



DEXA screening—are we doing too much?

For many postmenopausal women, screening for osteoporosis can be done much less frequently.

PRACTICE CHANGER

Reconsider the intervals at which you recommend rescreening for osteoporosis; for postmenopausal women with a baseline of normal bone mineral density (BMD) or mild osteopenia, a 15-year interval is probably sufficient.¹

STRENGTH OF RECOMMENDATION

B: Based on a single cohort study.

Gourlay ML, Fine JB, Preisser JS, et al. Bone density testing interval and transition to osteoporosis in older women. *N Engl J Med.* 2012;366:225-233.

ILLUSTRATIVE CASE

A 67-year-old woman whose recent dual-energy x-ray absorptiometry (DEXA) scan showed mild osteopenia asks when she should have her next bone scan. What should you tell her?

One in 5 people who sustain a hip fracture die within a year,² and as many as 36% die prematurely.³ Osteoporosis is the primary predictor of fracture risk and, in older white women in particular, low bone mineral density (BMD) increases the likelihood of fracture by 70% to 80%.⁴

Optimal screening frequency not known

The US Preventive Services Task Force (USPSTF) guideline for osteoporosis screening concludes that there is a lack of evidence about optimal rescreening intervals and states that intervals >2 years may be necessary to better predict fracture risk.⁵ In addition, the USPSTF cites a prospective study showing that repeat measurement of BMD after 8 years added little predictive value

compared with baseline DEXA scan results.⁶

The prospective cohort study detailed below was undertaken to help guide decisions about how frequently to screen.

STUDY SUMMARY

Longer intervals are reasonable for those at low risk

Gourlay et al followed 4957 women age ≥67 years with normal BMD or osteopenia and no history of hip or clinical vertebral fracture or osteoporosis treatment. The primary outcome was the estimated time it would take for 10% of the women to develop osteoporosis. The time until 2% of the women developed such a fracture was the secondary outcome.

Participants had baseline DEXA scans, which were repeated at years 2, 6, 8, 10, and 16. The researchers followed the women until they were diagnosed with osteoporosis, started on medication for osteoporosis, or developed a hip or clinical vertebral fracture.

After adjusting for multiple covariates (age, body mass index, smoking status, use of glucocorticoids, fracture after age 50, estrogen use, and rheumatoid arthritis), the intervals between baseline testing and the development of osteoporosis were:

- 16.8 years (95% confidence interval [CI], 11.5-24.6) for women with normal BMD
- 17.3 years (95% CI, 13.9-21.5) for women with mild osteopenia
- 4.7 years (95% CI, 4.2-5.2) for women with moderate osteopenia
- 1.1 year (95% CI, 1.0-1.3) for women with advanced osteopenia.

CONTINUED

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INSTANT POLL

How often do you advise low-risk postmenopausal women to be screened for osteoporosis?

- Annually.
- Every 2 years.
- ≤5 years.
- Other (Please specify) _____

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TABLE

Suggested rescreening intervals based on DEXA scan results¹

DEXA result (T-score)	Rescreening interval*
Normal/mild osteopenia (> -1.50)	15 years
Moderate osteopenia (-1.50 to -1.99)	5 years
Advanced osteopenia (-2.0 to -2.49)	1 year

*Consider reducing these intervals by one-third for women older than 80 years.

Intervals until 2% of the cohort developed fractures were similar.

Overall, the authors used a sensible approach to estimate reasonable intervals between DEXA screenings (TABLE).

WHAT'S NEW

Many DEXA scans can be eliminated

Rescreening all postmenopausal women every 2 years is unlikely to reduce osteoporotic fractures. This cohort study provides evidence that rescreening can often be delayed for many years, depending on the patient's baseline risk. Changing practice based on these findings can reduce resource utilization without adversely affecting women's health.

CAVEATS

Questions about applicability may remain

This analysis was limited to women ≥67 years, so different results might be obtained from analyses that included younger postmenopausal women. In addition, 99% of the participants were white. Because the prevalence of osteoporosis of the hip among white women is equal to or slightly higher than it is among nonwhite women, it is likely that the suggested intervals are reasonable estimates for women of all races.

In women >80 years, the interval between baseline testing and the development of osteoporosis was shorter than that of their younger counterparts. Thus, it might be reasonable to reduce rescreening intervals by a third for women in their 80s.

CHALLENGES TO IMPLEMENTATION

Education needed for patients and docs

This study is the best so far to address the fre-

quency of rescreening. In order to implement it, patients as well as clinicians will need to be educated. Effective long-term (>10 y) reminder systems would improve implementation.

The recommendations of professional associations may also be a factor. The National Osteoporosis Foundation recommends assessing BMD every 2 years, but notes that more frequent testing may sometimes be warranted.⁷ The American College of Preventive Medicine recommends that screening for osteoporosis not occur more often than every 2 years.⁸ **JFP**

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References

- Gourlay ML, Fine JP, Preisser JS, et al. Bone-density testing interval and transition to osteoporosis in older women. *N Engl J Med*. 2012;366:225-233.
- Leibson CL, Tosteson AN, Gabriel SE, et al. Mortality, disability, and nursing home use for persons with and without hip fracture. *J Am Geriatr Soc*. 2002;50:1644-1650.
- Abrahamsen B, van Staa T, Ariely R, et al. Excess mortality following hip fracture: a systematic epidemiological review. *Osteoporosis Int*. 2009;20:1633-1650.
- Smith J, Shoukri K. Diagnosis of osteoporosis. *Clin Cornerstone*. 2000;2:22-33.
- US Preventive Services Task Force. Screening for osteoporosis: U.S. Preventive Services Task Force recommendation statement. Available at: <http://www.uspreventiveservicestaskforce.org/uspstf10/osteoporosis/osteors.htm>. Accessed June 15, 2012.
- Hillier TA, Stone KL, Bauer DC, et al. Evaluating the value of repeat bone mineral density measurement and prediction of fractures in older women. *Arch Intern Med*. 2007;167:155-160.
- National Osteoporosis Foundation. Clinician's guide to prevention and treatment of osteoporosis. 2010. Available at: http://www.nof.org/sites/default/files/pdfs/NOF_ClinicianGuide2009_v7.pdf. Accessed June 30, 2012.
- Lim LS, Hoeksema LJ, Sherin K; ACPM Prevention Practice Committee. Screening for osteoporosis in the adult US population: ACPM position statement on preventive practice. *Am J Prev Med*. 2009;36:366-375.

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The suggested screening intervals are reasonable estimates for women of all races.