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# Bone Builders



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The University of Arizona • Cooperative Extension • Maricopa County

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## Osteoporosis Treatments – What are Bisphosphonates?

**B**isphosphonates work by slowing cells that break down bones (osteoclasts) allowing cells that build bone (osteoblasts) more time to work and reduce the imbalance. Because they are difficult to absorb, bisphosphonates should be taken on an empty stomach, first thing in the morning with 6 to 8 ounces of plain water. One should remain upright for at least 30 minutes and not eat, drink or take other medication to allow for better absorption. Possible side effects include abdominal or musculoskeletal pain, nausea, heartburn, or esophageal irritation.

**Alendronate** (Fosamax®) was approved in 1995 and was the first agent for the prevention and treatment of osteoporosis in postmenopausal women. It is also approved for men, individuals with steroid-induced osteoporosis, and Paget's disease. A clinical trial of 2,027 women taking alendronate showed 50% reduction in spine, hip, and nonvertebral fractures. Although treating women at highest risk (advanced age or severe osteoporosis) prevented more fractures, other postmenopausal women with low bone mass benefitted from treatment as well. Prevention benefits have been demonstrated in multiple studies to prevent bone loss in early postmenopausal women.

**Risedronate** (Actonel®), indicated for prevention and treatment of postmenopausal osteoporosis, was approved in 2000 after trials in over 16,000 patients. It is also approved for individuals with steroid-induced osteoporosis and Paget's disease. In clinical trials, risedronate 5 mg daily reduced vertebral fractures by 65% in year one of treatment in all patients and by 74% in high-risk patients. In a study with 9,331 women, hip fractures decreased by 39% in those with low bone mineral density and 58% in those with low bone mineral and one vertebral fracture.

**Ibandronate** (Boniva®). The FDA recently approved ibandronate (a third generation bisphosphonate) for prevention and treatment of osteoporosis in a 150 mg monthly dosage. A three-year treatment study of 2,946 women with low bone density and at least one vertebral fracture showed reduction in new vertebral fractures of 52%. Ibandronate significantly increased bone mineral density compared to the placebo group. A two-year prevention study of 653 postmenopausal women showed bone mineral density increases. An ongoing two-year study of 1,609 patients compared a monthly dosage of ibandronate to a daily dosage of 2.5 mg. After one year, the effects of the monthly dosage were found comparable to the daily dosage. Both daily and monthly dosages were well tolerated and safe, with side effects similar to other bisphosphonates.

**Etidronate** (Didronel®) was the first bisphosphonate used clinically in the United States and has been approved for the treatment of Paget's disease, but not for osteoporosis. In Canada, etidronate is approved for prevention and treatment of osteoporosis and for steroid-induced osteoporosis.

[Source: FORE, Spring 2005]

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## Athletes and Bone Density

**A** study conducted by the American Society for Bone and Mineral Research (ASBMR) measured the bone density of athletes, showing that BMD is higher across all sports, particularly weightlifting, gymnastics, and soccer. These athletes' legs, hips, spines, and arms demonstrated bone density that was on average 13% higher than non-athletes. Read more about it here:

<http://depts.washington.edu/bonebio/ASBMRred/exercise.html>

Does this mean we all have to become bodybuilders and Olympians? Fortunately, no! But this data offers compelling evidence that both aerobic and anaerobic exercise can make a difference in increasing bone health. And, in conjunction with a calcium-rich diet, we are very likely to live longer and more fully.

## Study finds very few American adults lead healthy lifestyles

**A** study by an Michigan State University epidemiologist finds that very few Americans are doing all they can to maintain a healthy life, a situation he says could have dire consequences if it doesn't change.

Mathew Reeves' research, which used nationally representative data from 153,000 adults, found that only 3 percent undertook four basic steps that define a healthy lifestyle – not smoking, holding weight down, eating right and exercising.

"I was really quite surprised at how low that number was," says Reeves, assistant professor of epidemiology. "These results illustrate the extraordinarily low prevalence of healthy lifestyles in the U.S. adult population."

Reeves and Ann Rafferty, an epidemiologist with the Michigan Department of Community Health, analyzed data obtained from the Behavioral Risk Factor Surveillance System, a national survey conducted in 2000 that looked at American's health habits.

Of the 153,000 respondents, only 3 percent participated in all four of what are termed healthy lifestyle characteristics.

For more information, visit:  
[www.newsroom.msu.edu/site/indexer/2393/content.htm](http://www.newsroom.msu.edu/site/indexer/2393/content.htm)

### Fashion Tips for Women with Osteoporosis

It is estimated that over 10 million people already have osteoporosis, approximately 80 percent of these people are women. Compression fractures of the spine can cause body changes: a loss of height, a curving of the shoulders and backs and a thickening waistline. These changes often make it difficult for those with the disease to find stylish, comfortable and properly fitting clothes.

Every woman has had the experience of trying on several outfits, before finding one that fits. For women with osteoporosis, shopping for clothes or getting dressed can be a difficult and frustrating experience. Jackets and blouses pull across the back and shoulders. Collars gape. Skirts do not hang properly. All are effects of the physical consequences of osteoporosis.

These fashion and design tips listed emerged from *Beauty in All Forms®*, a fashion project founded by the National Osteoporosis Foundation in partnership with New York's Fashion Institute of Technology. Order the complete Fashion Guide on-line through this web site.

- ✓ Overall, wear clothing that is loose, straight or just slightly fitted
- ✓ Jeweled, rounded, slight V or soft cowl necklines work best
- ✓ Raglan, dropped or dolman sleeves
- ✓ Find pants with elasticized waistbands
- ✓ Dresses with empire waist, dropped waist or A-line
- ✓ Make good use of accessories, such as long scarves or shawls to highlight the face and draw eyes up away from shoulder area
- ✓ Add shoulder pads to compensate for sloping shoulders
- ✓ Use backpacks to evenly distribute weight and leave hands free for balance
- ✓ Wear flat or low-heeled comfortable slip-on shoes with rubber soles
- ✓ Work with department store personal shoppers; they are usually free of charge

TIP: Using scarves is one of the easiest ways to disguise shoulder and back curvature. A colorful or patterned scarf can help you feel great and update the look of an outfit. A scarf can fill a gaping collar or neckline. A bold scarf will also draw attention away from the shoulders and toward your face. A long scarf draped around the neck, flowing down the back, will give a longer profile.

Source: National Osteoporosis Foundation, 2005.

### Bone Appétit

**P**erfect Pudding  
1/4 cup sugar  
1 tablespoon cornstarch  
1 cup fat free milk  
1 egg yolk, slightly beaten  
1/2 teaspoon vanilla extract  
sliced fruit (optional)



1. Wash hands thoroughly with warm water and soap.
2. Combine sugar and cornstarch in a large microwave-safe bowl. Use a bowl that can hold 1 1/2 to 2 quarts or the pudding may boil over. Stir in milk. Microwave on high for 3 minutes. Stir well after each minute.
3. Use a small amount of the hot milk mixture to beat the egg yolk, then combine yolk with remaining milk mixture. Microwave for 45 seconds. Add vanilla.
4. Cover surface of hot pudding with wax paper or plastic wrap and refrigerate until cool. Serve when chilled. Top with sliced bananas, strawberries, or other fruit, if desired.

Makes 2 servings.

Nutrition information per serving: calories, 179; carbohydrates, 34 g; protein, 5 g; fat, 2 g; saturated fat, 1 g; cholesterol, 105 mg; fiber, 0 g; sodium, 58 mg; calcium, 123 mg; percent calories from fat, 11%.

Source: Arizona Nutrition Network. Visit their website at [www.eatwellbewell.org](http://www.eatwellbewell.org).



## Maricopa County News

### Open House

Stop by between 11 pm – 4 pm on Tuesday, December 6<sup>th</sup> for an open house at the UA Cooperative Extension office to meet the new Bone Builders Program Coordinator, Paul Fisher. It will be a time to see new resource materials, bring your Bone Builders notebook to update materials, share outreach ideas and learn about the new Bone Builders program. Please RSVP to Paul at [pfisher@cals.arizona.edu](mailto:pfisher@cals.arizona.edu) or 602-470-8086, ext. 316 if you want new sections in your BB notebook. A completely new notebook is \$30 if picked up at the office.

### About Paul

Paul Fisher recently joined the Bone Builders program as the new Program Coordinator. Paul's 14 years experience in health care includes serving 8 years as a paramedic in Long Range Reconnaissance Teams in the Army's 82<sup>nd</sup> Airborne Division and 6 years as an LPN, primarily working in orthopedic surgery.

Paul has a BA with honors in Political Science and a Master's of Public Administration degree from the University of Arizona with a focus on healthcare management and finance.

He was on the staff of Senator John McCain working on veteran's issues and most recently spent 3 years as a Managing Partner for the international environmental consulting firm EMA Inc., where he was responsible for their Latin American operations. During his time at EMA, Paul lived in Monterrey, Mexico for two years as the CEO for their Mexican subsidiary.

In addition to his work here at the Cooperative Extension, Paul continues to work as a Vice President and Board member for Sustainable Solutions Group, Inc., a spin off of EMA.

## Arizona Nutrition Network

Bone Builders and the University of Arizona Cooperative Extension are partners with the Arizona Nutrition Network to bring nutrition education to food stamp families. Bone Builders in Mohave, Pima, Maricopa, and other counties are teaching classes at parent groups in schools, food banks, and seven community centers.

The Arizona Nutrition Network (AzNN) is administered by the Arizona Department of Health Services and Arizona Department of Economic Security. AzNN uses federal funds from the U.S. Department of Agriculture's Food Stamp Program to bring nutrition education to children, parents and seniors who are eligible to receive food stamps. AzNN works with local partners in cities and counties around the state with direct education in schools, after school or community programs.

Bobby B. Well is the spokesperson for the AzNN. You might see him on a local television spot about "Go Low" and drinking 1% or lower fat milk or advocating the benefits of physical activity. The AzNN uses social marketing to bring healthy eating messages to families. Visit the AzNN website at [www.eatwellbewell.org](http://www.eatwellbewell.org) for recipes and more information.

## Volunteer Birthdays

Happy Birthdays to our volunteers! **October:** 2 - Celeste Castoreña; 3 - Margarita Truong; 21 - Irene Rassi; 28 - Robert Gari. **November:** 2 - Joanne McCay; 3 - Anne Reed; 7 - Ana Arvayo-Batres; 23 - Denei Langford; 24 - Dorothy Cope; 27 - Sandra Valenzuela. **December:** 2 - Blair Coe; 5 - Arline Pryor; 8 - Rochelle Kirkey; 9 - Ina Robinston; 10 - Casey Cole; 11 - Debby Kurtz Weidinger; 14 - Norma Rodriguez; 31 - Kathleen Gregory.

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- Paul Fisher, Program Coordinator, 602-470-8086, ext. 316, email: [pfisher@cals.arizona.edu](mailto:pfisher@cals.arizona.edu)
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