Osteoporosis poses a significant public health issue, causing significant morbidity and mortality. It is a disease of bone that leads to an increased fracture risk through a reduction in the bone mineral density (BMD), disruption of bone microarchitecture, and alteration of the amount and variety of non-collagenous proteins in bone. The treatment aims of this condition are to prevent fractures and maintain the quality of life of the aging adult. Approximately three million people in the UK have osteoporosis, and every year more than 230,000 fractures occur because of it. One in two women and one in five men over the age of 50 will have a fracture mainly as a result of the condition and therefore osteoporotic fractures are of great importance to patient and clinician. Traditionally the measuring of bone density was used to assess patients at high risk of future fractures however a very important new assessment tool has recently emerged.

In 2008, a World Health Organization (WHO) task force introduced a Fracture Risk Assessment Tool (FRAX\textsuperscript{fi}), which estimates the 10-year probability of hip fracture or major osteoporotic fractures combined (hip, clinical spine, proximal humerus, or forearm) for an untreated patient between age 40 to 90 years using easily obtainable clinical risk factors for fracture and femoral neck BMD (g/cm\textsuperscript{2}). The easily obtainable clinical data are age, sex, height, weight, history of previous fractures, parental hip fracture history, smoking, steroid use, rheumatoid arthritis, secondary osteoporosis and alcohol consumption. FRAX\textsuperscript{fi} is based upon data collected from large prospective observational studies of men and women of different ethnicities and from different world regions in which clinical risk factors, BMD and fractures were evaluated. FRAX\textsuperscript{fi} has been validated in 11 independent cohorts, mainly comprised of women. The statistical power of this large dataset allows estimation of fracture probability from an individual’s set of risk factors. The country-specific FRAX\textsuperscript{fi} prediction algorithm is available online at www.shef.ac.uk/FRAX; click on Calculation Tool. In their most sophisticated form, the FRAX\textsuperscript{fi} tool is computer-driven and is available on this site. Several simplified paper versions, based on the number of risk factors are also available, and can be downloaded for office use. Unfortunately Irish data is not currently available allowing direct calculations. As a consequence the use of UK calculation tools can be used as these most closely represent the Irish population.

Based on the results of the FRAX\textsuperscript{fi} assessment tool (Figure 1) and resulting The National Osteoporosis Guideline Group treatment graphs a clinician can make an informed decision to treat, proceed to a DXA scan, or not treat but give lifestyle advice. The NOGG guidelines are accessible by clicking on the NOGG link in The 10 year probability of fracture results box.

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