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Karen Knapp, J Nucl Med Radiat Ther 2016, 7:4(Suppl)
http://dx.doi.org/10.4172/2155-9619.C1.005

International Conference on

Nuclear Medicine & Radiation Therapy

July 14-15, 2016 Cologne, Germany

Dual energy X-ray absorptiometry: Beyond bone mineral density

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Osteoporosis is a common musculoskeletal disease in the western world characterized by reduced bone mineral density (BMD) and micro-architectural deterioration, resulting in an increased risk of fragility fracture. Dual energy x-ray absorptiometry (DXA) is the gold standard for the diagnosis of osteoporosis and provides an important element of fracture risk assessment. However, DXA is not a perfect tool and many patients diagnosed with low or normal bone mineral density (BMD) will still suffer a fragility fracture. This presentation look at the use of DXA beyond the measurement of BMD and how additional techniques such as vertebral fracture assessment, trabecular bone score and the use of clinical risk factors can provide better identification of those requiring treatment for fragility fractures. Consideration of the use of total body scans will also be covered, along with the precision errors associated with DXA across a range of population sizes. The presentation should provide clinicians with an understanding of the strengths and weaknesses of DXA underpinned by the current evidence-based.

Biography

Karen Knapp is an Associate Professor in Musculoskeletal Imaging at the University of Exeter. Combining a passion for research and education with her clinical background, she utilizes research-led teaching to inspire students. With a background in teaching undergraduate and post-graduate students and supervising PhD students, she is keen to engage at all levels of higher education. Her primary research interest is in bone health, osteoporosis and associated pathologies, along with developing and testing computer aided detection (CAD) software in vertebral fracture patients. She is actively involved in the National Osteoporosis Society and the Society and College of Radiographers.

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