


<b>UCLA MEDICAL GROUP / Managed Care Operations</b>		
<b>DEPARTMENT:</b> Utilization Management		<b>POLICY NUMBER: TBD</b>
<b>SECTION:</b> UM Program		Page 1 of 4
<b>TITLE:</b> <b>Bone Mineral Density Measurement (BMD)</b>		<b>ISSUE:</b> <b>EFFECTIVE:</b>
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**BMD measurement is NEVER indicated unless the results will influence a treatment decision.**

**INDICATIONS FOR BMD MEASUREMENT:**

- Bone mineral density (BMD) testing with DXA should be performed: • NOF and USPSTF guideline: In women age 65 and older and men age 70 and older (USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for osteoporosis to prevent osteoporotic fractures in men).
- NOF: In postmenopausal women and men above age 50–69, based on risk factor profile
- The USPSTF recommends screening for osteoporosis with bone measurement testing to prevent osteoporotic fractures in postmenopausal women younger than 65 years who are at increased risk of osteoporosis, as determined by a formal clinical risk assessment tool. Several tools are available to assess osteoporosis risk: the Simple Calculated Osteoporosis Risk Estimation (SCORE; Merck), Osteoporosis Risk Assessment Instrument (ORAI), Osteoporosis Index of Risk (OSIRIS), and the Osteoporosis Self-Assessment Tool (OST). The FRAX tool (University of Sheffield), which assesses a person’s 10-year risk of fracture, is also a commonly used tool • In postmenopausal women and men age 50 and older who have had an adult age fracture, to diagnose and determine degree of osteoporosis
- Vertebral imaging should be performed: • In all women age 70 and older and all men age 80 and older if BMD T-score is  $\leq -1.0$  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  $\leq -1.5$  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 and older)
  - Historical height loss (*difference between the current height and peak height at age 20*) of 1.5 in. or more (4 cm)

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- Prospective height loss (*difference between the current height and a previously documented height measurement*) of 0.8 in. 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. **Monitoring patients**
- Perform BMD testing 1 to 2 years after initiating medical therapy for osteoporosis and every 2 years thereafter.
- More frequent BMD 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.

**FREQUENCY OF BMD MEASUREMENT:** not more than every two years when medically indicated, unless the patient has a medical condition associated with accelerated bone loss. Patients with a normal scan should not have it repeated for five years, unless the patient has a medical condition associated with accelerated bone loss.

**BMD measurement can be used to:**

- Establish/confirm diagnosis of osteoporosis
- Predict future fracture risk
- Monitor changes in BMD due to medical conditions or therapy

**BMD measurement is NEVER indicated unless the results will influence a treatment decision.**

**SUPPLEMENTAL INFORMATION**

**OSTEOPOROSIS:** BMD values greater than 2.5 standard deviations below a non-hispanic white female reference group mean aged 20-29 years old (T score)

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**OSTEOPENIA:** BMD value between 1-2.5 standard deviations below a non-hispanic white female reference group mean-aged 20-29 years old (T score)

**RISK FACTORS FOR OSTEOPOROTIC FRACTURE**

**NONMODIFIABLE**

- Personal history of fracture as an adult
- History of osteoporosis in a first degree relative
- Caucasian race
- Advanced age
- Dementia
- Poor health/frailty

**MODIFIABLE**

- Current cigarette smoking
- Low body weight
- Estrogen deficiency (early menopause (age <45) or bilateral ovariectomies, prolonged (>1 yr) premenopausal amenorrhea)
- Low calcium intake (lifelong)
- Alcoholism
- Impaired eyesight despite adequate correction
- Recurrent falls
- Inadequate physical activity
- Poor health/frailty

**RISK FACTORS FOR OSTEOPOROSIS**

**Hypogonadism**

Amenorrhea/oligomenorrhea  
Hyperprolactinemia  
Premature menopause

**Endocrine and metabolic disorders**

Hyperparathyroidism or tumor secretion of PTH -rp  
Untreated/inadequately treated hyperthyroidism  
Cushing’s syndrome  
Adrenal insufficiency  
Acromegaly  
Hypophosphatemia  
Hemochromatosis

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Porphyria

**Gastrointestinal disorders**

Malabsorption syndromes  
 Chronic obstructive jaundice  
 Primary biliary cirrhosis  
 Gastrectomy  
 Pancreatic insufficiency

**Eating disorders**

Anorexia nervosa  
 Bulimia

**Chronic anemia**

(sickle cell disease, thalassemia, hemophilia)

**Cancers with diffuse bone involvement**

**Chronic disorders**

Rheumatoid arthritis  
 Ankylosing spondylitis  
 Renal failure/hemodialysis  
 Liver failure  
 Amyloidosis

**TPN or nutritional deficiencies**

Rickets, scurvy, etc.

**Medications**

Glucocorticoids (three months or more of 5 mg prednisone / equivalent daily)  
 Anticonvulsants  
 Heparin  
 Thyroxin (excessive dose)  
 Heparin and warfarin  
 Cyclosporine  
 GnRH analogues and antiestrogens  
 Depo-Provera (chronic)  
 Chemotherapy  
 Lithium  
 Aluminum

**Lifestyle factors**

Smoking  
 Excessive alcohol intake  
 Excessive caffeine intake  
 Prolonged immobilization (three months or more)

**REFERENCES**

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*US Preventive Services Task Force: Screening for Osteoporosis to Prevent Fractures US Preventive Services Task Force Recommendation Statement JAMA2531-2521:(24)319;2018 .*

**The National Osteoporosis Foundation:** Clinician’s guide to Prevention and Treatment of Osteoporosis, Osteoporos Int. 2014; 25(10): 2359–2381.