

# OSTEOSCOOP

News on current events in osteoporosis and rheumatology

## Is QUS or DXA better for predicting the 10-Year absolute risk of fracture?

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**A**lthough quantitative ultrasound (QUS) is known to be correlated with BMD and bone structure, its long-term predictive power for fractures in comparison with DXA is unclear. The authors of a recent study [1] examined this in a sample of men and women in the European Prospective Investigation into Cancer (EPIC)-Norfolk who had both heel QUS and hip DXA between 1995 and 1997.

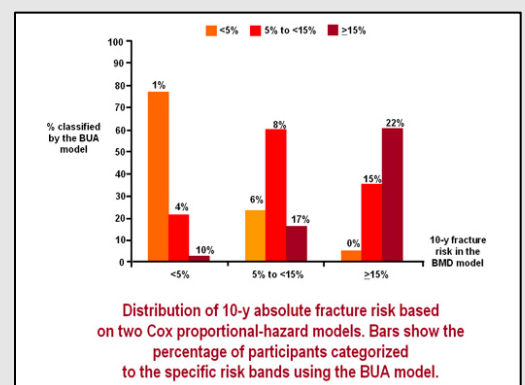
From 1455 participants (703 men) 65–76 y of age at baseline, 79 developed a fracture over  $10.3 \pm 1.4$  y of follow-up. In a sex-stratified Cox proportional-hazard model including age, height, body mass index, prior fracture, smoking, alcohol intake, and total hip BMD, a 1 SD decrease in BMD was associated with a hazard ratio (HR) for fracture of 2.26. In the multivariable model with heel broadband ultrasound attenuation (BUA) in place of BMD, HR for a 1 SD decrease in BUA was 2.04. Global measures of model fit showed relative superiority of the BMD model, whereas the area under the receiving operator characteristic (ROC) curve was slightly higher for the BUA model. Using both Cox models with BMD and BUA measures, the investigators calculated exact 10-y absolute risk of fracture for all participants and categorized them in groups of <5%, 5% to <15%, and >15%. Comparison of groupings based on two models showed a total reclassification of 28.8% of participants, with the greatest reclassification (40%) among the intermediate- and high-risk groups.

This study shows that the power of QUS for prediction of fractures among the elderly is at least comparable to that of DXA. Given the feasibility and lower cost of ultrasound measurement in primary care, further studies to develop and validate models for prediction of 10-y risk of fracture using clinical risk factors and QUS are recommended.

1. Alireza Moayeri A et al. *J Bone Miner Res.* 2009;24:1319-1325.

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