



# ASK DR. BOB . . .

*with Dr. Bob Frank*

## **OSTEOPOROSIS**

**It is not uncommon for a disability underwriter to find that a person has osteoporosis when examining an APS, and I am frequently asked the question whether or not this should be rated. This is a very reasonable question, and one that is not easily answered. Osteoporosis can be defined as a decrease in bone mass (or density) with abnormal skeletal microarchitecture that increases the risk of fracture. The World Health Organization has established criteria that osteoporosis is present when the bone mineral density is decreased to more than 2.5 standard deviations below that of a normal young population. Osteopenia is a precursor to osteoporosis in which the bone density falls somewhere between 1.0 and 2.5 standard deviations below normal.**

An individual's peak bone mass occurs in their twenties, and after this bone density decreases slowly. The age related decline in bone mass is approximated at 0.1% to 0.5% per year in both sexes. In women at the onset of menopause, there is a greatly accelerated rate of loss of bone. For the first six or seven years after menopause, the bone density may decrease by up to 4% per year. So you can see that osteoporosis

increases with age. Because women have a peak bone mass that is usually lower than that of men, they also have a lower bone density in each stage of life.

Bone remodeling occurs continuously in adults, at any given time approximately 5% of the skeleton is in a state of turnover. There are cells that both form new bone and cells which resorb bone. This remodeling results in a constant rejuvenation of our bone. With advancing age, less bone is formed than resorbed during each remodeling cycle. As a result, osteoporosis develops.

There are numerous risk factors identified for osteoporosis. The most important ones are advancing age, female sex, post menopausal state, a family history of osteoporosis, white or Asian race, and a low body weight. Also identified as minor risk factors are cigarette use, alcohol abuse, decreased physical exercise, and inadequate intake of dietary calcium.

The diagnosis of osteoporosis can be made by measuring the bone density. There are several types of scans that can do this, the most commonly used one at present is the DEXA scan. With a DEXA scan, the bone density measurements are converted to T scores and Z scores. The T score represents a comparison of the persons bone density to that of a young healthy control group and the Z score represents a comparison of the persons bone density to an age, sex, and race matched peer group. As noted before, osteoporosis is defined as a T score that is greater than 2.5 standard deviations below normal. Osteoporosis can be seen on a routine x-ray, but only when it is severe. Unfortunately, it is often diagnosed only when someone presents with an osteoporotic fracture. A person with osteoporosis is at increase risk of fracture, especially of the hip, the spine, and the distal forearm.

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Dr. Bob continued on next page

If osteoporosis is diagnosed, a doctor must exclude other types of disease that can cause secondary osteoporosis. Most commonly, there is no underlying cause other than primary osteoporosis. When found, treatment should begin. The cornerstone of treatment is a combination of adequate dietary intake of calcium (1,000-1,500 milligrams per day), along with adequate vitamin D intake. In addition to dietary measures, there are several medications that have been shown to be of benefit. Estrogen has been used for a number of years. Although estrogens do help, they also have the increased risk of cardiovascular side effects. As a result, they are not used as much as before. The mainstay of treatment is the anti-resorbative drugs such as the bisphosphonates and the selective estrogen receptor modulators. These anti-resorbative drugs prevent the increased resorption of bone. The bisphosphonates, such as Fosamax, have shown unsurpassed efficacy and have a good safety record. They should be considered the optimal choice for drug treatment after dietary measures. The selective estrogen receptor modulators, such as Evista, also provide benefit, and do not have as many cardiovascular side effects as estrogen.

Obviously, it is best to diagnose osteoporosis when it is mild, and to start treatment before any fractures occur.

As such, many physicians now routinely recommend measuring the bone density of all women, especially around the time of menopause. The greater the number of risk factors for osteoporosis, than perhaps the earlier that screening should begin.

Osteoporosis produces enormous burdens not only for the individual, but also for their family and society at large. Osteoporotic fractures account for a significant annual expenditure in medical expenses, and also can easily cause disability and limitation of normal lifespan. Frequently, osteoporotic fractures of the vertebrae or hip will result in prolonged nursing home placement. As such, osteoporosis in an individual is something that has to be taken seriously by a disability underwriter. An underwriter needs to look at all factors involved in the case, including the severity of the osteoporosis, whether or not any fractures have actually occurred, and what type of treatment is being given. If all characteristics are quite favorable, standard issue is possible. If there are negative factors, then a rating may be necessary.

I would be happy to answer any questions regarding osteoporosis. Please remember to let me know if there are any particular topics that you would like me to cover in future articles for FYI.

