

# OSTEOSCOOP

News on current events in osteoporosis and rheumatology

## High-trauma fractures and low bone mineral density in older adults

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As the population ages, the number of fractures is projected to increase dramatically, and hip fractures in particular are expected to increase almost 4-fold by 2050 if effective prevention strategies are not implemented. The criteria used to define osteoporotic fractures warrant further investigation. By the current definition, fractures are recognized as osteoporotic if they are associated with low bone mineral density (BMD), and if they increase the risk of subsequent fracture. It remains unclear whether degree of trauma should be included in the definition of osteoporotic fractures. The objective of a recent study [1] was to examine the association between BMD and high-trauma fracture and between high-trauma fracture and subsequent fracture in older women and men. Two prospective US cohort studies in adults 65 years or older were used. The Study of Osteoporotic Fractures followed up 8022 women for 9.1 years (1988-2006). The Osteoporotic Fractures in Men Study followed up 5995 men for 5.1 years (2000-2007). Hip and spine BMDs were assessed by DEXA. Incident nonspine fractures were confirmed by radiographic report. Fractures were classified, without knowledge of BMD, as high-trauma (due to motor vehicle crashes and falls from greater than standing height) or as low-trauma (due to falls from standing height and less severe trauma).

Overall, 264 women and 94 men sustained an initial high-trauma fracture and 3211 women and 346 men sustained an initial low-trauma fracture. For women, each 1-SD reduction in total hip BMD was similarly associated with an increased risk of high-trauma fracture and low-trauma fracture. Results were consistent in men. Risk of subsequent fracture was 34% greater among women with an initial high-trauma fracture and 31% greater among women with an initial low-trauma fracture, compared with women having no high- or low-trauma fracture, respectively. Risk of subsequent fracture was not modeled for men.

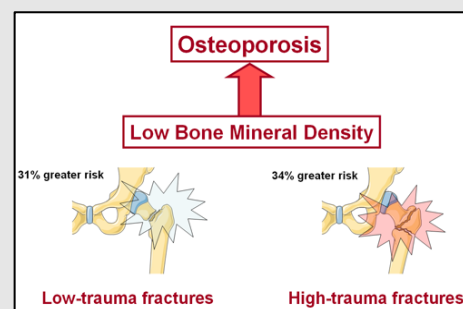
This study demonstrates that, similar to low-trauma nonspine fractures, high-trauma nonspine fractures are associated with low BMD and increased risk of subsequent fracture in older adults. High-trauma nonspine fractures should be included as outcomes in osteoporosis trials and observational studies.

1. Mackey DC, et al. *JAMA*. 2007;298:2381-2388.

### High-trauma fractures and low BMD in older adults

Similar to low-trauma fractures, high-trauma nonspine fractures are associated with low bone mineral density characterizing osteoporosis and increased risk of subsequent fracture in older adults.

High-trauma nonspine fractures should therefore be included as outcomes in osteoporosis trials and observational studies.



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