

# 2003 BOLD FACTS about BMD testing and why the OsteoGram<sup>®</sup> is an excellent choice

**Peripheral BMD testing is equal to central testing in predicting fracture risk.**

**2003 ISCD presentations report inaccuracies and discrepancies with DXA due to inadequate operator training.**

**The rising concern of lifetime radiation exposure calls for low dose procedures, such as the OsteoGram.**

**Ultrasound: Not a diagnostic device.**



<sup>1</sup> Miller PD, et al. "Prediction of fracture risk in postmenopausal white women with peripheral bone densitometry: evidence from the National Osteoporosis Risk Assessment". *J Bone Miner Res* 2002 Dec;17(12):2222-30.

<sup>2</sup> Siris ES, et al. "Identification and fracture outcomes of undiagnosed low bone mineral density in postmenopausal women: results from the National Osteoporosis Risk Assessment". *JAMA* 2001 Dec 12;286(22):2815-22.

<sup>3</sup> NOF "Osteoporosis clinical updates". Winter 2002, Vol III, issue 1.

- **BMD:** Bone Mineral Density
- **RA:** Radiographic Absorptiometry
- **DXA:** Dual Energy X-ray Absorptiometry
- **QCT:** Quantitative Computed Tomography
- **QUS:** Quantitative Ultrasound
- **NOF:** National Osteoporosis Foundation ([www.nof.org](http://www.nof.org))
- **ISCD:** International Society for Clinical Densitometry ([www.iscd.org](http://www.iscd.org))

## NORA Data Proves the Efficacy of Peripheral Devices

A major study\* of more than 200,000 post menopausal women demonstrated the equivalence of peripheral and central BMD testing.

BMD testing at the hip or spine is no better than peripheral testing in predicting fracture risk as proven by data from NORA study.

The NORA data was presented at the annual meeting of the International Society of Clinical Densitometry (ISCD), where discrepancies between hip and spine DXA were shown to give contradicting treatment monitoring results.

\* *The National Osteoporosis Risk Assessment (NORA) study involved performing peripheral BMD testing and a one year follow-up on 200,261 ambulatory postmenopausal women aged 50 years or older from Sep/1997 to Mar/1999. Results and detailed data analysis of this study are published in many peer-reviewed medical journals<sup>1&2</sup>.*

## X-ray-based Devices and Operator Qualifications

The skills of DXA and QCT operators play a critical role in obtaining accurate, reproducible results, and incorrect patient positioning often affects T Scores. Most DXA technologists are not ISCD certified. One of the reasons for the accurate and precise results with the OsteoGram is the simplicity of taking a standard hand x-ray utilizing a specially designed template for the hand.

## X-ray-Based Devices and Radiation Burden

Lifetime radiation burden is a rising concern. The OsteoGram employs the well-documented radiographic absorptiometry (RA) technology, which exposes the fingers to a minimum radiation dose that is much less than a standard hand x-ray and far below that of DXA and QCT.

## Ultrasound Devices: Not Recommended Except for Limited Screening

In an article entitled 'Understanding Quantitative Ultrasound (QUS)<sup>1-3</sup>, the National Osteoporosis Foundation (NOF) states the following facts about Ultrasound devices:

- Inconsistent readings
- Significant rate of false negatives
- cannot be used for diagnosis
- cannot be used to monitor treatment
- cannot be used to accurately screen women under 65.

## BMD Device Comparison

The following table is based on NORA study findings, NOF Ultrasound report and ISCD 2003 annual meeting report:

Osteoporosis	OsteoGram**	Central (Hip/Spine)	Peripheral Ultrasound
Screening	✓✓	✗	✓
Diagnosis	✓✓	✓✓	✗
Treatment Decision	✓✓	✓✓	✗
Fracture Risk Prediction	✓✓	✓	✗

\*\* As an ideal example of peripheral x-ray based devices