

OSTEOSCOOP

News on current events in osteoporosis and rheumatology

Management of osteoporosis with FRAX: assessment and intervention thresholds for the UK

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The fracture risk assessment tool (FRAX®) tool has recently become available to compute the 10-year probability of fractures in men and women from clinical risk factors (CRFs) with or without the measurement of femoral neck bone mineral density (BMD). The aim of this study [1] was to develop a case-finding strategy for men and women from the UK at high risk of osteoporotic fracture by delineating the fracture probabilities at which BMD testing or intervention should be recommended. Fracture probabilities were computed using the FRAX® tool calibrated to the epidemiology of fracture and death in the UK. An intervention threshold was set by age in men and women, based on the fracture probability equivalent to that of women with a history of a prior osteoporosis-related fracture. In addition, assessment thresholds for the use of BMD testing were explored. Assessment thresholds for the measurement of BMD followed current practice guidelines where individuals were considered to be eligible for assessment in the presence of one or more CRF. An upper assessment threshold (ie, a fracture probability above which patients could be treated without recourse to BMD), was based on optimization of the positive predictive value of the assessment tool. The consequences of assessment and intervention thresholds on the requirement for BMD test and interventions were assessed using the distribution of clinical risk factors and femoral neck BMD for women in the source cohorts used for the development of the FRAX® models.

Treatment was cost-effective at all ages when the 10-year probability of a major fracture exceeded 7%. The intervention threshold at the age of 50 years corresponded to a 10-year probability of a major osteoporotic fracture of 7.5%. This rose progressively with age to 30% at the age of 80 years, so that intervention was cost effective at all ages. Assessment thresholds for testing with BMD (6% to 9% at the age of 50 years) also rose with age (18% to 36% at the age of 80 years). The use of these thresholds in a case-finding strategy would identify 6% to 20% of women as eligible for BMD testing and 23% to 46% as eligible for treatment, depending on age. The same threshold can be used in men.

In conclusion, this study provides a method of developing management algorithms for osteoporosis from the estimation of fracture probabilities, rather than those based on BMD alone or BMD with single or multiple CRFs.

1. Kanis JA et al. Osteoporos Int. 2008;19:1395–1408.

Management of osteoporosis with FRAX: assessment and intervention thresholds for the UK

The FRAX tool has recently become available to compute the 10-year probability of fractures in men and women from clinical risk factors (CRFs) with or without the measurement of femoral neck bone mineral density (BMD). The probabilities of hip fracture and a major osteoporotic fracture are correlated, but this was not sufficiently close for predictive purposes, particularly at the lower values of probability. Treatment was cost-effective at all ages when the 10-year probability of a major fracture exceeded 7%. The intervention threshold at the age of 50 years corresponded to a 10-year probability of a major osteoporotic fracture of 7.5%. This rose progressively with age. This study provides a method of developing management algorithms for osteoporosis from the estimation of fracture probabilities, rather than those based on BMD alone or BMD with single or multiple CRFs.

