Screening for Osteoporosis – Who Should Receive Bone Mineral Density Testing?

Clinical Question: What is the most efficient way to determine which patients are at high risk of osteoporosis and require further testing [Bone Mineral Density (BMD)]?

Bottom-line: The Osteoporosis Self-Assessment Tool (OST) is simple, quick, and predicts osteoporosis as reliably as other more complicated instruments. It is a reasonable screening tool to identify those who would benefit from BMD testing.

Evidence:

- Study of 860 postmenopausal Asian women examined 11 risk factors to predict osteoporosis:¹
  - Multiple risk factors had minimal value over age and weight alone.
  - The OST based on weight and age was developed.
- Eight systematic reviews 2007-2015, with up to 108 studies and 208,738 patients evaluated over nine tools to assess the risk of osteoporosis and/or fractures:²-⁹
  - OST performs at least as well as others.²-⁹ For example:
    - OST performs moderately well identifying femoral neck osteoporosis (sensitivity 89%, specificity 41%) in postmenopausal Caucasian females.⁹
  - Tools with fewer risk factors (like OST) predict osteoporosis as well as or better than those with more risk factors.³,⁴,⁷-⁹
    - No tool was clearly superior.³,⁴,⁸
  - Unlike other tools to assess the risk of osteoporosis, OST has been validated in both sexes and a variety of races.⁶,⁹
  - There were a number of methodological limitations of included studies.²-⁹
  - Recent reviews advocate for simple tools like OST.⁷-⁹

Context:

- 2010 Osteoporosis Canada guidelines recommend detailed history and focused physical examination for all patients 50-64 years, including assessment of 10 different risk factors for osteoporosis.¹⁰
- Time required to fully satisfy preventive recommendations is prohibitive.
For example, physicians need 7.4 hours per working day for the provision of preventive services alone.\textsuperscript{11}

- Multiple sites offer on-line or printable tables to apply OST.\textsuperscript{12-15}
- Simple application of OST: Weight (kg) – Age (years).
  - If <10, increased risk of osteoporosis and BMD is warranted.
  - For example: A 55 year old woman weighing 70 kg has an OST=70-55=15,
    - She is low risk for osteoporosis and does not need a BMD.

Original Authors:
Christina Korownyk MD CCFP, G Michael Allan MD CCFP

Updated: G Michael Allan MD CCFP
Reviewed: Adrienne J Lindblad BSP ACPR PharmD

References:

Tools for Practice is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practicing family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. Each article is peer-reviewed, ensuring it maintains a high standard of quality, accuracy, and academic integrity.

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