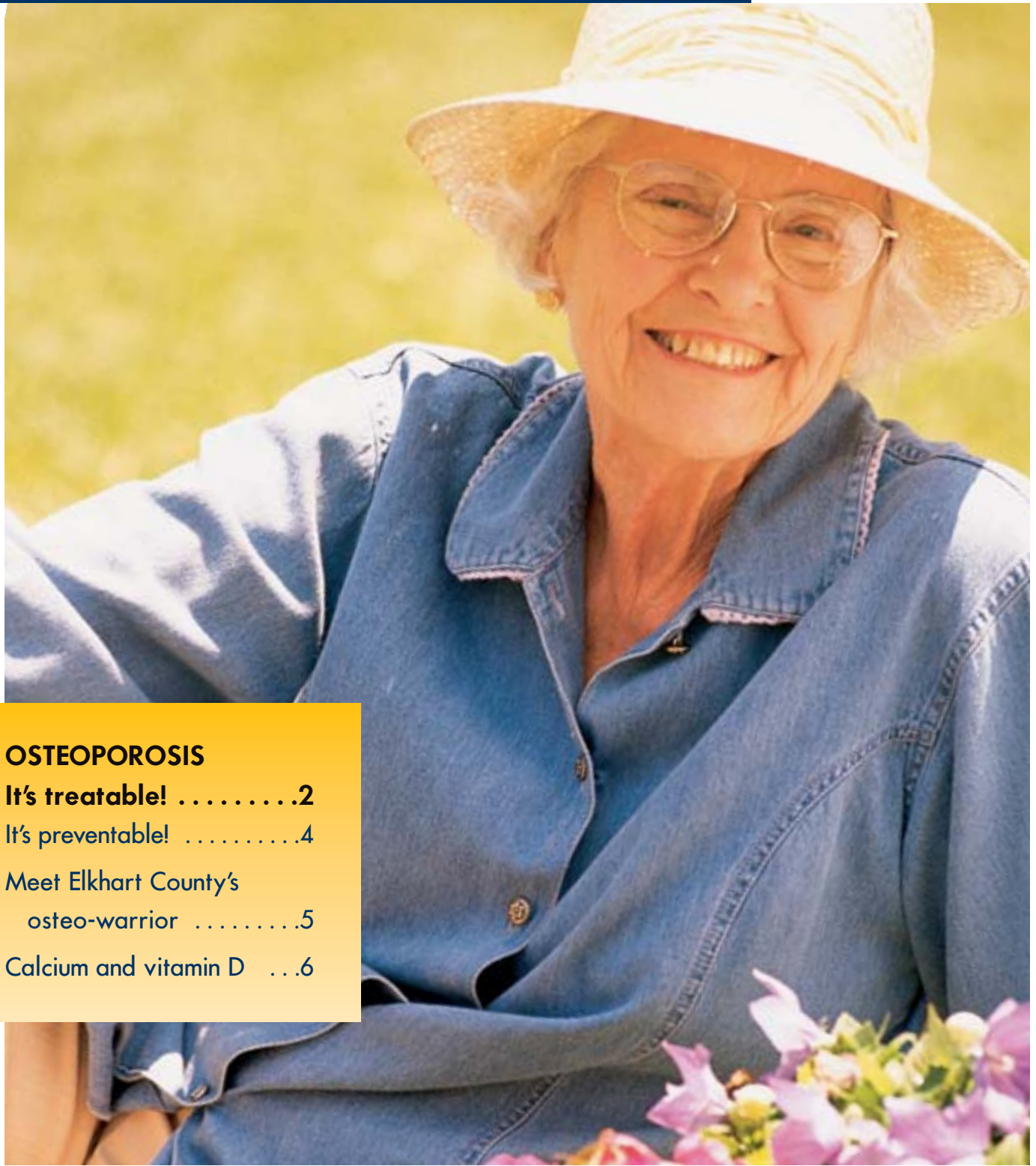
WORD IS GETTING  
OUT ABOUT  
OSTEOPOROSIS AND  
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## OSTEOPOROSIS

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