Osteoporosis

FROM THE COMPANY THAT HAS BEEN BRINGING YOU 60 PLUS YEARS OF BONE DENSITY ASSESSMENT

NORLAND®

Ease and convenience all in one state-of-the-art table design

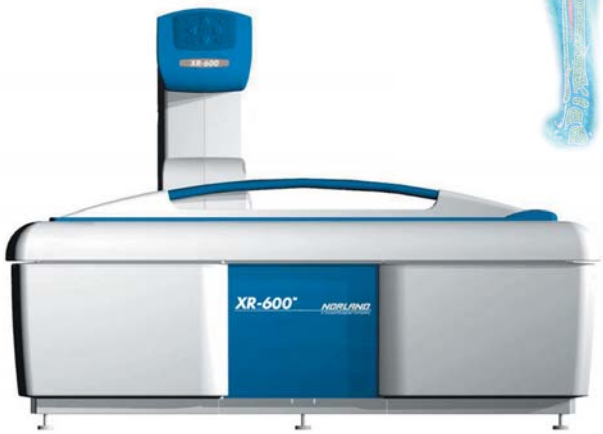
Exceptionally well-suited for use in:

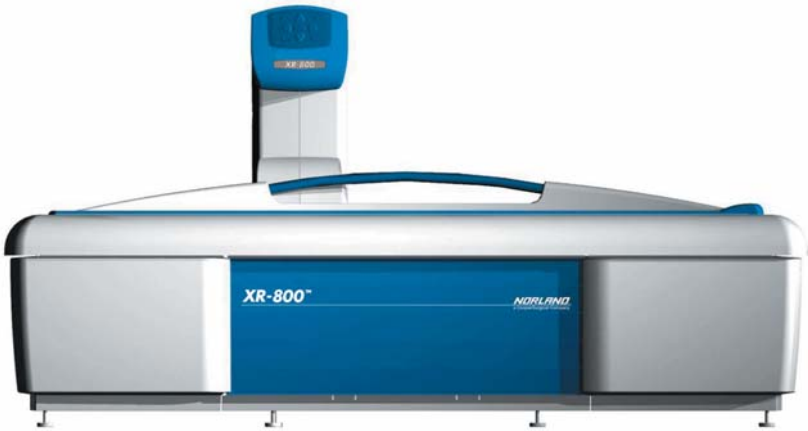
- Family practice and internal medicine offices
- Rheumatology and geriatric care centers
- Sports medicine clinics and a host of other applications
- Anti-aging medicine

Solutions for the office environment:

- The best possible value
  - Both tables provide accurate, precise readings with ease-of-use in mind from cutting edge Illuminatus DXA™ software[1]
- EmpiriCAL™
  - The most advanced basis for ensuring discrimination between the varying degrees of soft tissue and bone
- AcuBeam™
  - Ensures accuracy, efficiency and safety of BMD measurements without compromise while minimizing X-Ray exposure
- DynaFlux™
  - Ensures more accurate measure of bone and body composition in obese and lean subjects and combined with AcuBeam, minimizes X-Ray exposure

[1] *Gotfredsen, et al: Journal of Applied Physiology. 82: 1200-1209, 1997.*





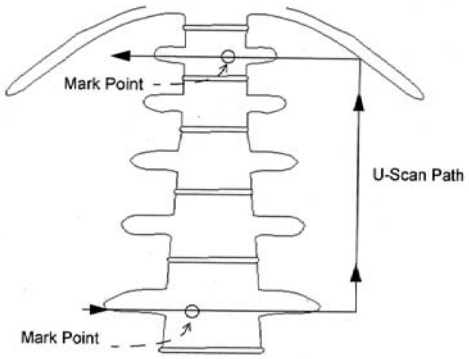
CooperSurgical

Keeping You at the Forefront of Women's Health Care™

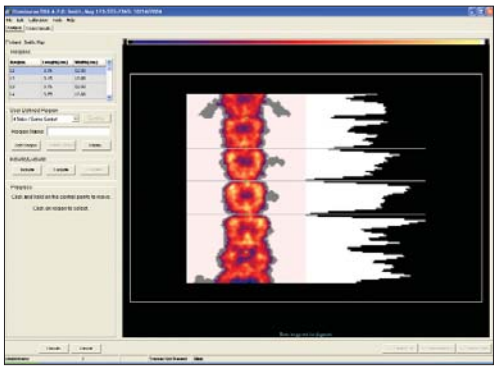
Hip Sling

Exclusive Hip Sling with the foot separator supports the leg so that the femur is properly and comfortably rotated while keeping the femur neck perpendicular to the X-Ray beam.

Auto Centering in HiPrecise™ ensures the spine data will be centered in the region of interest and will eliminate the need for time-consuming patient repositioning inherent in other technologies.

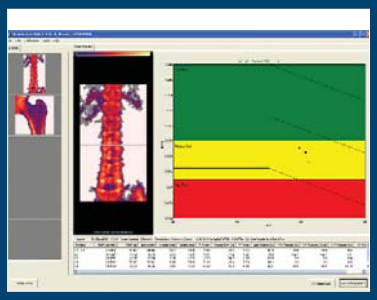


Automated Analysis – makes scan evaluation quicker and more precise. In preparation for analysis, HiPrecise uses the original inter-vertebral spacing if a patient has been previously evaluated.



Trended Patient Data

Trended Patient Data – short and long term change displays trending of patient data to provide the clinician with information useful in determining the success of treatment.

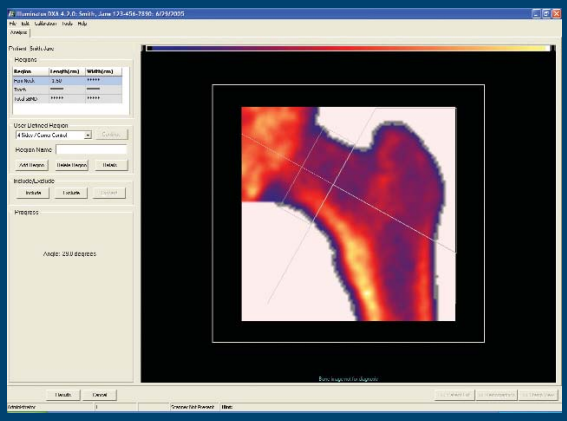


ClearEdge™

ClearEdge™ - provides the functionality needed for accuracy under many circumstances. ClearEdge™ software tool allows for Include/Exclude features for removing artifact, Angulated Cursors, for defining inter-vertebral separations in AP spine studies requiring more than just horizontal cursor placement – in scoliotic patients, for example.

User Defined Special Regions estimate bone mineral in operator-defined regions of the scan.

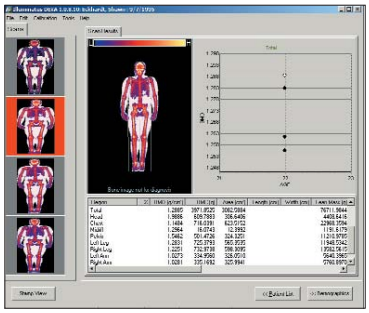
ClearEdge's Ruler Tool displays linear measurements of anatomical features.



Scan modalities in addition to AP Spine and Proximal Femur

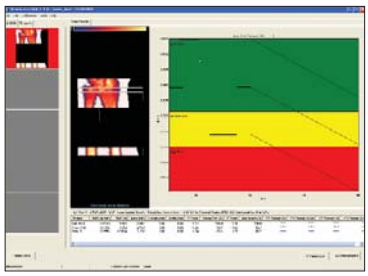
Lateral Spine positions the patient in a lateral decubitus position on the table allowing for maximum arching of the spine and minimizing influence of false ribs (11 or 12) on L2 and the iliac crest on L4.

Whole Body quantifies Bone Mineral Density for a subject's entire body. The analysis represents the Bone Mineral Content in grams, Bone Mineral Density in g/cm^2, and Area in cm^2, for the whole body as well as the head, trunk, abdomen, arms, legs, and operator-defined regions of interest. Intelligent scanning minimizes the scan time and area definition.



Soft Tissue Composition works in conjunction with Whole Body, Research and Small Subject scans to provide lean and fat soft tissue mass in addition to bone densities. Lean and fat mass are presented in grams. When examined in a Whole Body Study, fat mass is also presented as a percent of soft tissue, a percent of total body mass and doing a whole body study reports a Siri Equivalent percent and Brozak Equivalent percent fat.

Forearm functionality out-performed that of five other leading commercially available systems for BMD measure at both proximal and distal sites (sample of 100 women).[2] The Norland system measured the highest density and full cortical sample at the proximal region and the lowest density and dominant trabecular measure at the distal region.



Special applications that are supported

Pediatric

Because Dynaflux™ regulates the X-Ray signal so that it is appropriate for the pediatric body size, no additional software is needed to carry out the study.

Orthopedic

The Clear-Edge™ features of High Density Point Exclusion and Special Region Analysis allow estimation of bone surrounding an implant device, supporting plates and nails. These features may allow the sensitive evaluation of change in bone alongside these materials. Up to seven operator-defined regions may be followed concurrently in a study.

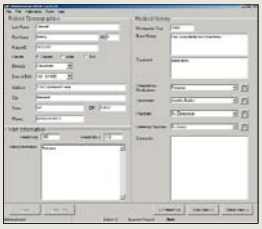
Research/Small Subject

Quantifies bone mineral or soft tissue content in any user-defined region of interest within the scanner's active scanning area. The operator may adjust scan speed, resolution and width of the study to obtain their desired speed, precision and accuracy. The small subject software employs a more sensitive bone edge detection threshold optimized to the evaluation of small samples with weight down to 100 grams.

The Illuminatus DXA™[3] User Interface Software provides an intuitive workflow and easy means to utilize advanced features in the accomplishment of procedures.

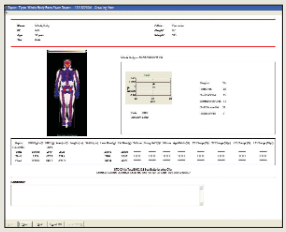
Login Portal
The user is guided through logical pathways while at the same time given flexibility for advanced use.

Patient List
Illuminatus DXA is customizable, flexible, and has frequent use of pull-down menus, providing greater degree of procedure efficiency.



Patient Demographics

Scan



Supportive of the Health Insurance Portability and Accountability Act (HIPAA), Users and User Groups are defined by a System Administrator in order to provide security and appropriate access to functionality and medical documentation.

[2] *Shepard, JA. et al; "Universal Standardization of Forearm Bone Densitometry", Journal of Bone and Mineral Research, 17:734-745, 2002.*

[3] *Norland Host Software*

NORLAND DXA CONFIGURATIONS

Model	Table	Standard Scan Sites
XR-600™	6 foot	AP Spine, Left & Right Hip Optional: Forearm, Small Subject, Research and Lateral, Soft tissue composition
XR-800™	8 foot	AP Spine, Left & Right Hip, Forearm Whole Body (Soft Tissue Composition and total skeleton) Optional: Research & Small Subject

Folder Mail™ and Image Mail™ Internet Communication Suite (standard) • Illuminatus DXA™ for Remote WorkStation (option) • New Nordicom-Dicom Package also optional

NORLAND TABLE SPECIFICATIONS

	AP Spine	Proximal Femur	Forearm	Lateral Spine	Whole Body
Scan Time	≈1minute	1.5 minutes	3 minutes	<4 minutes	5 minutes
In Vivo Precision	1.0%	1.4%	0.8%	2.4% (2 vertebrae)	.08%
Line Resolution	1.5mm	1.0mm	1.0mm	1.0mm	6.5/13
Point Resolution	1.5mm	1.0mm	1.0mm	1.0mm	2.8/7.8
Scan Dose	3μSv	<15μSv	<15μSv	35μSv	0.2μSv
Accuracy	1% on bone and 2% on fat and lean based on chemical standards				

	XR-600™	XR-800™
Scanner Description	Quickscan Pencil Beam Dual Energy X-Ray Absorptiometry (DXA)	
Drive System	Stepper motors with Kevlar reinforced drive belts	
X-Ray Source	Stationary anode X-Ray tube oil and air cooling; 100kv constant potential, 1.3mA anode current, focal spot size: 0.5mm	
Filtration	8-level automated samarium filtering (K-edge = 46.8 keV)—minimum filtration is 2.7mm aluminum equivalent	
X-Ray Detectors	2 NaI scintillation detectors in pulse counting mode	
Power	100-120 Vac; 220/230/240 Vac; 50/60 Hz; 700 VA maximum	
Operating Temperature	60˚— 90˚ (F) 15˚—32˚ (C)	60˚—90˚ (F) 15˚—32˚ (C)
Relative Humidity	Up to 80% non-condensing	
Dimensions		
Recommended Dedicated Floor space	84"L [2133.6mm] x 84"W [2133.6mm]	120"L [3048mm] x 84"W [2133.6mm]
Tabletop size	72"L [1828mm] x 35.5"W [902mm] x 26"H [660mm]	102"L [2591mm] x 35.5"W [902mm] x 26"H [660mm]
Overall Size	72"L [1828mm] x 48"W [1220mm] x 49"H [1245mm]	103"L [2616mm] x 48"W [1220mm] x 51"H [1295mm]
Table Surface to Arm (max. patient thickness)	16"	
Weight	400 lbs. [181kg]	560 lbs. [253kg]
Active Scan Area	50" (127cm) x 26.5" (67.3)	76" (193cm) x 26.5" (67.3cm)
Patient Marking	Laser diode, red, Class II (FDA); Class I (EC); [less than 1 mW power]	
Patient Positioning Aids	AP spine positioning block, hip sling with foot separator, lateral positioning block, forearm positioning fixture, scout scan, laser marking system	
Calibration	Daily calibration verifies unit is operating properly Calibrated to a Wedge Phantom with 77 unique combinations of bone and soft tissue Provides calibration for the widest range in body size in the industry	
Computer*	IBM compatible, Windows® Software, pointing device (mouse), keyboard, display, modem, network card, sound system, DVD RW data back-up, color printer,	
Reference Database(s)	Derived from phases1and 2 of NHANES III, 1988-1994 and Norland Reference Sets (refer to "Reference Set Data Sheets for Central Bone Densitometers" document published by Norland)	
Quality Assurance	Assessment of an anatomical phantom evaluates system accuracy and precision for bone, lean and fat measurements using Shewart Chart Analysis to confirm absolute and trending performance are within guidelines	

*Computer technology innovates rapidly. The major functionality noted above is provided with the technology available at the time and compatible with the DXA system. Please call for currently shipped configuration.

NORLAND®

CooperSurgical

Keeping You at the Forefront of Women's Health Care™

Local Distributor
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