

Balance Basics for Bone Health

With age, individuals lose their sense of balance without realizing it because it creeps up on one slowly. Individuals may start to have episodes of loss of balance, which can then lead to falling; additional episodes are likely to follow. Each fall puts an individual at an increased risk for a broken hip or other major bone, especially in persons with osteopenia or osteoporosis. To avoid falls individuals should focus on maintaining and improving balance in order to decrease the chance of falling.

The following information is reprinted with permission from *Boning Up on Osteoporosis*, Second Edition, p88 National Osteoporosis Foundation, Washington, DC 20037. All rights reserved.

Three sensory systems play a role in movement and the ability to maintain balance.

1. The visual system relays information about movements and location in space.
2. The vestibular system is a delicate balance system located in the inner ear. In combination with the visual system, it gives a frame of reference for movement. For example, it helps us determine whether it is our body moving or the surrounding environment that is moving.
3. The somatosensory system provides information from such things as touch or pressure and also helps us feel sensations of body movement.

Leg and hip Strengthening Exercises can help improve balance while decreasing the risk of falls.

The challenge for people with osteoporosis is to find exercises that are safe. If you have been diagnosed with osteoporosis or have had spine fractures, you need to avoid activities that require reaching down, bending forward, rapid twisting motions, heavy lifting and movements that increase your chance of a fall.

Get your doctor's approval before starting an exercise program, especially if you have heart disease, diabetes or high blood pressure. Then start slowly.

Visits to your eye doctor can help us with the visual system.

Balance Training Exercises can help retrain the vestibular and the somatosensory systems. When doing balance training exercises, you should feel a little wobbly in your legs and feet to show that balance is being challenged, but you should not feel like you could fall.

Who should do balance exercises? Balance exercises are especially important if you have fallen during the past year or if you lose your balance while doing regular daily activities.

How often should you do balance exercises? You can do balance exercises every day. You can perform these exercises at one time or spread them throughout the day. Below is an example of a two balance exercises you can do at home.

Balance Training Progression Exercise*

Level 1 Feet together:

Stand with feet tight next to each other.

Level 2 Semi-tandem:

Stand with one foot in front but slightly to the side of the other with the inside edge of the front heel touching the inside edge of the back foot's big toe.

Level 3 Tandem:

Stand with one foot directly in front of the other like being on a tight rope.

Level 4 Single leg stance:

Stand on one leg only.

At first, you may need to hold onto a stable chair or table with both hands.

When you no longer wobble, hold on with one hand only. Then progress to doing the exercise while touching the chair or table with one fingertip only.

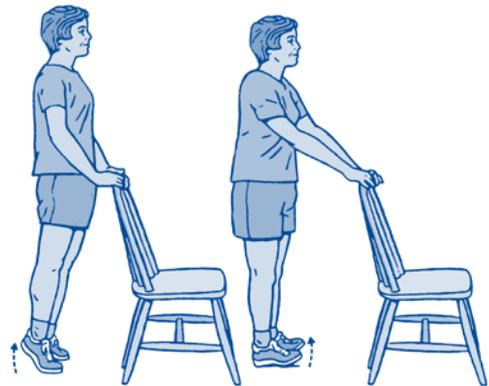
As you become steadier, you should hold both hands two inches above the chair or table or do the exercise with your eyes closed.

Start with Level 1 and try to hold the position for 20 - 30 seconds. Once you can do this, progress to the next level.

As you are able to master each level, progress to the next level until you can stand on one leg with your eyes closed with your hands two inches above the chair or table.

Toe raises/heel raises*

- Stand straight and hold onto the back of a chair, without bending at the waist or knees.
- Rise up on your toes and then back onto your heels. When you rise up onto your toes, imagine you are moving your head up to the ceiling.
- Repeat 10 times.
- Hold on to the chair as little as possible to challenge your balance.
- Do this once each day.



**These exercises should not hurt in any way while they are being done or cause muscle soreness lasting more than two days. All individuals should obtain permission from their healthcare provider before beginning a new exercise program.*

If you would like to purchase the entire “Boning Up on Osteoporosis” booklet for \$6.50, you can contact:

National Osteoporosis Foundation
1232 22nd Street, N.W. • Washington, D.C. 20037-1202
Local Phone Number: (202) 223-2226 • Toll Free Number: 1 (800) 231-4222
Fax Number: (202) 223-2237
Email: webmaster@nof.org • Website: www.nof.org

Additional Informational Sites:

American Dairy Association and Dairy Council of Nebraska
8205 F Street, Omaha, Nebraska 68127
(402) 592-3355 • (888) NEB-MILK • (402) 592-1503 (FAX) • www.nebmilk.org

Opportunities to Participate

The Creighton University Osteoporosis Research Center is conducting the following studies. If you have any questions, please call 402.280.BONE (2663) or Toll-free 800.368.5097.

RESEARCH STUDY FOR 13 AND 14 YEAR OLD GIRLS

This is a one year research study at the Osteoporosis Research Center evaluating the role of dairy consumption on weight management.

Requirements:

- 5 visits
- Painless evaluations
- Monetary stipend

Please contact our nurses at **402.280.4070** for more information.

HEALTHY KIDS CAN HELP

The Osteoporosis Research Center is currently conducting an important study of bone health in growing children and adolescents.

Your child may qualify if he/she is between the ages of 5 through 18 years.

This study includes:

- One time visit
- Monetary stipend

Please contact our nurses at **402.280.4070** for more information.

ARE YOU DIABETIC?

The Osteoporosis Research Center is currently conducting a study to determine the effects of diabetes on bone health.

Both men & women are eligible for this study.

To qualify for participation:

- Must be a type 1 diabetic for at least 3 years.
- Must be between 19 and 50 years of age.
- 3 visits to our center
- 1st visit involves a blood draw and bone density scans.
- Monetary compensation for study visits

HAVE YOU OR SOMEONE YOU KNOW EXPERIENCED A BROKEN BONE?

IT COULD BE OSTEOPOROSIS!

The Osteoporosis Research Center is currently conducting a research study investigating the underlying causes of osteoporosis in postmenopausal women.

Do you meet the following criteria?

- Age 45-70
- At least four years since last menstrual period
- Not currently on treatment for osteoporosis

WOMEN SMOKERS NEEDED

The Osteoporosis Research Center is currently conducting a genetic study to determine the effect of smoking on bone health. This study involves no medication and is **not a stop smoking** study. We are looking for:

- Caucasian women
- Age 30-40
- One time visit
- Monetary stipend

If you have any questions, please call 402.280.BONE (2663) or Toll-free 800.368.5097.

NEED A GIFT IDEA?

Consider a donation to the Sister Anne Evers Endowment for Osteoporosis Research. Your honoree will receive a card notifying him/her of your thoughtful gift and acknowledging that a donation was made in his/her honor. We will not disclose the amount of your donation. Your gift will live on in the research that our investigators do.

Thank you for your generosity.

RECENT DONATIONS TO THE OSTEOPOROSIS RESEARCH CENTER SISTER ANNE EVERS ENDOWED RESEARCH FUND

IN HONOR OF
THE 50TH WEDDING ANNIVERSARY OF
DR. AND MRS. ROBERT RECKER

Bob and Mary Pat Henchal

Mary Jetton

Joan and Bob Lappe

Mary and Lyman Larsen

Phil and Cynthia Lee

Mariah and Andrew Neuharth

Molly Recker

Thomas and Donna Recker

Sister Denise Severt, CSJ

Ken and Betty Unrein

IN MEMORY OF

Hazle Cottingham from Ruth Mead

Jane Davenport Wilshusen from Winifred J. Davenport

Dr. Art Fishkin

from

Dr. Robert Z. Apostol

Mr. and Mrs. Jim O'Brien

Dr. and Mrs. Robert Recker

Dr. Charles H. Turner from Dr. and Mrs. Robert Recker

Pauline Vybiral from Alan Vybiral

IN CELEBRATION OF

Mildred Boyd's 90th Birthday from Jane O'Brien

Initial Statement by Robert R. Recker, MD, Director of the ORC

(Spring 2010 Newsletter)

The news media have recently broadcast alarming reports that treatment with bisphosphonates can cause serious mid-shaft fractures of the femur (thigh bone). The following are in the class of drugs called bisphosphonates: alendronate (Fosamax) (Boniva, Actonel and Reclast). These news media reports have been misleading and overly alarming. We have studied this problem for several years and have found that; 1) these fractures are exceedingly rare, 2) they also occur rarely in the general population not on bisphosphonate treatment, and 3) that they represent a defect in bone metabolism, or bone remodeling, that existed prior to the treatment with a bisphosphonate. Thus, bisphosphonate treatment is not the cause of the problem. Of course, the bisphosphonates will not benefit an individual with this problem but we have no way of detecting that it is present prior to starting a bisphosphonate. We would like to calm the fears of our patients who are being treated with a bisphosphonate. Discontinuing bisphosphonate treatment results in a very much greater risk of fracture of any bone, including the femur, compared to continuing treatment. Therefore, I encourage people to continue their bisphosphonate treatment for osteoporosis, and to talk with their physician if they have fears about this.

Follow-up Statement by Robert R. Recker, MD, Director of the ORC

(October 2010)

As I noted in the Spring Newsletter, recent public media announcements that osteoporosis drugs cause fractures rather than prevent them have caused much anxiety among our patients. Here is a follow-up that reports some very recent information. There is a very small minority of osteoporosis patients who receive osteoporosis drugs, including Actonel, Fosamax, Boniva, Reclast, and Prolia, that will suffer a unique thigh fracture with an X-ray appearance suggesting that the bones have become weakened and brittle. These fractures occur in the mid-shaft of the femur or thigh bone, are rare in untreated patients with osteoporosis, and occur in no more than about 1 in 100,000 patients taking these drugs. For every one of these fractures that occurs there are 50-100 osteoporotic fractures prevented. Thus, the risk/benefit ratio is strongly in favor of using these drugs in patients who are at high risk of fracture from osteoporosis. It is unfortunate that there has been controversy over this, and that the lay press has misled the public regarding the benefit from these drugs. I am saddened that a number of fractures have occurred because people have stopped these medications based on the reports by the lay press. I strongly urge that, before stopping any osteoporosis drug, discuss it with your physician. Further, understand that in patients who really need these drugs the benefit in preventing fracture far outweighs risks of the atypical fractures that have been reported.

Check out our new website design at <http://osteoporosis.creighton.edu>

NEWSLETTER TOPICS

Do you have a newsletter topic that you would like to suggest for a future installment of "Partners in Research" ? E-mail us at: orc@creighton.edu



Osteoporosis Research Center

Creighton University
2500 California Plaza
Omaha, Nebraska 68178



Address Service Requested

Phone: 402.280.4470 Fax: 402.280.5173 Website: osteoporosis.creighton.edu e-mail address: orc@creighton.edu



THE GIFT OF GIVING

Consider a donation in honor of a loved one to the Osteoporosis Research Center

Just mail this form to:

Sister Anne Evers Endowed Research Fund
Osteoporosis Research Center
601 North 30th Suite 4820
Omaha NE 68131

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

___ In memory of ___ In honor of ___ To Celebrate

Name _____

Address _____

Donation made by

Name _____

Address _____

I give permission to print donor & recipient name in a future newsletter ___ Yes ___ No

Does your company have a Matching Gift Program Yes ___ No ___

Company Name _____ *(Please enclose your company's Matching Gift form)*

