FRAX fracture risk assessment tool output can now be modified by TBS

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FRAX, launched by the WHO Collaborating Centre for Metabolic Bone Diseases in 2008, calculates 10-year probability of osteoporotic fracture based on scientifically validated clinical risk factors including bone mineral density (BMD) as an optional input. With calculator models for more than 50 countries, FRAX is considered the gold standard of fracture risk assessment and is endorsed by leading national osteoporosis management guidelines worldwide.

A new feature of the online FRAX risk assessment tool was launched in April 2014. The output of FRAX can now be adjusted for Trabecular Bone Score (TBS). Calculated by TBS iNsight software which installs on existing DXA scanners, TBS is a simple method that estimates fracture risk based on a determination of bone texture (an index correlated to bone microarchitecture). The predictive ability of TBS is independent of FRAX clinical risk factors and femoral neck bone mineral density (BMD) values.

Similarly to the original FRAX model, the TBS-adjusted model of FRAX has been cross-validated in a population-based meta-analysis, based on data from more than 17 800 women and men, from 14 countries. Educational information and scientific publications about TBS are available at http://www.medimapsgroup.com/ .

By adding the patient's TBS value after the FRAX calculation, users will get a 10-year % of risk of hip fracture and major osteoporotic fracture adjusted for TBS.

Clinical advantages of using TBS-adjusted FRAX scores include:

- Increased accuracy of fracture prediction in the individual
- Reclassifies patients' risk for future fracture above or below an intervention threshold

Following the calculation of FRAX probabilities the TBS value can be manually input by clicking on the TBS button below the calculation results box. Entry of the TBS value, automatically calculated by TBS iNsight V.3.0 if installed on your densitometer, produces a 'FRAX Adjusted for TBS' score.

Dr. Eugene McCloskey, Professor in Adult Bone Disease and Honorary Consultant at the Metabolic Bone Centre, University of Sheffield UK, stated, "Several potential clinical consequences have been observed with the use of TBS-adjusted FRAX scores. There is a greater impact in the assessment of major osteoporotic fractures, particularly in the assessment of younger patients, which could impact on management decisions in those whose standard FRAX probabilities are around an intervention threshold."

He added, "By fine tuning the information provided by FRAX, TBS-adjusted FRAX gives clinicians more precise information that can aide them in making informed treatment decisions within the course of a clinical assessment."

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