Prevention and Treatment of Osteoporosis Guideline

MVP Health Care® as part of its continuing Quality Improvement program endorses the National Osteoporosis Foundation (NOF–now the Bone Health and Osteoporosis Foundation (BHOF)—Prevention and Treatment of Osteoporosis guideline[1].

Impact of the Condition

- Fractures are often the first sign of osteoporosis - approximately two million individuals suffer a fracture due to bone disease each year.
- Fractures can be very debilitating for older individuals, resulting in 432,000 hospital admissions, almost 2.5 million medical office visits, and about 180,000 nursing home admissions in the USA
- Despite the availability of cost-effective and well-tolerated treatments to reduce fracture risk, only 23% of women age 67 or older who have an osteoporosis-related fracture receive either a BMD test or a prescription for a drug to treat osteoporosis in the 6 months after the fracture
- Percent of men 50 years of age and over with osteoporosis of the femur neck or lumbar spine: 4.2%
- Percent of women 50 years of age and over with osteoporosis of the femur neck or lumbar spine: 18.8%

Source: U.S. Department of Health and Human Services. *Bone Health and Osteoporosis: A Report of the Surgeon General.* Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General, 2004.

Summary of NOF Guidelines

The executive summary of the NOF Clinician's guide contains a synopsis of major recommendations to the clinician. *The NOF (2014) recommendations are as follows[1]:*

Recommendations apply to postmenopausal women and men age 50 and older.

Universal Recommendations

- Counsel on the risk of osteoporosis and related fractures.
- Advise on a diet that includes adequate amounts of total calcium intake (1,000 mg per day for men 50-70; 1,200 mg per day for women age 51 and older and men 71 and older) incorporating dietary supplements, if diet is insufficient.
- Advise on Vitamin D intake (800-1000 IU/day), including supplements if necessary, for individuals age 50 and older.

- Recommend regular weight-bearing and muscle-strengthening exercise to improve agility, strength, posture and balance; maintain or improve bone strength, and reduce the risk of falls and fractures.
- Assess risk factors for falls and offer appropriate modifications (e.g., home safety assessment, balance training exercises, correction of vitamin D insufficiency, avoidance of central nervous system depressant medications, careful monitoring of anti-hypertensive medication, and vision correction when needed).
- Advise on cessation of tobacco smoking and avoidance of excessive alcohol intake.

Diagnostic Assessment

- Measure height annually, preferably with a wall mounted stadiometer.
- Bone mineral density (BMD) testing
    - In women age 65 and older and men age 70 and older, recommend bone mineral density (BMD) testing.
    - In postmenopausal women and men age 50-69, recommend BMD testing based on their risk factor profiles.*
    - In postmenopausal women and men over age 50 who have had an adult age fracture, to diagnose and determine degree of osteoporosis.
    - At dual-energy x-ray absorptiometry (DXA) facilities using accepted quality assurance measures.

Vertebral Imaging

- In all women age 70 and older and all men age 80 and older if BMD T-score is < -1.0 at the spine, total hip or femoral neck.
- In women age 65 to 69 and men age 70 to 79 if BMD T-score is < -1.5 at the spine, total hip or femoral neck.
- In postmenopausal women and men age 50 and older with specific risk factors:
    - Low trauma fracture during adulthood (age 50+)
    - Historical height loss of 1.5 inches or more (4 cm)
    - Prospective height loss of 0.8 inches or more (2 cm)
    - Recent or ongoing long-term glucocorticoid treatment
- If bone density testing is not available, vertebral imaging may be considered based on age alone.
- Check for secondary causes of osteoporosis.

- Biochemical markers of bone turnover can aid in risk assessment and serve as an additional monitoring tool when treatment is initiated.

Pharmacologic Treatment Recommendations

After appropriate evaluation

- Initiate pharmacologic treatment in those with hip or vertebral (clinical or asymptomatic) fractures.
- Initiate therapy in those with BMD T-scores ≤ -2.5 at the femoral neck or spine by dual-energy x-ray absorptiometry (DXA) after appropriate evaluation.
- In postmenopausal women and men age 50 and older with low bone mass (T-score between -1.0 and -2.5, osteopenia) at the femoral neck, total hip or lumbar spine by DXA and a 10-year hip fracture probability > 3% or a 10-year major osteoporosis related fracture probability > 20% based on the US-adapted WHO absolute fracture risk model (FRAX®), treatment should be strongly considered; see www.bonehealthandosteoporosisfoundation.org and www.shef.ac.uk/FRAX).
    - Current FDA-approved pharmacologic options for osteoporosis prevention and/or treatment include bisphosphonates (alendronate, ibandronate, risedronate and zoledronic acid), calcitonin, estrogen agonist/antagonist (raloxifene), estrogens and/or hormone therapy, tissue-selective estrogen complex (conjugated estrogens/bazedoxifene), parathyroid hormone agents, RANK ligand inhibitor (denosumab) and romosozumab.
    - No pharmacologic therapy should be considered indefinite in duration. After the initial treatment period, which depends on the pharmacologic agent, a comprehensive risk assessment should be performed. There is no uniform recommendation that applies to all patients and duration decisions need to be individualized.
    - In adults age 50 and older, after a fracture, institute appropriate risk assessment and treatment measures for osteoporosis as indicated. An alternative in many centers is a fracture liaison service (FLS) program where patients with recent fractures may be referred for care coordination and transition management, with demonstrated improvement in the quality of care delivered.

Monitoring Patients

- Perform BMD testing 1 to 2 years after initiating medical therapy for osteoporosis and every two years thereafter.
    - More frequent testing may be warranted in certain clinical situations.
    - The interval between repeat BMD screenings may be longer for patients without major risk factors and who have an initial T-score in the normal or upper low bone mass range.

- Biochemical markers can be repeated to determine if treatment is producing expected effect.

The full NOF Clinician's Guide can be found at https://www.bonesource.org/clinical-guidelines. (click on Clinician's Guide).

As an additional resource for physicians, MVP provides a link to the World Health Organization's Fracture Assessment tool (FRAX) above and in our Quality Improvement Manual.

This guideline is not intended to replace the role of clinical judgment by the physician in the management of this, or any other disease entity. It is an educational guideline to assist in the delivery of good medical care. All treatment decisions are ultimately up to the physician. Where medication recommendations are made, please refer to each health plan's formulary for coverage considerations.

MVP Health Care updates its clinical guidelines at least every two years. The review process is also initiated when new scientific evidence or national standards are published. Practitioners are alerted via the web site and by written notices from the plan via fax or newsletter. A hard copy of the clinical guideline can be requested by calling the MVP Quality Improvement Department at **(800) 777-4793**.

*MVP's Adult Preventive Care guidelines reference the June 2018 United States Preventive Services Task Force (USPSTF) *Screening for Osteoporosis* statement that recommends screening for osteoporosis in women aged 65 years or older and in younger postmenopausal women who are at an increased wish of osteoporosis, as determined by a formal clinical risk assessment tool. *Note*: this is a B recommendation.

[1] National Osteoporosis Foundation. Clinician's Guide to Prevention and Treatment of Osteoporosis. Washington, DC: National Osteoporosis Foundation; 2014.