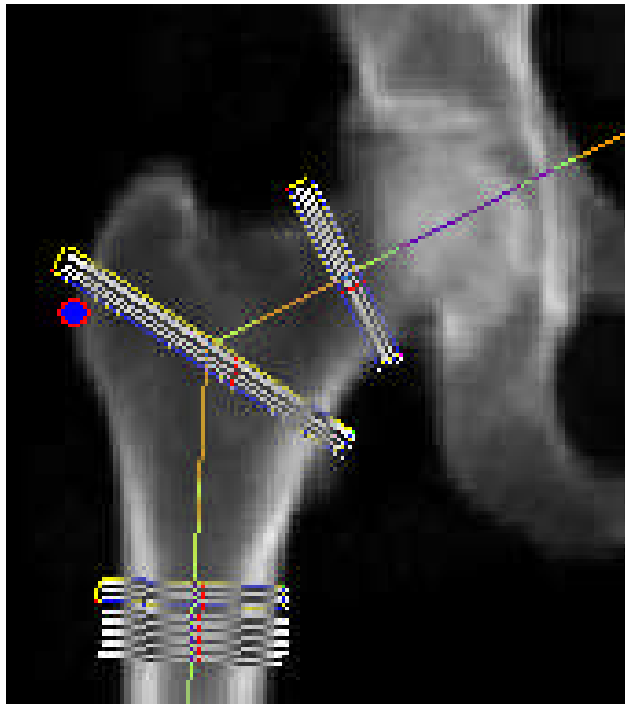


Bone Geometry Analyses



Hip Structure Analysis (HSA®)
A Trademark of the Johns Hopkins University



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HSA Output

Regions:

Shaft
Narrow Neck
Intertrochanteric

Variables:

BMD
Endocortical Diameter
CSA
Cortical Thickness
Outer Diameter
Section Modulus
Buckling Ratio

Studies Analyzed with HSA

National Health & Nutritional Examination Survey (NHANES)
Study of Osteoporotic Fractures (SOF)
Women's Health Initiative (WHI)
Framingham
Rotterdam

Clinical Trials Analyzed using HSA

HRT with and without Alendronate
MORE –Raloxifene Trial
FIT- Alendronate Trial
Teriparatide

FACT

Analyzed > 150,000 scans worldwide

In cooperation with

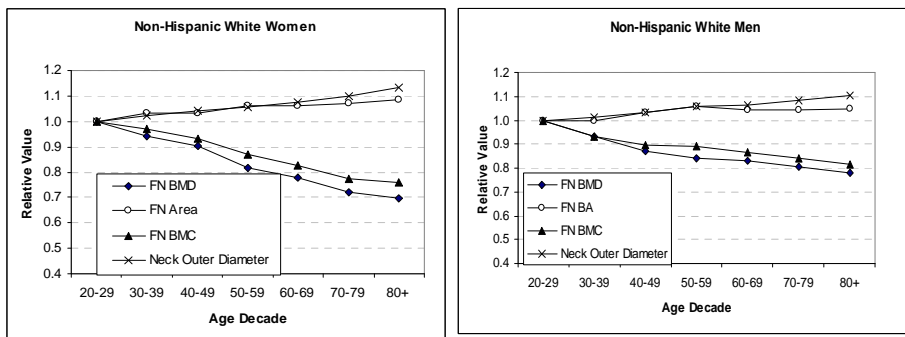
Mindways Software, Inc.
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Austin TX 78704, USA
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What is HSA?

Practical method for extracting bone structural information from images generated by commercial bone density scanners. The information is based on basic engineering principles and provides a better evaluation of mechanical strength that can be obtained from bone mineral density measures.

Why HSA?

- Mineral profiles are extracted from DXA images by HSA software
- 3 femur cross-sections analyzed
- Lines of pixels across the bone axis represent projections of mineral in cross-sections
- BMD, outer diameter, CSA and SM measured from profiles
- Consistent hip positioning especially in rotation is difficult to achieve in clinical setting
- BMD is more tolerant of positioning error
- Expect worse precision with geometry



Age Trends in Femoral Neck BMD, BMC, Area and Outer Diameter NHANES III survey of US Population*



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What Do We Do? (in research market)

- Add geometry measurements to your research study without purchasing expensive software or developing specialized expertise
- Quantum Medical Metrics in cooperation with Mindways Software is offering geometry measurements performed on your DXA, CT or pQCT scan data.
 - Data automatically de-identified for HIPPA compliance
 - Fees charged on a per scan basis
 - Results returned within 30 to 90 days depending on size of data set

What Do We Support?

- DXA supported
 - All Hologic models
 - Norland models
 - GE/Lunar Prodigy and iDXA (soon)
- CT Scanners supported
 - All major manufacturers with data in DICOM format
- pQCT Scanners supported
 - Stratech
 - Densiscan

Geometry Phantom

This phantom is designed to provide an absolute reference standard for bone geometry that is can be used in both DXA and CT methods.

