



OSTEOPOROSIS NEWSLETTER

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Editor

Volume 7, Issue 5
October 2009

When to Take Medications

Inside this issue:	
Ditch the Diet Coke	2
Next B.O.N.E.S. Meetings	2
Osteoporosis Medications	3
Osteoporosis Studies	3
Recipe File	4

This article answers questions people asked at July B.O.N.E.S. meeting.

By Mary Beth Elliot, Pharm, PhD, Associate Professor, School of Pharmacy, University of Wisconsin-Madison with Alan Lukazewski, RPh, CDE, FASCP, Director of Pharmacy, Oakwood Village Retirement Communities, Madison WI

Are you taking levothyroxine underactive thyroid? Are you also taking alendronate, risedronate, or ibandronate for osteoporosis?

The brand name for alendronate is Fosamax. The brand name for risedronate is Actonel. The brand name for ibandronate is Boniva.

These medications need to be taken properly for best results. For alendronate or risedronate, which are taken once a week, it is extremely important that you take it first thing in the morning, on an empty stomach, with a glass of water, and no other liquid (except water) or food or

other medications for at least 30 minutes. If you take ibandronate once a month, you need to wait an hour between taking the medication and having breakfast.

Otherwise the medication is not absorbed enough to help your bones. You should also sit or stand (that is, don't lie down) for at least 30 minutes after taking the medication.

But, people are also often advised to take levothyroxine each morning on an empty stomach, so what can you do? One way is to take the alendronate as above, and then take your levothyroxine between dosing alendronate and breakfast. For example, alendronate at 7 am, levothyroxine at 7:30 am, breakfast at 8:00 a.m. (The alendronate is not going to affect how well you absorb the levothyroxine.) It is true that levothyroxine absorption can be affected by food, but the key thing is to take it consistently. If you take it the same

way every day, this will help keep a steady level in your system, which is the important thing. For the other days of the week when you don't take your alendronate or risedronate, you can still stick with the same schedule for breakfast, levothyroxine, and lunch, so the levothyroxine is absorbed the same way each day.

Another concern people have is if they are taking calcium supplements. It **IS** important that you **NOT** take your calcium supplement (or any other medication including calcium or magnesium or aluminum, such as antacids) within four hours of taking levothyroxine. So, taking your calcium supplements later in the day (with an afternoon snack, or dinner, or a bedtime snack), is a good idea. If you take more than 600 mg of supplemental calcium, don't take it all at once, so you could take some with dinner and some with a snack late in the day.

B.O.N.E.S. SUPPORT GROUP
will meet on **October 13th at Oakwood Auditorium 6209 Mineral Point Road Madison**
1:30-2:30 p.m.
Questions? Call 265-6410 for information.

Ditch the Diet Coke? This is the Last Straw!

Do you reach for a diet Coke when you need a pick up? It is the top selling beverage in America. Maybe you drink Pepsi or another soda. Do you choose diet soda because you would like to lose a few pounds?

When it comes to bone health, all carbonated caffeine beverages have three strikes against them:

First, drinking any diet soft drink probably means you're replacing a healthier drink – notably, milk, or calcium-fortified water or juice with a nutritionally empty one. You're only going to consume so much liquid in a day; if you drink five cans of soda, you're probably not also going to drink the liquid equivalent of milk or juice – just shy of half a gallon. There goes a prime source of calcium, a key for keeping bones strong.

Second, the phosphoric acid present in most sodas (not just diet sodas) leads to excessive calcium excretion – i.e., the calcium in your bloodstream is excreted via your urine at a faster rate. And, since your body maintains the calcium level in your bloodstream at all costs, your bones

shed some of their calcium to bring the level in your blood back up. This leads to thinner bones. Third, the caffeine in many soft drinks leaches calcium from your bones: you lose about 6 milligrams of calcium from your bones for every 100 milligrams (mg) of caffeine ingested. A typical 12-ounce can of diet cola soda contains about 45 mg of caffeine; Mountain Dew is even higher at 55mg. In all fairness, that 6 mg of lost calcium from your daily recommendation of up to 1500mg is fairly insignificant. And to put things in perspective, coffee has about three times the caffeine of soft drinks.

Would you like to do something good for your bones? Instead of taking calcium away, what about adding some? Here are some suggestions for healthier drinks:

- **Calcium-fortified water.** Many bottled waters now come with added calcium. Not into plain water? Add some Crystal Light or other low/no calorie sweetener. Or try lime juice and Splenda.

- **Calcium-fortified juice.** OJ is the most common, but check

the label on other juices, as well. Cut half and half with water and mixed with lots of ice, juice makes a lower-calorie, satisfying sipper.

- **Latte** – hot or iced. Half milk, half coffee. At least you are getting the milk along with the caffeine. Or try a decaf latte – tastes just the same, minus the buzz.

- **Milk.** Yeah, milk. Not something you'd sip all day, probably, but with your breakfast cereal, or another meal, it's fine. At 300mg calcium and 80 calories a cup (nonfat milk), it's certainly one of the healthier drinks out there – and certainly the most bone-friendly.

If you're enjoying the heck out of your one diet soft drink a day, go for it, it's really not an issue. But if you believe 0-calorie soft drinks are something you can drink from morning to night with impunity, think again. Cutting calories is a great goal, but not at the expense of bone health.

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

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 - **Annual B.O.N.E.S. planning meeting and cookie exchange** - Come and share ideas for next year and enjoy some holiday treats!

Osteoporosis Medications

From the Lab Bench to the Pharmacy

Ken O. Bowman, RN, Senior Clinical Research Associate with Merck K Force Alliance was the speaker at the B.O.N.E.S. August meeting.

Do you ever wonder why prescription medications are so expensive? Here is some information to give you some understanding of the time and cost of bringing new medicines to market.

There are 6 steps in bringing a new product to market:

1. Pre-Clinical Studies

Determine what it is by testing in mice. Evaluate best way to give to a patient.

- Is it safe in lab tests?
- Is it effective in lab tests?
- Is it more effective than current

medication(s)?

- Can it be manufactured for humans?
- Cost of final product.

2. Pre-Clinical Development

- It takes 3-6 years to test for safety.
- Submit request to FDA for a "New Medical Application". It includes results of experiments, how it is thought to work in the body, side effects in animal studies and other information.

Phase I, II, III Clinical Trials

Of 250 compounds tested, only 5 make it to this stage.

3. Phase I - The medication is tested in a small group (20-110) for 6-12 months.

4. Phase II - Placebo trials which take 6-12 months, involve 100 – 500 patients who have the disease being studied. The study looks at safety, optimal dose strength, side effects and how often to take.

5. Phase III - 1,000-5,000 people are closely monitored for 1-4 years to confirm that the drug is effective and to identify side effects.

6. New Medication Application (100,000 pages or more) includes everything about the testing, manufacturing details, etc.

FDA Approval - In 2003 it took the FDA an average of 16.9 months to review each application it approved. 10-15% of applications are rejected.

How to Participate in an Osteoporosis Study

The September B.O.N.E.S. Support Group meeting was an opportunity to find out about participating in an osteoporosis study. Susan Valentine was the moderator of a panel of four women who have participated in osteoporosis studies. Ms. Valentine started with a description of the process of a study.

The first step is advertising the study. Information will be in newspapers and flyers will be posted in various locations. When a person calls the listed phone number, he or she will be asked some questions to determine if he or she qualifies. A more thorough screening is performed at the first study visit after informed consent is obtained. In addition to a bone density test, there will be a blood draw which will be used to see effects of the medication dur-

ing the study and at the end. Office visits will be repeated until the end of the study.

After the four panelists each talked about the studies they have been in, the people attending the program asked questions:

Q. How often does one go to the study location and how long is a study?

A. It varies. One study was one visit. It might be once a month or less. If there are follow-up visits, they could be every six to twelve months for years. A person will know before they agree to be in the study.

Q. How are the studies funded?

A. Government studies are funded by grants. Some studies are funded by drug companies.

Q. Is a bone density test done on the foot adequate?

A. No. It only gives a thumbnail idea of bone mineral density (BMD). It is important to know the BMD at the hip because that is where the most serious fractures occur. The DXA also measures the BMD of the spine and forearm.

Q. Why does the DXA compare your bone density to that of a 30 year old woman?

A. Maximum bone mass occurs about age 30.

Q. Are there studies for men?

A. Yes.

Q. How does a person find a good osteoporosis doctor?

A. Ask nurses and friends.

For information about current study opportunities, call (608) 263-2663 or toll free at (866) 469-2663.

RECIPE FILE

Broccoli Rice Pilaf

- 2 tbsp margarine
- 2 carrots, diced
- 1 large onion, diced
- 1 tsp dried rosemary, crumbled
- ½ tsp salt
- ¼ tsp pepper
- 2 cups brown rice
- 2 cups hot vegetable or chicken broth
- 2 cups hot water
- 4 cups small broccoli florets
- 1½ cups shredded gouda, cheddar or havarti cheese



In a large pot melt margarine over medium-high heat; add carrots, onion, rosemary, salt and pepper. Cook, stirring, for about 5 minutes or until onions are softened. Stir in rice until coated in margarine. Stir in hot broth and hot water and bring to a boil. Add rice, cover, reduce heat and simmer for 35 minutes. Add broccoli and simmer 10 more minutes until liquid is absorbed and rice is cooked. Using a fork, gently stir in 1 cup of the cheese. Transfer to a serving dish and sprinkle with remaining cheese.