

Screening Reference Guide - Bone Mineral Density Screening

Bone density or **bone mineral density** is a medical term referring to the amount of matter per cubic centimeter of bones.^[1] Bone density or **BMD** is used in clinical medicine as an indirect indicator of osteoporosis and fracture risk. T-score, the number of standard deviations above or below the mean for a healthy 30 year old adult of the same sex and ethnicity as the patient. Bone density is a proxy measurement for bone strength, which is the resistance to fracture and the truly significant characteristic. Although the two are usually related, there are some circumstances in which bone density is a poorer indicator of bone strength. In Special Olympics, screening of athletes ages 20 and older is performed on the Quantitative Ultrasound (QUS) Device. Athletes with scores of -1.0 or lower are asked to discuss the results with their physician.

BMD can be expressed as T-score, which represents a comparison of their bone density with the average bone mineral density of a healthy 30 year old.	
• A T-score of -0.9 to +3.4 is considered normal BMD	No referral required
• A T-score of between -1.0 and -2.4 is considered osteopenia.	Referral required
• A T-score equal to or lower than -2.5 is considered osteoporosis.	Referral required
• A T-score higher than +3.5 needs a medical referral to rule out lead poisoning.	Referral required

Individual risk factors including any of the following may predispose people with intellectual disability to increased fracture risk. For some, medical intervention may help reduce risk of future fracture.

1. Low circulating blood levels of vitamin D
2. Inadequate nutrition intake of calcium and other nutrients
3. Use of anti-seizure medications, anti-psychotic medications, Depo-Provera or NSAIDs
4. Tobacco use
5. Alcohol abuse
6. Estrogen or testosterone deficiency
7. Sedentary lifestyle
8. Certain medical conditions and syndrome

