

Michigan Quality Improvement Consortium Guideline

Management of Osteoporosis

The following guideline recommends assessment, pharmacologic treatment and self-management interventions for osteoporosis.

Eligible Population	Key Components	Recommendation and Level of Evidence	Frequency		
<ul style="list-style-type: none"> ■ Women \geq age 65 regardless of risk factors ■ Younger postmenopausal women with one or more risk factors (other than being white, postmenopausal, and female) ■ Anyone on chronic glucocorticoid treatment ■ Postmenopausal women who present with fractures (to confirm diagnosis and determine disease severity) 	Assessment	<ul style="list-style-type: none"> ■ Assess for loss of height ($>$ 1.5 inches) and back pain ■ Assess other risk factors: <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> Modifiable: <ul style="list-style-type: none"> ◆ Current cigarette smoking ◆ Low body weight ($<$ 127 lbs.) ◆ Estrogen deficiency ◆ Premature menopause ◆ Excessive thyroid hormone replacement ◆ Chronic corticosteroid therapy ◆ Low calcium intake (life-long) ◆ Alcoholism ◆ Uncorrected visual impairment ◆ Inadequate physical activity ◆ Recurrent falls </td> <td style="vertical-align: top;"> Non-Modifiable: <ul style="list-style-type: none"> ◆ Personal or family history of fragility ◆ Family history of osteoporosis ◆ Caucasian or Asian race ◆ Age ◆ Gender ◆ Poor health/frailty ◆ Dementia ◆ Hypogonadism in males ◆ Fracture without substantial trauma </td> </tr> </table> ■ Bone mineral density (BMD) testing using DEXA spine & total hip 	Modifiable: <ul style="list-style-type: none"> ◆ Current cigarette smoking ◆ Low body weight ($<$ 127 lbs.) ◆ Estrogen deficiency ◆ Premature menopause ◆ Excessive thyroid hormone replacement ◆ Chronic corticosteroid therapy ◆ Low calcium intake (life-long) ◆ Alcoholism ◆ Uncorrected visual impairment ◆ Inadequate physical activity ◆ Recurrent falls 	Non-Modifiable: <ul style="list-style-type: none"> ◆ Personal or family history of fragility ◆ Family history of osteoporosis ◆ Caucasian or Asian race ◆ Age ◆ Gender ◆ Poor health/frailty ◆ Dementia ◆ Hypogonadism in males ◆ Fracture without substantial trauma 	<ul style="list-style-type: none"> ■ Adult height assessments annually and at periodic well exams ■ BMD test once for diagnosis [D]
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Core Principles of Management and Pharmacologic Treatment	<p>All patients in the eligible population should ensure they maintain:</p> <ul style="list-style-type: none"> ■ Sufficient intake of dietary calcium (typically 1200 – 1600 mg/d) and supplemental calcium, with 400 – 800 units vitamin D [B] ■ Make lifestyle changes: regular weight-bearing and muscle-strengthening exercises; physically challenged individuals may require rehabilitation interventions to improve activity levels; otherwise, patients may be encouraged to walk, jog, do weight training or participate in similar activity programs [A]; smoking cessation; moderation of alcohol consumption¹; minimize caffeine intake; and fall prevention strategies [C] 	<ul style="list-style-type: none"> ■ BMD testing more often than every two years is not useful ■ Consider rechecking BMD after at least two years of pharmacologic treatment to monitor effectiveness [D]. 			

Definitions	Indication	Medication	Dosage
<p>Osteopenia</p> <ul style="list-style-type: none"> ◆ T-score 1 – 2.5 SD below healthy young adult mean [D] 	Prevention	Alendronate (Fosamax)	5 mg/d or 35 mg/week ^{2,3}
		Raloxifene (Evista)	60 mg/d
		Risedronate (Actonel)	5 mg/d or 35 mg/week ^{2,3}
<p>Osteoporosis</p> <ul style="list-style-type: none"> ◆ Combined with fragility fractures, a T-score of $>$ 2.5 SD below healthy young adult indicates severe osteoporosis ◆ Initiate therapy for T-score below -2.0 with no risk factors 	Treatment	Alendronate (Fosamax)	10 mg/d or 70 mg/week ^{2,3}
		Raloxifene (Evista)	60 mg/d
		Risedronate (Actonel)	5 mg/d or 35 mg/week ^{2,3}
Referral	If patient does not tolerate treatment or shows progression or recurrent fracture after 2 years on treatment, consider referral to a specialist.		

¹ Moderate alcohol consumption is defined as up to two drinks per day for men, one drink per day for women and older people.

² Should not be used in patients with active upper GI disorders (e.g., GERD, PUD) [A]

³ Take medication on an empty stomach with water, remain upright for 30 minutes, no food or beverage for 30 minutes

Levels of Evidence for the most significant recommendations: A = randomized controlled trials; B = controlled trials, no randomization; C = observational studies; D = opinion of expert

This guideline lists core management steps. It is based on several sources, including: Screening for Osteoporosis in Postmenopausal Women: Recommendations and Rationale, 2002

(www.preventiveservices.ahrq.gov) and Physician's Guide to Prevention and Treatment of Osteoporosis, National Osteoporosis Foundation, 2003. Individual patient considerations and advances in medical science may supersede or modify these recommendations.

