# TBS Osteo™

# Clinical Guidance for BMD Testing

## Indications for bone mineral density (BMD) testing - Adult [1]

- Women aged 65 and older
- For post-menopausal women younger than age 65 a bone density test is indicated if they have a risk factor for low bone mass such as:
  - Low body weight
  - Prior fracture
  - **High risk medication use**
  - **Disease or condition associated with bone loss**
- Women during the menopausal transition with clinical risk factors for fracture, such as low body weight, prior fracture, or high-risk medication use
- Men aged 70 and older
- For men < 70 years of age a bone density test is indicated if they have a risk factor for low bone mass such as:
  - Low body weight
  - Prior fracture
  - **High risk medication use**
  - **Disease or condition associated with bone loss**
- Adults with a fragility fracture
- Adults with a disease or condition associated with low bone mass or bone loss
- Adults taking medications associated with low bone mass or bone loss
- Anyone being considered for pharmacologic therapy
- Anyone being treated, to monitor treatment effect
- Anyone not receiving therapy in whom evidence of bone loss would lead to treatment
  - Women discontinuing estrogen should be considered for bone density testing according to the indications listed above.

**When considering patients for a BMD exam, adding TBS (trabecular bone score) to your DXA scan will enable you to identify up to 30% more patients at high risk of fracture [2]**

**Know more with TBS**

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## Medications that can cause bone loss [3]

- Aluminum-containing antacids
- Antiseizure medications (only some) such as Dilantin® or Phenobarbital
- Aromatase inhibitors such as Arimidex®, Aromasin® and Femara
- Cancer chemotherapy drugs
- Cyclosporine A and FK506 (Tacrolimus)
- Glucocorticoids such as cortisone and prednisone
- Gonadotropin releasing hormone (GnRH) agonists such as Lupron® and Zoladex®
- Heparin (long-term)
- Lithium
- Medroxyprogesterone acetate for contraception (Depo-Provera®)
- Methotrexate
- Proton pump inhibitors (PPIs) such as Nexium®, Prevacid® and Prilosec®
- Selective serotonin reuptake inhibitors (SSRIs) such as Lexapro®, Prozac® and Zoloft®
- Tamoxifen® (premenopausal use)
- Thiazolidenediones such as Actos® and Avandia®
- Thyroid hormones in excess

This list may not include all medication that cause bone loss.

## Medical conditions that could lead to osteoporosis [3]

- AIDS/HIV
- Blood and bone marrow disorders
- Breast cancer
- Cushing's syndrome
- Eating disorders
- Emphysema
- Female athlete triad
- Gastrectomy
- Gastrointestinal bypass procedures
- Hyperparathyroidism
- Hyperthyroidism
- Idiopathic scoliosis
- Inflammatory bowel disease (e.g. crohn's disease or ulcerative colitis)
- Diabetes mellitus (Types I and II)
- Kidney disease
- Lupus
- Lymphoma and leukemia
- Malabsorption syndromes (e.g. celiac disease)
- Multiple myeloma
- Multiple sclerosis
- Organ transplants
- Paralysis
- Parkinson's disease
- Poor diet
- Premature menopause
- Prostate cancer
- Rheumatoid arthritis
- Severe liver disease (including biliary cirrhosis)
- Spinal cord injuries
- Stroke (CVA)
- Thalassemia
- Thyrotoxicosis
- Weight loss

This list may not include all of the conditions that cause bone loss.

References:
1. ISCD. (2023). Adult Official Positions 2023. https://iscd.org/official-positions-2023/
2. The Manitoba Study: Prospective study that aimed to elucidate the ability of lumbar spine TBS to predict future clinical osteoporotic fractures. Sample: 29,407 women age 50 or older at time of baseline in the Canadian province of Manitoba, mean follow- up time of 4.7 years. Hans et al. ,2011, J. Bone Miner. Res. 26.
3. Boning Up On Osteoporosis. (2018). National Osteoporosis Foundation. https://www.bonehealthandosteoporosis.org/patients/bhof-resource-library/

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