☐ POEMs

Repeat BMD Testing: Little, If Any, Value in Older Men and Women

Clinical Question

Is there any clinical benefit to a repeat bone mineral density (BMD) screening test after an initial baseline screen in older men and women?

Bottom Line

This study found little, if any, additional benefit to repeat BMD screening at four years beyond baseline BMD testing in older men and women. A recent similar study (Gourlay ML, Fine JP, Preisser JS, et al. *N Engl J Med.* 2012;366(3):225-233) recommended a baseline examination at 65 years of age with repeat testing necessary only after 15 years in patients with mild osteopenia and after five years in patients with moderate osteopenia. It looks like we should be doing a lot fewer dual energy x-ray absorptiometry scans than we've been doing. (Level of Evidence = 1b)

Synopsis

These investigators analyzed data obtained from consenting adult participants of the ongoing Framingham cohort who were invited to have three BMD tests approximately four years apart starting in 1987. Study participants (310 men and 492 women; mean age = 74.8 years) included those who had at least two BMD measures with a mean time between each of 3.7 years. Follow-up occurred for participants until death or through 2009 or 12 years after the second BMD test. Individuals assessing medical records confirmed self-reported hip fractures, but no other major osteoporotic fractures, including spine, forearm, or shoulder. During a mean follow-up of 9.6 years, one or more major osteoporotic fractures occurred in 113 patients (14%). Prediction modeling for hip or major osteoporotic fracture based on baseline BMD performed significantly better than models based on BMD change. Furthermore, adding BMD change as a variable to models using baseline BMD did not significantly improve prediction performance. Overall, the net change in the percentage of patients with a hip fracture reclassified with a second BMD test as being at high risk was not significant (3.9%; 95% confidence interval, –2.2% to 9.9%). Likewise, the net change in the percentage of patients without hip fracture reclassified as low risk by a second BMD test was also not significant (–2.2%; 95% confidence interval, –4.5% to 0.1%).

Study design: Cohort (prospective)

Funding source: Government

Setting: Population-based

Reference: *Berry SD, Samelson EJ, Pencina MJ, et al. Repeat bone mineral density screening and prediction of hip and major osteoporotic fracture.* JAMA. *2013;310(12):1256-1262.*

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