



Quick Reference Guide

2010 Clinical Practice Guidelines for the Diagnosis and Management of Osteoporosis in Canada

This guide has been developed to provide healthcare professionals with a quick-reference summary of the most important recommendations from the **2010 Clinical Practice Guidelines for the Diagnosis and Management of Osteoporosis in Canada**. For more detailed information, consult the full guideline document at www.osteoporosis.ca.

Recommendations for Clinical Assessment

Assessment	Recommended Elements of Clinical Assessment
History	<input type="checkbox"/> Identify risk factors for low BMD, fractures and falls: <ul style="list-style-type: none"> <input type="checkbox"/> Prior fragility fractures <input type="checkbox"/> Parental hip fracture <input type="checkbox"/> Glucocorticoid use <input type="checkbox"/> Current smoking <input type="checkbox"/> High alcohol intake (≥ 3 units per day) <input type="checkbox"/> Rheumatoid arthritis <input type="checkbox"/> Inquire about falls in the previous 12 months <input type="checkbox"/> Inquire about gait and balance
Physical Examination	<input type="checkbox"/> Measure weight (weight loss of $> 10\%$ since age 25 is significant) <input type="checkbox"/> Measure height annually (prospective loss $> 2\text{cm}$) (historical height loss $> 6\text{cm}$) <input type="checkbox"/> Measure rib to pelvis distance ≤ 2 fingers' breadth <input type="checkbox"/> Measure occiput-to-wall distance (for kyphosis) $> 5\text{cm}$ <input type="checkbox"/> Assess fall risk by using Get-Up-and-Go Test (ability to get out of chair without using arms, walk several steps and return) <div style="float: right; border-left: 1px solid black; padding-left: 5px; margin-left: 10px;"> Screening for vertebral fractures </div>

Recommended Biochemical Tests for Patients Being Assessed for Osteoporosis

- | | |
|---|--|
| <input type="checkbox"/> Calcium, corrected for albumin | <input type="checkbox"/> Thyroid stimulating hormone (TSH) |
| <input type="checkbox"/> Complete blood count | <input type="checkbox"/> Serum protein electrophoresis for patients with vertebral fractures |
| <input type="checkbox"/> Creatinine | <input type="checkbox"/> 25-hydroxy vitamin D (25-OH-D)* |
| <input type="checkbox"/> Alkaline phosphatase | |

*Should be measured after 3-4 months of adequate supplementation and should not be repeated if an optimal level $\geq 75\text{ nmol/L}$ is achieved.

Indications for BMD Testing

Older Adults (age ≥ 50 years)

- All women and men age ≥ 65 years
- Menopausal women, and men aged 50-64 years with clinical risk factors for fracture:
 - Fragility fracture after age 40
 - Prolonged glucocorticoid use[†]
 - Other high-risk medication use*
 - Parental hip fracture
 - Vertebral fracture or osteopenia identified on X-ray
 - Current smoking
 - High alcohol intake
 - Low body weight ($< 60\text{ kg}$) or major weight loss ($> 10\%$ of weight at age 25 years)
 - Rheumatoid arthritis
 - Other disorders strongly associated with osteoporosis such as primary hyperparathyroidism, type 1 diabetes, osteogenesis imperfecta, uncontrolled hyperthyroidism, hypogonadism or premature menopause (< 45 years), Cushing's disease, chronic malnutrition or malabsorption, chronic liver disease, COPD and chronic inflammatory conditions (e.g., inflammatory bowel disease)

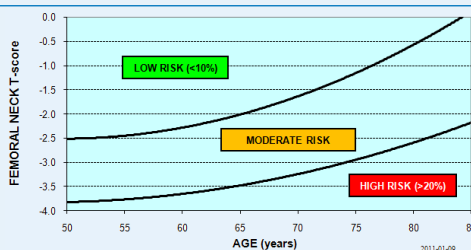
Younger Adults (age < 50 years)

- Fragility fracture
- Prolonged use of glucocorticoids*
- Use of other high-risk medications[†]
- Hypogonadism or premature menopause
- Malabsorption syndrome
- Primary hyperparathyroidism
- Other disorders strongly associated with rapid bone loss and/or fracture

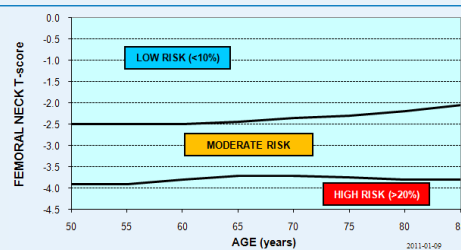
[†] ≥ 3 months in the prior year at a prednisone equivalent dose $\geq 7.5\text{ mg daily}$; *e.g., aromatase inhibitors, androgen deprivation therapy.

Assessment of Basal 10-year Fracture Risk: 2010 CAROC System

Women



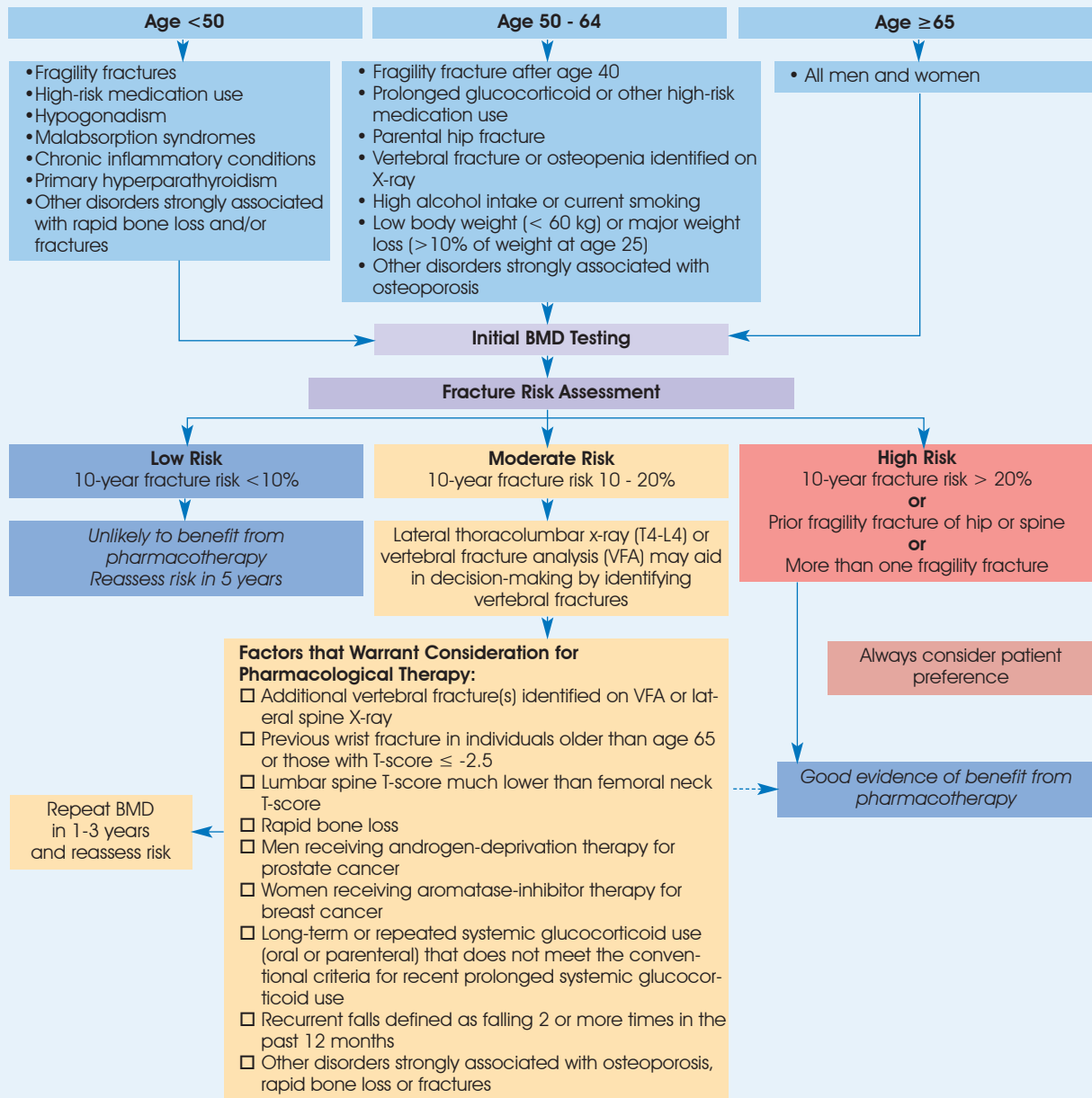
Men



- Note: 1) Fragility fracture after age 40 or recent prolonged systemic glucocorticoid use increases 2010 CAROC basal risk by one category (i.e., from low to moderate or moderate to high).
 2) Using this model in a patient on therapy only reflects the theoretical risk of a hypothetical patient who is treatment naive and does not reflect the risk reduction associated with therapy.
 3) Femoral neck T-score should be derived from NHANES III Caucasian women reference database.
 4) Individuals with a fragility fracture of the vertebra or hip, or with more than one fragility fracture are at high fracture risk.

Integrated Management Model

Encourage **basic bone health** for all individuals including: regular active weight bearing exercise, calcium (diet and supplements) 1200 mg daily, vitamin D: 800 - 2000 IU daily after age 50 (400 - 1000 for those <age 50 at low risk), and fall prevention strategies.



First Line Therapies with Evidence for Fracture Prevention in Postmenopausal Women*

Type of Fracture	Antiresorptive Therapy						Bone Formation Therapy
	Bisphosphonates			Denosumab	Raloxifene	Estrogen** (Hormone Therapy)	Teriparatide
	Alendronate	Risedronate	Zoledronic Acid				
Vertebral	✓	✓	✓	✓	✓	✓	✓
Hip	✓	✓	✓	✓	-	✓	-
Non-vertebral†	✓	✓	✓	✓	-	✓	✓

† In Clinical trials, non-vertebral fractures are a composite endpoint including hip, femur, pelvis, tibia, humerus, radius, and clavicle.

* For postmenopausal women, ✓ indicates first line therapies and Grade A recommendation. For men requiring treatment, alendronate, risedronate, and zoledronic acid can be used as first-line therapies for prevention of fractures (Grade D).

** Hormone therapy (estrogen) can be used as first-line therapy in women with menopausal symptoms.