

Osteoporosis, Bad to the Bone

By Terry Duschinski

Osteoporosis.

I have to practice saying it. Os-te-o-por-o-sis. Six-syllable words are fun. But osteoporosis isn't amusing. It's a condition characterized by a loss of bone mass and demineralization. More vividly - it's wood rot. It's underneath-the-skin dilapidation; an insidious decline in the structural integrity of our skeletal system. Between their 45th and 70th years, women lose 30% of their skeletal structure and men forfeit 15%. Bending and breaking - kind of like tree limbs drooping and then snapping - the framework of our mortal bodies disintegrate. U.S. medical statistics are staggering. One million fractures occur annually in women over age 45. Osteoporosis is the culprit in 70% of these. They are not all hip fractures; only about 190,000 per year, 2/3rds of which are osteoporosis related. Hip fractures carry a mortality rate of 12-15% and are the second leading cause of death in people 47-74 years of age. More than 17 percent of 50-year-old white women in North America and 6 percent of men will fracture a hip during their remaining years. You don't usually fall and break your hip - actually, you break your hip and fall.

Getting Shorter

Another unflattering trademark of this disease is a loss of height. The spine bends and shortens. Collapsed vertebrae are then less able to protect the nerves from pain-causing pressure. A sedentary way of life expedites the onset of osteoporosis, and conversely a fitness life-style retards it. The evidence has been accumulating for decades. When I came to Florida in 1985, Ken and Brenda Hutchins were completing a four-year study at the Climacteric Center at the University of Florida. On assignment from Nautilus, they had strength-trained people identified as high-risk osteoporosis candidates. Their results in restoring functional ability were impressive, but I believe the scientific base of the study never came to fruition due to conflicting personalities or disagreements, or something. Several years ago, however, Michael Pollock, Ph.D., head of UF's exercise science department, completed a study showing dramatic increases in bone mineral density from exercise on the MedX computerized lower back machine, which is used in rehabilitation. In this study, 38 subjects were divided into three groups: a control (6); aerobic training (15); and a group trained on the MedX lumbar extension machine in addition to the treadmill (17). After six months, neither the control group nor the treadmill-only group showed significant difference in bone mineral density. But the eight males and nine females exercised one time each week on MedX Lumbar Extension increased by 14 and 15 percent in bone mineral measurements, one taken full body, and one laterally. "This research was not with osteoporosis victims, although several of the subjects had low



bone-mineral density," said Dr. Pollock. Resistance training fortifies not just muscle but also connective tissue and bone. By increasing your strength, you're less likely to fall and you're able to go about your daily activities more comfortably. So, let me give you more of an osteoporosis scare.

Bone Architecture

Bone is made up of calcium and phosphorous crystals, along with protein fibers. Calcium is responsible for 2/3rds of the total bone weight, the remaining 1/3rd being composed by collagenous fibers. The mineral crystals give the bone hardness, strength and rigidity. The collagen fibers provide flexibility. Magnesium, fluoride, sodium, potassium, citrate and other trace elements act as a "mortar" that bonds the calcium phosphorous crystals. Just like all the cells in our bodies, bone undergoes an ongoing cycle of tearing down and rebuilding. (continued on page 3)

RPFitness Staff Spotlight!



Kimberly Read
Kickboxing & MuscleFlex

Kim has been in and out of our doors for over 23 years and considers herself a true exercise fanatic. She graduated from the University of Akron in '93 with her BS in Elementary Education and has gone from teaching children to leading group fitness classes. She is currently working towards her group fitness certification with AFAA. Her current focus on kickboxing and muscle flex, but hopes to incorporate additional formats in the future. "My workouts are just as much for my spirit as for my body. Being around positive people helps keep me motivated and engaged. It's amazing what other people can do for your soul." When not at the gym, Kim enjoys spending time with her family and friends. She has been married to her husband, Scott, for 15 years and they have two boys, Garrett and Brandon. She loves running, water skiing and snow skiing.



RP Fitness Product Spotlight

EAS Myoplex Lite Nutrition Bar

Nutrition Bar, Chocolate Peanut Butter Crisp

Naturally and Artificially Flavored. 50% Less Fat than Myoplex Mass Bar (Myoplex Lite Bar-6g fat; Myoplex Mass Bar-12g fat per 54g). 15g High Quality of Protein. Don't waste your workout. Taken within 30 minutes after your workout, the 15g of high quality protein in Myoplex Lite helps you refuel and build lean muscle. Visit EAS.com or call 1-800-297-9776 to learn how EAS can help you achieve your athletic or fitness goals.

MyoPro Protein Blend (Soy Protein Isolate, Hydrolyzed Whey Protein), Corn Syrup, Polydextrose, Sugar, Fractionated Palm Kernel Oil, High Fructose Corn Syrup, Water, Ground Peanuts, Rice Flour, Vitamin and Mineral Blend (Calcium Phosphate, Potassium Phosphate, Magnesium Oxide, Potassium Chloride, Ascorbic Acid, Ferric Orthophosphate, dl-Alpha-Tocopherol Acetate, Niacinamide, Calcium Pantothenate, Zinc Oxide, Chromium Citrate, Copper Gluconate, Vitamin A Palmitate, Pyridoxine Hydrochloride, Riboflavin, Thiamine Mononitrate, Folic Acid, Biotin, Potassium Iodide, Cyanocobalamin), Partially Defatted Peanut Flour, Nonfat Milk. Contains Less Than 2% of the Following: Tapioca Starch, Fructooligosaccharides, Lactose, Cocoa (Processed with Alkali), Natural and Artificial Flavor, Salt, Peanut Oil, Dextrose, Barley Malt Extract, Soy Lecithin, Guar Gum, Corn Maltodextrin, Sucralose.

Contains soy, milk and peanut ingredients. Manufactured in a facility that processes tree nuts, eggs and wheat.



Oatmeal Breakfast Casserole

Ingredient List :

Nonstick cooking spray
1 3/4 cups fat free milk (or soy milk)
1 Tbsp margarine
1 cup regular rolled oats
1 apple, chopped
1/3 cup golden raisins
1/4 cup toasted chopped walnuts or almonds
3 Tbsp. brown sugar
1/2 tsp. vanilla
1/4 tsp. salt

Directions :

Lightly coat a 1 1/2 quart casserole dish with cooking spray; set aside. In a medium saucepan bring the milk and margarine to boiling. Slowly stir in oats. Stir in fruit, nuts and 2 Tbsp. of the brown sugar, the vanilla and salt. Cook and stir for 1 min. Pour into the prepared casserole dish. Bake, uncovered, at 350 degrees F for 15 min. Sprinkle with the remaining 1 Tbsp. brown sugar. Bake for 5 min. more or until bubbly. Cool slightly. Can be served with additional milk, if desired.

Servings : 4
Nutrition Facts
Calories 316
Protein grams 8
Carb grams 47
Fat grams 11
Fiber grams 4



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Hence: your bucket of bones is emptying faster than it is refilling. What stimulates bone rebuilding? Progesterone. Natural progesterone is produced by the corpus luteum after ovulation and balances the side effects of otherwise unopposed estrogen. Under the influences of anovulatory cycles, menopause, stress and dietary antagonists, progesterone production ceases or is suppressed, bringing about estrogen dominance. Many women experience otherwise unexplained weight gain from the lack of progesterone that is required for proper thyroid function.

Here is a debate to take up with your physician. Distinguish natural progesterone from yam extract and from its counterparts in the drug industry - Progestins. These drugs are commonly referred to as progesterone. In some ways they mimic the effects of progesterone in the body, but in other important ways they may interfere with natural progesterone and can create and exacerbate hormone-related health problems. Take over, Doc.

Where Exercise Fits In

Perhaps the exercise benefit results only from reducing stress and thereby assisting in hormonal balance. Exactly how and why exercise helps is unclear. My theory? The internal rain forest; a shower of positive chemical and hormonal interactions unleashed by rigorous bouts of exercise. The American Council on Exercise's Personal Trainer's Manual indicates: "According to Wolf's Law, bone is capable of adjusting its strength in proportion to the amount of stress placed on it. If heavy loads, such as in resistance training, are applied over long periods of times, bones with ample blood supply will become more dense, with increased collagen fibers and mineral salts. "On the other hand," says the trainer's manual, "if bone is not subjected to stress, as in individuals with sedentary lifestyle or in the absence of gravity (as in space flight) bones will become less dense over time as mineral salts are withdrawn from bone." Most medical studies extol walking to decrease the risk of osteoporosis. The reason other types of exercise aren't mentioned is - in my opinion - you can't find a study group of older women containing enough serious exercisers to be statistically significant.

Exercise or not, dietary calcium is probably needed. It takes a hormone from the thyroid - calcitonin - to trigger the osteoblast (building) function, while a parathyroid hormone - parathormone - releases calcium from the osteoclast bone cells, dissolving old bone tissue. Synthetic calcitonin, or synthetic salmon calcitonin, can also be prescribed to aid bone rebuilding. Calcium intake of 1,000-1,500 mg. per day for persons who consume

significant protein and 500-750 mg. per day for vegetarians are said to reduce fracture rates by 50%. That's a standard recommendation. Protein eaters need more because protein promotes excretion of calcium. The need for calcium is greatest during adolescence, when 45 percent of an adult's skeletal mass is formed during the pubertal growth spurt. Inadequate calcium during peak adolescent growth predisposes some individuals in later life. There are many ways to incorporate calcium-rich foods. Two glasses of skim milk and two ounces of low-fat mozzarella cheese contain the recommended dietary allowance for young women.

Emphasize the following:

Yogurt (1 c, plain low-fat) -- 415 mg
Milk (1 c, skim) -- 315mg
Orange juice (calcium-enriched, 1 c) -- 300mg
Tofu (calcium-processed, 4 oz) -- 260mg
Spinach (1 c, cooked) -- 245mg
Kale (1 c, cooked) -- 95mg
Almonds (1 oz) -- 80mg
Broccoli (1 c, cooked) -- 70mg

Calcium supplements are questionable. The body may or may not absorb calcium from supplements, depending on the form of calcium in the supplement.

Risk Indicators

Some studies lately, however, demonstrate little connection to calcium intake, or don't list it among the key preventatives. A five-year study of 9,516 white women, concluded that smoking and a maternal history of hip fracture each double a woman's risk of breaking a hip after the age of 65, even if tests show that the woman's bones are normally dense. Other factors identifying someone as susceptible to hip fracture include the use of caffeine and sedative drugs such as Valium and Librium, and having vision problems such as poor depth perception or difficulty seeing contrasts in dim light. Still other risk indicators include a past history of having an overactive thyroid gland, being tall, being unable to get out of a chair without holding onto the arms and having a high pulse rate.

Women who suffer any sort of fracture after 50, which may indicate that their bones break more easily than other people's, are also at increased risk of hip fracture. Good dietary habits in general (less saturated fat, no artificial sweeteners, limit caffeine, increase intake of green leafy vegetables, have adequate protein, eat frequent mini meals, about a gallon a day of water, etc.) are likewise recommended. (continued on page 4)

RPFitness - Product Spotlight

Osteoporosis, Bad to the Bone (continued from pg. 3)

Between 2-4% of a person's skeleton is dissolved (osteoclast function) and - hopefully - rebuilt (osteoblast function) annually. Got it? Osteoblast and osteoclast! It's kind of like pouring water into a bucket with holes in it. Poor nutrition and a damper on progesterone due to stress, environmental pollutants, and other issues of living results in a suppression of the osteoblast bone cell function. Meanwhile, osteoclast cells continue to dissolve old bone tissue (the slower-filling bucket is still seeping or leaking). This condition, especially when there is a loss of collagen, results in osteoporosis. Why are women so susceptible? Estrogen slows bone loss (osteoclast function). When estrogen production decreases during menopause, therefore, bone loss escalates. Since estrogen has no effect on bone rebuilding, there is no corresponding increase in osteoblast function.

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RIPPED
TurboTread
BarreBody
CUTT
Yoga
Tai Chi

And much more!

Details to come.....



OPTIFAST PROGRAM Products (continued from pg. 2)



OPTIFAST 800 Ready to Drink Shakes

Chill and enjoy! Available in three great-tasting flavors: French Vanilla, Chocolate, and Strawberry - OPTIFAST 800 Ready to Drink formula is a full meal replacement product.



OPTIFAST 800 Powders

Easy to mix and even easier to enjoy, OPTIFAST 800 Powder Formula provides 100% of the Daily Value (DV) for 24 vitamins and minerals in 5 servings.



OPTIFAST 800 Soups

Choose savory Chicken or Garden Tomato flavor. Either way, you get the same nutrition with a savory taste!



OPTIFAST HP Powders

Ideal for patients before and/or after bariatric surgery, OPTIFAST HP Formula provides complete nutrition in delicious vanilla and chocolate flavors.



OPTIFAST Nutrition Bars

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NEWS & NOTES

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- Revised Group Fitness Schedule coming Oct 1, 2011
- Check your email for your quarterly Club Card

St. Jude's Fundraiser coming the week of Nov. 14-19
Details to come...

Stop by the front desk to learn more!