



OSTEOPOROSIS NEWSLETTER

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Editor

Volume 7, Issue 4
August 2009

Osteoporosis Medications

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For the July B.O.N.E.S. meeting, Dr. Beth Elliot presented information about osteoporosis medications.

As you probably know, bones are constantly in the process of growing and being resorbed. The process of remodeling is a give and take between two opposing forces, replacing old bone with new bone.

• **Bone loss** (resorption): Special cells called osteoclasts break down bone.

• **Bisphosphonates**
Alendronate (Fosamax)
Risedronate (Actonel)
Ibandronate (Boniva)
Zoledronic acid (IV) (Reclast)
– PRO: can prevent hip and spine fractures, if prior fracture or very high fracture risk, consider bisphosphonates: potent and proven
ALSO FDA approved for men
– CON: Cost, esophageal difficulties, renal dysfunction

When the signal comes, osteoclasts are recruited to enter the bones and secrete enzymes that break down collagen and minerals.

• **Bone growth:** Special cells called osteoblasts line the surface of the bones. In response to signals in the blood, the osteoblasts lay down bone, by depositing calcium and phosphate crystals on a scaffolding of collagen.

In healthy bones the process is equalized, but with aging it gets out of bal-

ance and there is more loss than growth.

The majority of osteoporosis medications slow bone resorption. Bisphosphonates enter bones and bind to areas of bone undergoing resorption. When osteoclasts try to dissolve bone coated with the drug, it disrupts the osteoclasts' function. As a result, less bone gets resorbed and the bone has a better chance to rebuild.

Pros and Cons

• **HRT**
– PRO: Incidental bone benefit
– CON: increased risk of CV events, breast Ca, NOT approved for osteoporosis treatment

• **Raloxifene** (Evista)
– PRO: bone protection without breast or uterine cancer risk, reduces risk of invasive breast cancer
– CON: Not proven to reduce hip fractures, expensive, hot flashes, thromboembolic risk

• **Calcitonin nasal spray** (Miacalcin)
– PRO: well tolerated
– CON: less proven, expensive, no hip protection

• **Teriparatide** (Forteo; PTH analog (1-34))
– PRO: only medication that increases bone density
– CON: Expensive, several cautions to know about, consider when other therapies fail

B.O.N.E.S. SUPPORT GROUP
will meet on
August 11 at
Oakwood Auditorium
6209 Mineral Point Road
Madison

1:30-2:30 p.m.

Questions? Call
265-6410
for information.

Strengthen Your Muscles & Improve Balance²

As always, check with your physician before starting new exercises. Start slowly. Do strengthening exercises every other day to give muscles a day to rest. Use weights heavy enough to challenge you but not strain your muscles. Start with 2-5 pounds per weight and gradually increase as lifting them is no longer challenging. Wear rubber soled shoes and stand on bare floor or carpet that won't slip.

• Strengthen your muscles with weights

Sit or stand with your feet shoulder-width apart, your knees slightly bent and with a weight in each hand. Keeping your back straight, raise the weights so that they are about level with the top of your head. Bend your arms at right angles and spread them to each side, so your upper arms are parallel to the floor and your forearms are vertical, straightened toward the ceiling as you hold up the weights. Your palms should face forward. Keeping

your arms in this bent position, bring your elbows, forearms and weights together in front of you as you exhale. As you inhale, bring them out to the side again. Repeat 8-10 times if you can do so without muscle strain. This exercise will strengthen your upper arms, shoulders, chest and spine.

• Balance on hands and knees

Get down on your hands and knees making sure that your hands are directly under your shoulders and your knees are directly beneath your hips. Pull in your stomach muscles and tuck your chin toward your chest. Keeping your back straight, extend your right arm straight ahead at shoulder height at the same time as you extend and lift your left leg straight back at hip height. Hold for 10 slow counts and release. Repeat the same move with your left arm and right leg. Repeat 4-5 times. This exercise improves your balance.

• One leg balance

Stand to the side of a counter or wall with your feet hip width apart. Your knees should be slightly bent. Hold the counter or touch the wall lightly with one hand for support; hold your other arm straight out to the side. Keeping your back straight, bring one knee up about 6 inches. Point the toes of that foot down and rotating your hip, place the bottom of your foot against your opposite shin. Keep your head up and your eyes focused on a location straight ahead.

Hold this position for a minimum of thirty seconds, up to two minutes. Lower your knee and return to the starting position. Perform the move once with each leg.

As this becomes easy, raise you knee higher and take your hands off the counter and wall. A variation is to stretch your arms straight up. This exercise will improve your posture, your balance and the flexibility of your hips.

Next B.O.N.E.S. Meetings

Tuesday, August 11 - Ken Bowman, Senior Clinical Research Associate with Merck K Force Alliance - **Osteoporosis Medications - From the Lab Bench to the Pharmacy**

Tuesday, September 8 - **A Panel Discussion on Everything You Wanted to Know about Being in an Osteoporosis Study, but were Afraid to Ask**

Tuesday, October 13 - **Fashion Show**, sponsored by Boston Store

Tuesday, November 10 - Dr. Rekha Ramamurthy, assistant Professor in the School of Medicine and Public Health - **Vitamin D and Cardiovascular Disease**

Tuesday, December 8 - The annual B.O.N.E.S. planning meeting and cookie exchange. Come and share ideas for next year and enjoy some holiday treats.

What lies behind us and what lies before us are
tiny matters compared to what lies within us.

Ralph Waldo Emerson

Falls – Why Do We Fall and What Can We Do to Prevent Falling?

At our June B.O.N.E.S. support group meeting, Dr. Bjoern Buehring with the UW Department of Medicine and Clinical Oncology stressed the importance of preventing falls.

Osteoporosis is the result of bad bone quality. Falls are the result of bad muscle quality. A fall can be a slip or a trip as well as falling down. Falls are serious because they increase the risk of death and reduce the quality of life.

How common are falls?

30 - 40% of individuals over 65 years of age who live in the community fall each year. Only one in five requires medical attention. The percentage of individuals living in nursing homes who have fallen is considerably higher because they have a weakened condition. 50% of individuals admitted to a hospital because of a fall die within 12 months. Falls are a key factor in fractures in

people age 65 and older. Falls are a key factor in up to 40% of fractures.

What are some of the causes of falls?

- Accidents
- Balance
- Gait
- Dizziness
- Weakness
- Poor vision

Fear of falling can cause falling. After a person falls, they are more likely to fall again. That may make them more fearful of falling, so they fall again. It becomes a vicious circle.

It is very important to tell your health care provider about all falls so that he or she can look for underlying causes and evaluate ways to correct the cause.

What can we do to prevent falls?

• **Balance, gait and strength training - most important.**

- Reduce the use of psychotropic medication.
- Use a walker or cane if necessary.
- Eliminate home hazards. Turn on a light when you get up at night, etc.
- Know that your calcium and vitamin D levels are adequate.
- Use hearing and vision aids. Do not use bifocals or trifocals. Have two pairs of glasses. Bifocals are particularly hazardous on stairs.
- Pay attention to surroundings and how you do things such as walking up and down stairs.

The UW Osteoporosis Research Program is assessing methods to measure impaired muscle function. The Jump Study showed that it is safe for people with osteoporosis to jump. More research is needed to find the best tests to evaluate problems. The next research project is being developed.

Improve Balance & Strengthen Your Muscles

• **Stand on both feet with feet about shoulder-width apart.** Lift one leg straight back while reaching the opposite arm forward. While keeping your back straight, reach as far as you can,

then slowly return to starting position. Repeat with other leg. Continue alternating for five minutes.

• **Squats will improve your balance and strengthened muscles**

in your thighs, hips, and buttocks. The chair squat is an easy one to start with. For directions, go to <http://exercise.about.com>. Search chair squat. Click on chair squat.

Correction

The June newsletter had a flyer about an opportunity to participate in a research study. The telephone number was incorrect. Please call 263-2663 to participate or get more information.

The study which is looking at a new way to dose an osteoporosis medication is for women age 45 and over who might have or have osteoporosis. For details, please see the flyer in the June Osteoporosis Newsletter at www.uwosteoporosis.org.

RECIPE FILE

Fabulous Feta Salad

Ingredients

1 cup canned red kidney beans, rinsed and drained
1 cup each fresh tomatoes and green pepper, diced
1 cup Feta cheese, diced
1/4 cup onion, chopped
1/2 tsp dried oregano
2 tbsp olive oil
1 tbsp lemon juice or wine vinegar

Preparation

Combine olive oil, lemon juice or vinegar and oregano.
Pour over other ingredients. Toss and season to taste.

4 servings Nutrition per serving:

233 calories	Fat 15 gm
Protein 10 gm	Fiber 4.9 gm
Carbohydrate 16 gm	Sodium 588 mg