

**HEALTHY
VERMONTERS
2010**

Home

About VDH

News Flash

Topics

Publications

Tools

Links

Chronic Disease in Vermont: Osteoporosis

| [OTHER CHRONIC DISEASE EPIDEMIOLOGY PAGES](#) |

*Vermont Department of Health
Disease Control Bulletin, Volume 1, Issue 4, 1999.*

Osteoporosis is a silent disease—the first sign is often a fracture. One in three women and one in eight men age 50 and older will break a bone during their lifetime due to osteoporosis (1). While Caucasian and Asian women are at highest risk, women of all racial and ethnic groups and men are also at significant risk. Nationwide, health care costs for osteoporotic fractures are estimated at \$13.8 billion per year (2).

PREVALENCE

Osteoporosis is now defined on the basis of bone mineral density (BMD). Prevalence data are inexact: There are few data on men, Hispanics or American Indians. Most prevalence estimates are based on Caucasian females. Nationally, an estimated 13 to 18 percent of women and 1 to 4 percent of men age 50 and older have osteoporosis; an additional 37 to 50 percent of women and 28 to 47 percent of men age 50 and older have low bone mass (3). Based on extrapolations from national estimates, 21 percent of Vermont women and 6 percent of Vermont men age 50 and over—almost 21,500 older Vermonters—have osteoporosis (4). These figures are slightly higher than the national averages and are expected to increase as the population ages.

IMPACT

From 1993 to 1997, there were 2,594 Vermont resident hospitalizations (2,333 females and 261 males) due to osteoporosis-related conditions, with an average annual cost of nearly \$4.7 million. For Vermonters age 50 and older, the annual hospitalization rate from 1993 to 1997 was 5.6 per 1,000 women

and 0.7 per 1,000 men, and the average length of stay was five to nine days (5).

The most common osteoporotic fractures are of the vertebrae and the hip. Hip fractures are the most serious and costly: One-half of patients become permanently disabled and 20 to 25 percent require long-term care (1). The mortality rate within the first year following a hip fracture is 15 to 20 percent higher than expected for a given age group (6). Ninety percent of hip fractures in women and 80 percent in men are attributable to osteoporosis (7).

RISK FACTORS AND INTERVENTIONS

Nonmodifiable risk factors include age, family history, Caucasian or Asian race, and female gender. Women are at higher risk due to achieving a lower peak bone mass and having accelerated bone loss rates in the five to seven years following menopause. Modifiable risk factors include estrogen deficiency, low lifelong calcium intake, smoking, low body mass, inadequate physical activity, alcoholism, certain conditions such as hyperparathyroidism, and certain medications including anticonvulsants and glucocorticoids (8). Other factors such as poor balance or vision can increase the risk for falls.

Routine screening is not recommended, as there are no data on cost or effectiveness of testing and treatment. Instead, BMD testing is recommended for those at greatest risk and to help in making decisions about treatment options. The National Osteoporosis Foundation (NOF) recommends testing for all postmenopausal women under age 65 who have one or more risk factors, all women age 65 and older regardless of risk factors, all women past menopause who have had a fracture, and women who have been on hormone replacement therapy for prolonged periods. While there are no federal or state mandates that insurers cover BMD testing, Medicare now covers these tests for beneficiaries who are estrogen-deficient, on long-term steroid therapy, currently taking drugs for osteoporosis, have spinal abnormalities suggesting low bone mass, or have an overactive parathyroid gland. Several types of BMD tests are available. These tests have varying levels of accuracy and precision, but all are good predictors of fracture risk (8). Several drugs have been approved by the FDA for the prevention and treatment of osteoporosis. In general, these drugs appear to reduce some fractures by 25 to 50 percent (8).

PREVENTION

While older adults suffer the consequences of osteoporosis, this disease begins early in life. A healthy lifestyle in childhood and adolescence can set the stage for optimum bone mass. Variations in calcium intake early in life may account for a five to 10 percent difference in adult bone mass and a 50 percent difference in the hip fracture rate later in life (9). Adolescents with eating disorders may be at particular risk due to both poor nutrition and amenorrhea. An active lifestyle not only increases bone density but improves strength and balance, reducing the risk of falls (8).

Prevention messages across the lifespan should include:

- Get adequate amounts of calcium—at least 1200 mg/day.
- Get adequate amounts of Vitamin D—at least 400 IU/day.
- Live an active lifestyle.
- Avoid tobacco.
- Drink alcohol in moderation if at all.

Additional preventive measures for older adults should include:

- Consider BMD testing if at high risk.
- Based on BMD results, consider drug treatment.
- Fall-proof your home.

A physician's guide to testing, treatment, and prevention is available through the National Osteoporosis Foundation at (202) 223-2226 or URL <http://www.nof.org/>. For Vermont information, contact Kathy Backes at the [New England Dairy and Food Council](#) at (802) 863-5416, or Jill Nye-McKeown, Chair of Vermont's interagency Osteoporosis Task Force at (802) 862-9622.

References:

- (1) Riggs BL, Melton LJ. The worldwide problem of osteoporosis: insights afforded by epidemiology. *Bone* 1995;17:505S-511S.
- (2) Ray NF, Chan JK, Thamer M, Melton LJ. Medical expenditures for the treatment of osteoporotic fractures in the U.S. in 1995: report from the NOF. *J Bone Miner Res* 1997;12:24-35.
- (3) Looker AC, Orwoll ES, Johnston CC et al. Prevalence of low femoral bone density in older U.S. adults from NHANES III. *J Bone Miner Res* 1997;12:1761-1768.
- (4) NOF. 1996 and 2015 osteoporosis prevalence figures: state-by-state report, 1997.

(5) Vermont hospital discharge data.

(6) Jenson JS, Baggar J. Long term social prognosis after hip fractures. Acta Orthop Scand 1982;53: 97-101.

(7) Melton LJ, Thamer M, Ray NF et al. Fractures attributable to osteoporosis: report from the NOF. J Bone Miner Res 1997;12:16-23.

(8) NOF. Physician's guide to prevention and treatment of osteoporosis, 1998.

(9) Matkovic V, Illich JZ. Calcium requirements for growth: are current recommendations adequate? Nutr Rev 1993;51:171-80.

For more information, contact Allison La Pointe at alapoin@vdh.state.vt.us

Find the information you
need quickly by
searching the VDH
website:

Search

Vermont Department of Health
108 Cherry Street, Burlington, VT 05402-0070

Comments or questions regarding this web site?
Send e-mail to the Webkeeper@vdh.state.vt.us .