Did you know that healthy young women can develop osteoporosis?

Osteoporosis currently affects 10–12 million people in the United States. Although the majority of those affected are postmenopausal women, healthy young premenopausal women can also have osteoporosis. Many healthy young women have osteoporosis and are unaware that they have it. Most young women with osteoporosis have a known cause, such as an underlying illness like, hyperparathyroidism, Paget's disease, cancer, intestinal disorders, kidney disease and liver disease. Others can develop bone loss through the use of a medication, such as the use of steroids (Prednisone, Cortisone). If you have had a sporadic menstrual history, where you have not menstruated for a period of time greater than six months (other than when you were pregnant), you may be at risk for bone loss, simply because your body was estrogen deficient during that time frame.

If you have had children in the last year you may also be at risk, as calcium in your bones can be depleted during the pregnancy and breast feeding. Sometimes it can take several months for your bone density to return, in other cases it may never return. Osteoporosis that affects otherwise healthy, young women is referred to as idiopathic osteoporosis. Idiopathic simply means unknown, so idiopathic osteoporosis (IOP) means that we do not know the cause of the bone loss.

Young women with IOP may experience several broken bones or stress fractures in their lifetime. Broken bones and stress fractures in any healthy individuals are not considered normal. Some of these broken bones or stress fractures can happen with no apparent trauma. In these cases we refer to them as non-traumatic fractures. A non-traumatic fracture is one that can happen simply by falling from a standing height. Other examples of non-traumatic fractures are, walking, tripping, slipping, stepping off a curb or falling on the ice. In all of these situations a healthy individual should not be breaking or fracturing a bone.

It is important for healthy young women to identify that they may have IOP early, so that proper treatment can be given prior to menopause. During menopause the average woman can lose up to 12 percent of their bone density due to the depletion of estrogen. So in a case of a woman with IOP, they are already starting below the threshold, and therefore can lose a substantial amount if not pre-treated.

Some women with IOP develop bone loss which can only be determined through bone mineral density (BMD) testing. BMD testing is done utilizing Dual
Energy X-ray Absorptiometry (DXA) to obtain a scan of the lower back and the proximal hip area. This is the gold standard and the only acceptable method of diagnosing bone loss.

Dr. Elizabeth Shane from Columbia University in New York and Dr. Robert R. Recker, Creighton University’s medical director are collaborating on a project to identify women with IOP. Once identified they will be screened for any underlying cause of osteoporosis, if one is identified then they can be treated by their primary care physician or be referred to one of our two other osteoporosis specialists at our center. This program is designed to identify and treat women with IOP.

This study is one of the few in this country that is utilizing a bone building medication. It will aid in building new bone for women identified with IOP and also preventing new broken bones or fractures from occurring.

Currently, both sites are screening for these women. If you feel that this could be you we encourage you to contact one of our offices at the information below.

**Creighton University Osteoporosis Research Center** at 402.280.2663 (BONE) or toll free at 800.368.5097. You may also email Jennifer Larsen, recruitment director, at jennyl@creighton.edu or Julie Stubby, project coordinator, at jstubby@creighton.edu.

**Columbia Universities Research Team** can be contacted at 212.305.7225. You may also email their project coordinator, Mariana Bucovsky, at mb3523@cumc.columbia.edu.

“Many healthy young women have osteoporosis and are unaware that they have it.”
CREIGHTON ENDOWMENT FOR OSTEOPOROSIS
In Memory of Sister Anne Evers

Osteoporosis is a dreaded disease that commonly affects our population. We used to think that it was a disease of elderly women only. Shortly after the Creighton Endowment for Osteoporosis Research was begun, we received a letter from a woman in Auburn, Ala. who told us: “I thank God there is a university that has a whole center devoted to osteoporosis, a disease that most people think only affects useless bent old ladies.” That was a heart breaking letter to get. But she was right on both counts. People used to think it was a disease of women past their prime but now we know it affects men and younger women as well. And thank God that Creighton University cares enough to support such a center.

Our concept of osteoporosis is changing. Earlier we thought osteoporosis was all due to bone loss. Our research, and that of others, has shown that bone weakness and osteoporosis is also due to poor bone quality and low bone density. This understanding has opened new directions for research into therapeutic interventions.

As you can see, our work here isn’t finished. The National Institutes of Health (NIH) provide the largest single source of funding for biomedical research in the U.S. and the world. The annual NIH budget during recent years was about $39 billion. Over the last two years, the budget has declined by about $3 billion. Pharmaceutical companies are another source of biomedical research funding, but they are gradually shrinking their research operations. The first effective drug for treatment came on the market in 1995 and reduced fractures by 50 percent. Since about 50 percent of the risk remains, we cannot say we have a cure.

The Osteoporosis Research Center (ORC) has been active in research for nearly 50 years. Among many achievements, we:

• Set the U.S. government standard for recommended dietary calcium intake
• Determined the bioavailability of numerous calcium supplements
• Discovered the bone cell changes causing bone loss at menopause
• Discovered a gene mutation (High Bone Mass gene) that may lead to prevention of osteoporosis
• Discovered that calcium and vitamin D supplements prevent fractures in female basic trainees.

Ongoing and future projects are:
• The cause of bone loss at menopause
• The genetic control of bone development
• The bone quality defects responsible for 50 percent of fracture risk.
• Whether and how Vitamin D prevents infections
• What role does vitamin D play in preventing cancer
• Will vitamin D improve muscle strength and overall well-being in patients on kidney dialysis

Enter the endowment: It was established in 2007 to make up for NIH and other funding reductions. It will provide discretionary funds for developing preliminary data to support new initiatives and will keep our lab intact through the ups and downs of extramural funding. The advisory committee, Michon Abts, Kathryn Clark, Lynette Dvorak, Mary Larsen, Anne Lieben, Mary Maxwell, Kathy McDonald and Mary Monson have been invaluable help in increasing funds from $0 to over $500,000. Not only did we raise money, but equally important we raised awareness of this painful disease.

Earning money for this project has been interesting and fun. We held home parties; fashion shows; a party bridge event; raffles that included several Creighton basketballs as prizes; and 5Ks (our next one will be at Lake Zorinsky, Shelter 5 on November 7, 2015 – visit their website at www.moveit5k.org for more information about the 5K run, 1 Mile run/walk). Finally, we asked people to donate which is what I’m doing in this letter. Our goal is $10 million. Will you help us with the next $9.5 million?

Susan M. Recker, BSMT
Coordinator of Development
Osteoporosis Research Center

Recent Donations to the Creighton Endowment for Osteoporosis

In Honor of
“Keep up the good work, people of the ORC” from Sallie Pfeifer

In Memory of
Dr. Norman Wheeler (Classmate of Dr. Robert Heaney) from Mary Clare Harper, M.D.
THE GIFT OF GIVING
Consider a donation in honor of a loved one to the Osteoporosis Research Center

Just mail this form to:
Creighton Endowment for Osteoporosis
In memory of Sister Anne Evers
601 North 30th Street, Suite 4820
Omaha, NE 68131

A Contribution is enclosed to the Sister Anne Evers Endowed Research Fund
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