



BONE DENSITY AND OSTEOPOROSIS

BY STEPHANIE FUGAL, M.S.

Osteoporosis threatens an estimated 44 million Americans, which equates to about 55% of persons aged 50 and older (NOF, 2005). The National Osteoporosis Foundation estimates 10 million Americans are currently living with osteoporosis, with 34 million Americans experiencing low bone mass, thus putting this category of people at significantly higher risk for osteoporosis (NOF, 2005). Unfortunately, in most cases, bone loss occurs without symptoms, and is thus often referred to as the "Silent Disease". Many people do not realize the severity of their bone loss until their bones are so weak that a sudden strain, bump, or fall causes their bones to fracture.

Why should we focus on women? Because 80% of osteoporosis sufferers are women; women possess certain risk factors that make them susceptible to bone loss, thus osteoporosis. Many consider age (older) and gender (female) to be the most important risk factors for osteoporosis. Though these risk factors play an important role, decreased estrogen and decreased calcium levels are more indicative of osteoporosis. Other risk factors for osteoporosis include personal or family history of a fracture after age 50, low bone mass, thin/small frame, low lifetime calcium and Vitamin D intake, use of certain medications (corticosteroids, chemotherapy, and anticonvulsants), certain chronic conditions, inactive lifestyle, and excessive use of alcohol or tobacco.

Over a lifetime, women tend to consume less calcium than their male counterparts. It is recommended that women of average risk consume 1000 mg of calcium per day; women over 50, postmenopausal, or high risk women should consume 1200-1500 mg per day. An average woman consumes about 500 mg per day, or about half that which is recommended. The most readily available form of calcium is milk. One glass of milk contains about 300 mg of calcium; therefore, about 3 glasses of milk per day will fulfill the recommended 1000 mg/day. Other excellent sources of calcium include yogurt, cheese, cottage cheese, soy products, fish (including the bone), and broccoli. Some women may choose to obtain calcium from supplements. Calcium citrate supplements tend to be absorbed better than calcium carbonate supplements. It is important to remember that the entire supplement is not fully absorbed, so taking 1000 mg of supplemental calcium may not result in 100% absorption. In addition, it is necessary to consume adequate amounts of Vitamin D, which assists in the absorption of calcium. Most milk is fortified with Vitamin D. We also get enough Vitamin D from as little as 10 minutes of sun exposure per day.

Decreased estrogen levels significantly increase risk for osteoporosis. Before menopause, estrogen levels gradually begin to decline. At menopause estrogen levels are so low, and hormone replacement therapy (HRT) is often recommended. Estrogen plays a crucial role in bone density because it allows the bones to keep their strength. After menopause, the bones contribute a larger share of calcium to meet the body's needs (neuromuscular excitability, blood clots, regulation of heart beat and muscular contractions) due to the decreasing levels of estrogen. Women can lose up to 20% of their bone mass in the 5-7 years following menopause (NOF, 2005). Hormone Replacement Therapy, particularly estrogen, is recommended for menopausal women at risk for osteoporosis. It is important to note that the Women's Health Initiative Study, conducted by the National Institute of Health, recently revealed that women on HRT are at an increased risk for developing heart disease, stroke, breast cancer, and blood clots in their legs and lungs. Therefore, it is important to consult with a doctor before initiating HRT.

Women must be aware of their risk for osteoporosis, which can be determined through a bone mineral density (BMD) testing. The majority of bone mass is deposited prior to age 30. After age 30, bone is being broken down faster than it is being built, leading to an imbalance and bone mass loss. A BMD test can determine the rate of bone loss and risk of future fracture. There are several different machines to test bone density. Central machines test the bones most prone to fracture (spine and hip) and total body; peripheral machines test finger, wrist, shinbone, kneecap and heel. The bone density is then compared to 2 standards: "age-matched" (compares your bone density to someone who is your same age, sex and size) and "young normal" (compares your bone density to the optimal peak bone density of a healthy young adult of the same sex). The information from these tests will allow your doctor to assess your risk for fractures and development of osteoporosis. Once risk is established, you and your doctor can decide what course of action is necessary (medication, HRT, weight-bearing exercises, etc.). Currently, it is recommended that menopausal women have a BMD test performed. For more information, go to www.nof.org (National Osteoporosis Foundation).

References

National Osteoporosis Foundation. 2005. About Osteoporosis: Fast Facts. Retrieved from internet September 6, 2005: www.nof.org

UPCOMING EVENTS

TO REGISTER, OR FOR MORE INFORMATION VISIT
www.byu.edu/wellness OR CALL 2-5884

ALL EVENTS ARE  **FREE** UNLESS OTHERWISE NOTED

BLOOD PRESSURE SCREENINGS

SEPTEMBER 13, 8:00 A.M. - 11:50 A.M. & 3:30 P.M. - 4:30 P.M.

ROOMS 3211 WSC & 149 SWKT

IF YOU DON'T KNOW WHAT YOUR BLOOD PRESSURE LEVELS ARE, COME FIND OUT! THE NURSING PROGRAMN WILL BE IN THE WSC AND THE SWKT TO MEASURE BLOOD PRESSURE. THESE SCREENINGS ARE DROP-IN ONLY (NO APPOINTMENT NECESSARY) AND FREE OF CHARGE.

“OVERCOMING EXERCISE BURNOUT” WELL & WISE

SEPTEMBER 14, 12:00 P.M. - 1:00 P.M. ROOM 3380 WSC

DR. RON HAGER, OF EXERCISE SCIENCES, WILL PRESENT IDEAS ON HOW TO CREATE A DYNAMIC EXERCISE PROGRAM THAT WILL KEEP YOU MOTIVATED AND HELP YOU PREVENT EXERCISE BURNOUT. REGISTER ON LINE.

DEFENSIVE DRIVING COURSE

SEPTEMBER 15, 1:00 P.M. - 5:00 P.M.

THIS HIGHLY INTERACTIVE 4-HOUR COURSE TAUGHT BY DOUG WALTERS, OF RISK MANAGEMENT, MAY HELP YOU REDUCE YOUR INSURANCE PREMIUMS OR KEEP A TRAFFIC TICKET OFF YOUR RECORD. THIS COURSE ENCOURAGES DRIVERS TO TAKE RESPONSIBILITY FOR THEIR DRIVING BEHAVIOR AND HELPS THEM DEVELOP STRATEGIES TO KEEP THEM SAFER ON THE ROAD. REGISTER ON LINE.

“HEALTHY LIFESTYLES” FITNESS CHALLENGE

SEPTEMBER 19 - NOVEMBER 5

ALL NEW ON-LINE FITNESS CHALLENGE! IF YOU'VE NEVER PARTICIPATED IN A WELLNESS EVENT BEFORE, THIS IS THE ONE TO JOIN! YOU WILL BE CHALLENGED TO LIVE THE BASIC PRINCIPLES OF A HEALTHY LIFESTYLE (EXERCISE, NUTRITION, WATER INTAKE, SLEEP, AND DENTAL HYGIENE). THE GOAL IS TO MAKE THESE BASIC ELEMENTS OF HEALTH A LIFELONG HABIT. POINTS WILL BE EARNED FOR DAILY PARTICIPATION AND PRIZES WILL BE GIVEN TO REWARD YOUR SUCCESS. REGISTER ON LINE TODAY!!



BYU WELLNESS FUN WALK

SEPTEMBER 23, RB QUAD

REGISTRATION AT 11:45 A.M.

JOIN US FOR A NEW AND EXCITING FUN WALK IN SEPTEMBER. TAKE A BREAK FROM WORK AND REJUVINATE YOURSELF WITH THIS 3K FUN WALK. BRING COWORKERS AND SPOUSES TO LEARN NEW HEALTH INFORMATION AND A CHANCE TO WIN A PRIZE.

CHOLESTEROL, GLUCOSE AND PSA SCREENINGS

SEPTEMBER 28-30, 7:00 A.M. - 10:30 A.M.

FREE CHOLESTEROL, GLUCOSE AND PSA SCREENNGS FOR BYU EMPLOYEES AND THEIR DEPENDENTS COVERED BY DMBA OR ALTIUS. COME AND LEARN IF YOU ARE AT RISK FOR HIGH CHOLESTEROL. REGISTER ON LINE. A WELL & WISE WILL BE HELD IN OCTOBER TO DISCUSS THE RESULTS OF YOUR CHOLESTEROL SCREENING.

HEART DISEASE & WOMEN

It is important for women to know the truth about heart disease. Regardless of race, heart disease kills more women in America than anything else. One in every three American women die from heart disease.

Risk Factors for heart disease include: high blood pressure, high cholseterol, diabetes, smoking, being overweight, being physically inactive, age (55 or older), and having a family history of early heart disease.

Talk to your doctor today to learn more about heart disease and what your risk level is. Remember that most sympmtoms for heart disease are silent. Take preventive steps now to decrease your chance of being a vicitim of heart disease.

To learn more information visit these websites:

- www.hearttruth.gov
- www.4woman.gov
- www.americanheart.org
- www.womanheart.org

— DID YOU KNOW? —

DO YOU KNOW WHAT THREATENS THE LIVES OF AMERICAN WOMEN THE MOST? THESE ARE THE TOP KILLERS OF WOMEN IN AMERICA. TAKE TIME TO LEARN ABOUT EACH ONE AND HOW TO PREVENT IT.

1. HEART DISEASE
2. CANCER
3. STROKE
4. CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)
5. ALZHEIMER'S DISEASE
6. DIABETES
7. ACCIDENTS
8. PNEUMONIA AND INFLUENZA