Osteoporosis – Clinical Protocol

Assessment and Recognition

1. As part of the initial assessment, the physician will help identify individuals with a history of osteopenia (moderate bone loss) or osteoporosis (more severe bone loss) and those with complications of osteoporosis; for example, osteoporosis confirmed by DEXA scan, kyphosis, a history of fractures with minimal or no trauma, a loss of height associated with back pain (indicating vertebral compression), or a loss of height relative to the individual’s height at age 30.

2. The physician will identify individuals who are at risk for additional bone loss and distinguish non-modifiable (for example, female, small body frame, Caucasian or Asian race, etc.) from possibly modifiable factors that may adversely affect bone metabolism.

3. The staff and physician will assess residents with identified osteoporosis or obvious skeletal deformity to determine functional capabilities, disabilities, and complications including pain and risk of falling.

Cause Identification

1. The physician will confirm the diagnosis of osteoporosis based primarily on clinical findings such as evidence of compression fractures, previous fracture, loss of height as a result of kyphosis or exaggerated cervical lordosis, and on laboratory values and diagnostic test results where available and pertinent; for example, x-ray evidence of bone loss and results of a DEXA scan.

2. As appropriate, the physician will seek potentially modifiable causes of the individual’s bone loss; for example, primary hyperparathyroidism, chronic corticosteroid usage, osteomalacia, renal failure, hyperthyroidism, immobility, and inadequate intake of calcium and vitamin D.

Treatment/Management

1. The physician and staff will identify pertinent medical interventions for individuals with osteoporosis or those with significant risk for osteoporosis.

2. The staff will institute basic measures, including strategies to try to maintain adequate nutritional status, maximize mobility, and address modifiable risk factors.
   a. Relevant measures may include fall prevention strategies (including gait and balance training), range of motion exercises in non-ambulatory residents, and regular weight-bearing exercise.

3. The physician will review current medications and try to reduce, discontinue, or substitute for medications that predispose residents to osteoporosis (for example, anticonvulsants and glucocorticoids) or increase the risk of falling (see policy on Managing Falls and Fall Risk).

4. The physician will order calcium and vitamin D supplementation as appropriate and if not contraindicated.
   a. Calcium and vitamin D supplementation may retard bone loss. Total daily amounts (including dietary intake) should approximate 1200-1500 mg/day of calcium and 800-1000 international units/day of vitamin D, unless otherwise indicated.

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5. The physician will evaluate whether the resident is a candidate for taking bisphosphonates, calcitonin, or other medications for treating osteoporosis based on severity of bone loss, ability to tolerate and take the medications appropriately, presence of relative contraindications, overall prognosis, and other factors.

6. The physician and staff will identify and institute treatments for complications of osteoporosis such as chronic/acute pain and impaired mobility.

7. The physician will consider whether the resident with complications from vertebral compression fractures might benefit from palliative surgical interventions such as vertebroplasty or kyphoplasty.

**Monitoring**

1. The staff and physician will periodically assess and document the individual’s progress in maintaining or improving bone integrity.
   a. If feasible and pertinent, objective measurements of symptoms and overall condition should be obtained approximately every 3 to 6 months; for example, objective pain scales, evaluation of ADL function and dependency, and evaluation of strength and mobility.

2. The staff and physician will monitor the individual for side effects of treatments for osteoporosis; for example, heartburn or esophagitis in someone taking a bisphosphonate, or nasal irritation from calcitonin.
   a. The physician should consider alternatives for the individual who is experiencing significant side effects from the current osteoporosis regimen who could still benefit from treatment.

### References

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<th>MDS Items (CAAs)</th>
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