Frequency of BMD assessments – when to repeat the BMD (Bone Mineral Density) Study

Osteoporosis Canada Rapid Response
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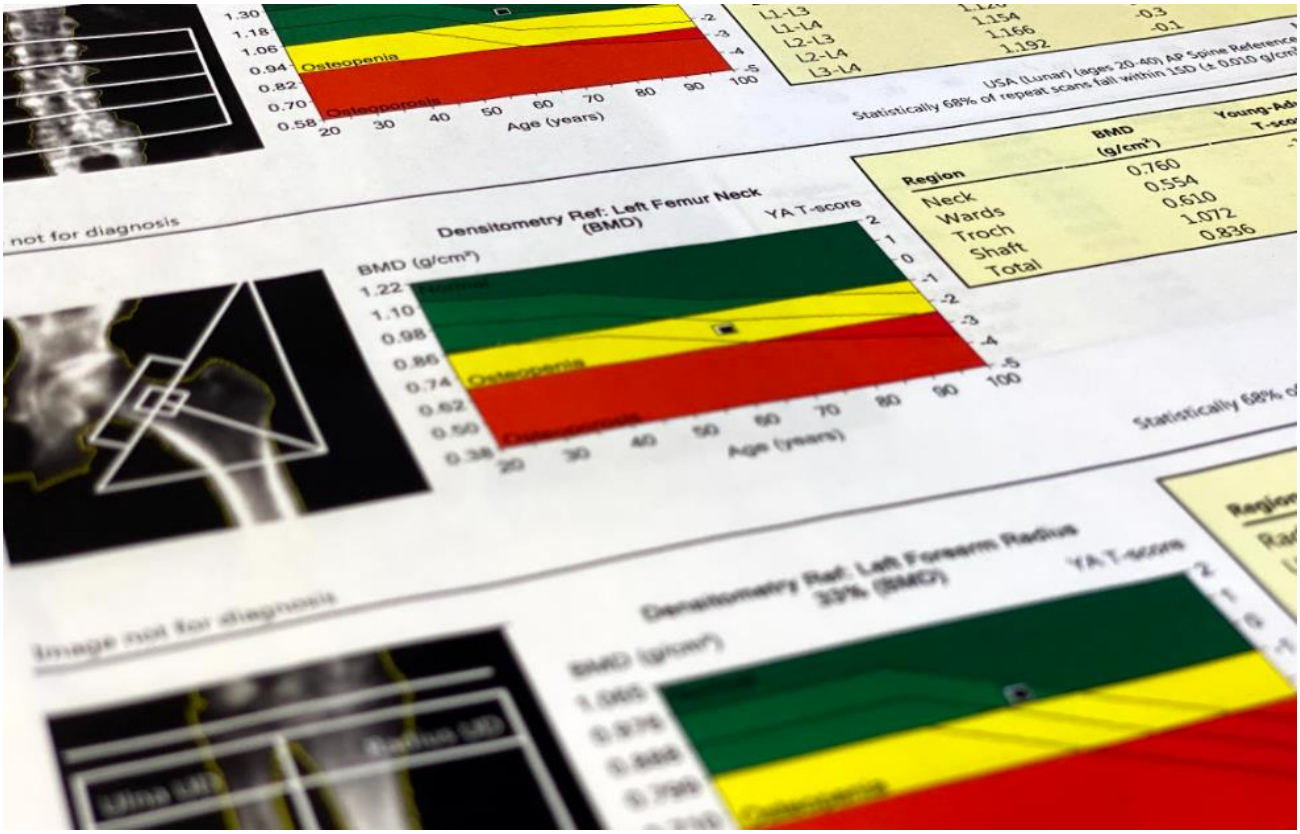

The goal of osteoporosis treatment is to reduce the occurrence of fragility fractures. Serial BMD assessments are of value in evaluating changes in fracture risk. In untreated patients, serial assessments can identify progressive bone loss and further increases in fracture risk, while in treated patients serial assessments enable monitoring of the response to therapy. A stable BMD or a rise in BMD is considered an appropriate response to therapy. A decrease in BMD is a cause for concern and alerts the treating physician to review the history and physical examination as well as the lab profile to ensure that a secondary cause of osteoporosis has not been overlooked, or has not developed since the previous assessment. Adherence to the treatment provided is also considered. If no explanations are identified for declines in BMD, then modification of drug therapy needs to be considered, ensuring the most potent and appropriate treatment options are offered, along with optimization of calcium and vitamin D intake.

For an individual patient, the appropriate time for a follow-up BMD study is when the expected change in the BMD is greater than the measurement error of the DXA scanner. This is also referred to as the least significant change which reflects a real change in the BMD that is statistically significant. There are many factors which impact the rate of bone loss and these include the age of the patient, the number of years following the onset of menopause, the use of medications used to prevent bone loss, and the presence of drugs or diseases which can cause rapid bone loss. The rate of bone loss following the onset of menopause is usually rapid in the first 3-5 yrs and then slows from approximately 3-5% per year to 1-3%

per year. In the presence of certain medications such as prednisone, the rate of bone loss can be accelerated to 3-5% per year. Treatment for osteoporosis with medications can slow down the rate of bone loss and lead to increases in BMD, particularly in the first 1-2 years after starting therapy.

For these reasons, healthcare providers may repeat the BMD in 1-2 years after starting drug therapy for osteoporosis, or in those individuals experiencing rapid rates of bone loss due to the presence of active risk factors. In these situations, the change in BMD is expected to be greater than the measurement error of the DXA scanner, and the result will inform and influence clinical management. In situations where the annual rate of bone loss is not expected to be significant and not influence clinical management, a repeat BMD may not be required for 2-3 years, and in some cases less frequent BMD testing may be appropriate. Your physician will determine the appropriate time to repeat the BMD study based on clinical factors, as outlined above.