



Discovery™ QDR™ Bone Densitometry Systems

Better Patient Care Rests on Bone Health Testing



Discover **a Lifetime of Strength** Osteoporosis Assessment and Beyond

Osteoporosis is a growing healthcare crisis affecting millions of women and men worldwide. The healthcare costs associated with osteoporosis are staggering, and the effect on your patient's quality of life can be devastating.

While porous bones and fractures may not be visible from the outside, the effects can be life-threatening. Low bone mass can afflict men and women of all nationalities. People may not know they have osteoporosis until it's too late. Early detection and treatment can mean a lifetime of strength for all of your patients. And the Discovery™ DXA system from Hologic® is the key to early detection.

Whether you are a large hospital or just beginning to incorporate bone densitometry into your practice, Hologic has a high performance system to suite your needs.



Facts and Statistics about Osteoporosis*

- Osteoporosis affects an estimated 75 million people in Europe, USA and Japan.
- 30-50% of women and 20-30% of men will suffer a fracture related to osteoporosis in their lifetime.
- Women who develop a vertebral fracture are at substantial risk for additional fracture within the next year.
- In white women, the lifetime risk of hip fracture is 1 in 6, compared with a 1 in 8 risk of a diagnosis of breast cancer.
- By 2050, the worldwide incidence of hip fracture in men is projected to increase by 310% and 240% in women.
- A woman's risk of a hip fracture is equal to her combined risk of breast, uterine and ovarian cancer.
- An average of 24% of hip fracture patients aged 50 and over die in the year following their fracture.
- At six months after a hip fracture, only 15% of hip fracture patients can walk across a room unaided.

*Note: Facts and figures from the International Osteoporosis Foundation and the National Osteoporosis Foundation.



Discovery[™]
Q D R S E R I E S

Hologic® shares your commitment and vision

- Hologic developed the first Dual Energy X-ray Absorptiometry (DXA) bone densitometer, which remains the gold standard for spine and hip bone screening around the world.
- Hologic densitometry systems are exclusively used in major osteoporosis studies including NHANES BMD Reference Data (NIH), Health, Aging, and Body Composition Study (NIH), Bone Mineral Density in Childhood Study (NIH), and other large studies.

Discover the Strong Technical Advantages of the Discovery™ DXA System

Working closely with opinion leaders, Hologic® has developed the Discovery DXA system. The APEX™ analysis software is the heart of Discovery's powerful applications suite. With industry leading precision¹, APEX gives you optimal clinical capabilities and streamlined workflow.

Exceptional Precision and Accuracy

Several enhancements in the new APEX analysis software provide significant precision improvements¹.

High Definition Digital DXA Detectors

Independent studies have shown that digital DXA detectors have the industry's best image quality. The superior image quality allows physicians to improve fracture detection and to visualize abdominal aortic calcifications². Digital DXA detectors use the same imaging detector technology and geometry as state-of-the-art computed tomography (CT) systems.

Speed and Image Quality

Discovery imaging technology captures the hip and spine with as fast as 10-second regional scanning time. For single energy vertebral fracture assessment, no other system comes close to the combined speed and imaging resolution of Discovery, with better than 1.8 Lp/mm.

Superior Visualization²

The Discovery system's exclusive design utilizes a high resolution detector array paired with true fan-beam linear acquisition geometry. The true fan-beam design enables rapid, high resolution single-energy imaging, as well as superb dual-energy bone density measurements by eliminating the beam overlap errors and image distortion found in rectilinear systems.

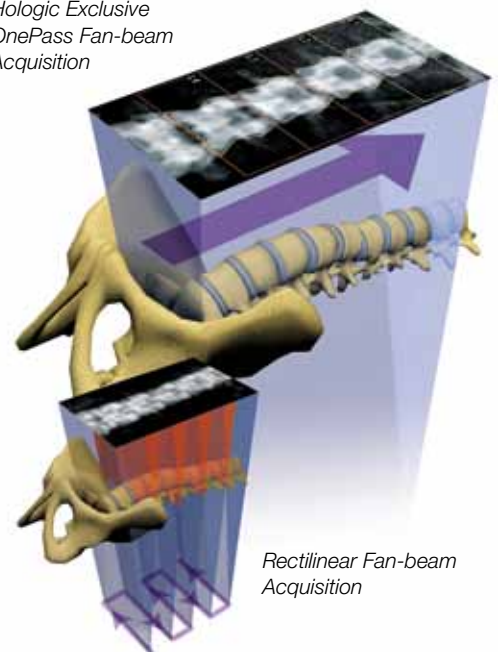
Consistency from Exam to Exam

The Discovery system performs continuous, automatic calibration, ensuring precise measurements results from exam to exam. You can also create and automate your preferred scan protocols to speed analysis and improve workflow.



High Resolution Imaging with "True" Linear Fan-beam Acquisition

Hologic Exclusive OnePass Fan-beam Acquisition



Rectilinear Fan-beam Acquisition

With the push of a button, the exclusive rotating C-arm automatically moves into position for highly precise supine lateral scanning.

¹ J.A. Sheperd Ph.D. et al. (2008). Precision assessment of the Hologic APEX software. Osteoporosis Int. January.

² Lawrence Jankowski et al. (2006). Quantifying Image Quality of DXA Scanners Performing Vertebral Fracture Assessment Using Radiographic Phantoms.

Discover the **Most Comprehensive Platform**

The Discovery™ DXA system provides a single comprehensive platform for the assessment of three major health issues: osteoporosis including vertebral fracture assessment, cardiovascular risk, and obesity.

Osteoporosis Assessment

With exceptional precision and accuracy, the Discovery QDR™ series DXA systems help you identify patients at risk for osteoporosis and fractures.

Vertebral Fracture Assessment

Hologic® pioneered the next generation of vertebral fracture assessment (VFA) technology, high definition Instant Vertebral Assessment™ (IVA™-HD), which dramatically improves the detection of vertebral fractures. IVA-HD doubles the resolution of previously available techniques with a low-dose, single-energy image, integrating important definitive factors for osteoporotic fracture risk: BMD and VFA.

FRAX® 10-year Fracture Risk Assessment

The FRAX tool has been developed by the World Health Organization (WHO) to enable healthcare providers to identify and proactively treat patients with a high risk of experiencing bone fractures due to low bone mass and other well established risk factors within a period of 10 years. This effective integration of vertebral fracture assessment and BMD will enable physicians to recognize more patients who need early intervention and therapy to hopefully prevent debilitating fractures.

Supine Lateral BMD

Supine lateral spine BMD provides a more sensitive means of detecting response to therapy than AP spine BMD measurement alone¹, especially in older patients. The rotating C-arm is designed to eliminate patient repositioning, which means superior precision (1%)² compared to quantitative measurements taken in the decubitus position (>4%) for greater confidence in the results. With Discovery's fan-beam DXA, you get a clear measurement and visualization of trabecular-rich vertebral bodies, which are the first bone tissues to show degeneration as well as positive response to therapy.²



Hologic IVA-HD
Linear Single
Energy VFA



Hologic Exclusive
Supine Lateral BMD



¹ Harper et al. (1994). Improved assessment of lumbar vertebral body strength using supine lateral dual-energy x-ray absorptiometry. J. Bone Miner Res. 9(5):687-93.

² Devogelaer et al. (1996). Oral alendronate induces progressive increases in bone mass of the spine, hip, and total body over 3 years in postmenopausal women with osteoporosis. Bone.

Cardiovascular Risk

Exclusive to the Discovery™ DXA system is the ability to visualize abdominal aortic calcification in addition to its use in osteoporosis and vertebral deformity assessment.

Visualization of Abdominal Aortic Calcification (AAC)

Using the enhanced visualization provided by IVA™-HD, the Discovery system can help you recognize calcifications in the abdominal aorta. Clinical studies have shown that AAC is a significant indicator of heart disease and stroke^{1,2}.

Patients who have osteoporosis are often at risk for cardiovascular problems, the number one cause of morbidity and mortality in older women and men.



Calcifications in the Abdominal Aorta

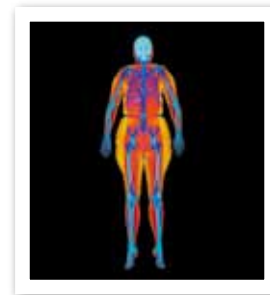
Obesity Assessment

The demand for accurate body composition analysis is growing as healthcare providers realize its value in identifying serious health risks that result from obesity, including heart disease and type 2 diabetes³.

Advanced Body Composition™ Assessment

The new Advanced Body Composition feature measures the distribution of fat mass, lean mass and total mass for the entire body translating the information into an easy to interpret report for improved patient weight management and counseling.

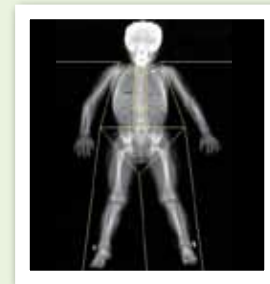
Hologic® whole body DXA systems are the only ones to incorporate the recently released National Health and Nutrition Examination Survey (NHANES) whole body composition reference data. Combined with the recently released guidelines from the Endocrine Society which recommends annual bone mineral density and body composition exams for bariatric surgery patients⁴, the Discovery system will enable you to improve patient management by not only offering bone mineral density tests, but by also calculating your patient's body composition.



Advanced Body Composition Assessment

Pediatric Bone Health Assessment

Some of the new developments in infant and pediatric densitometry include advanced analysis algorithms to detect and measure low-density bone, rapid scan acquisition, reduced radiation exposure, and the comprehensive reference database from the Bone Mineral Density in Childhood Study (BMDCS). This new reference database was developed to aid in the interpretation of pediatric BMD and BMC measurements and is exclusively available through Hologic.



Pediatric Bone Health Assessment

¹ Wilson et al. Abdominal Aortic Calcific Deposits Are an Important Predictor of Vascular Morbidity and Mortality. *Circulation*. 2001;1529-1534.

² Hollander et al. Comparison Between Measures of Atherosclerosis and Risk of Stroke: The Rotterdam Study. *Stroke*. 2003;2367-2373.

³ NIH, NHLBI Obesity Education Initiative. Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults.

⁴ Endocrine and Nutritional Management of the Post-Bariatric Surgery Patient: An Endocrine Society Clinical Practice Guideline.



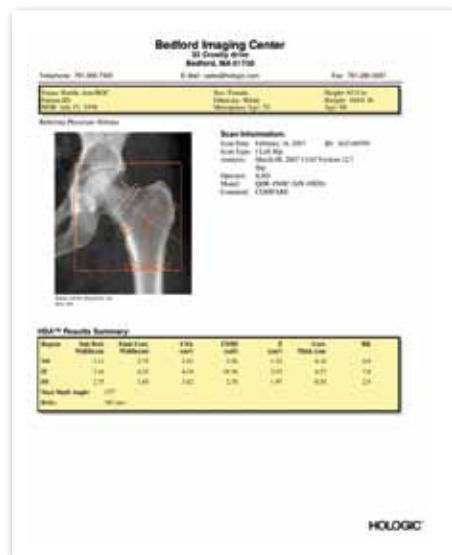
Automatic Hip Positioning with New Dual Hip Positioner

AccuView™ hip positioning finds the bone edge for perfect positioning and centers the hip the same way on follow-up exams for improved precision. The AccuView feature helps eliminate common positioning errors, saving time and eliminating unnecessary rescanning.

The new dual hip positioner along with the AccuView feature supports rapid measurements for single or dual hip scans in one automated sequence, without patient repositioning, improving short and long-term precision and workflow.

Integrated Structural Analysis of the Hip

This exclusive Discovery™ feature enables a new dimension in bone health assessment with Hip Structure Analysis™ (HSA®¹), which uses DXA measurements to calculate the structural geometry of the hip. HSA® provides biomechanical information on the strength of the proximal femur. Studies have shown that this may predict a hip fracture risk independent of BMD and other risk factors^{2, 3}.



¹ HSA is a trademark of The Johns Hopkins University Applied Physics Laboratory. The incorporation of HSA into Hologic® bone densitometers is being conducted under a continuing research agreement between the Johns Hopkins University and Hologic.
² A. Z. LaCroix et al. (2009). Hip structural geometry and incidence of hip fracture in postmenopausal women: what does it add to conventional bone mineral density?. *Osteoporosis Int.*
³ Thomas J. Beck, ScD. (2007). *Extending DXA Beyond Bone Mineral Density: Understanding Hip Structure Analysis.*

Discover Effortless Reporting and Information Sharing

Breakthrough scanning speed with superb visualization is just one part of the workflow efficiency built into the Discovery™ DXA system. One of our goals is to provide connectivity solutions for bone densitometry systems to help operators and physicians streamline workflow between and within facilities and workstations.

Connecting Your World Seamlessly

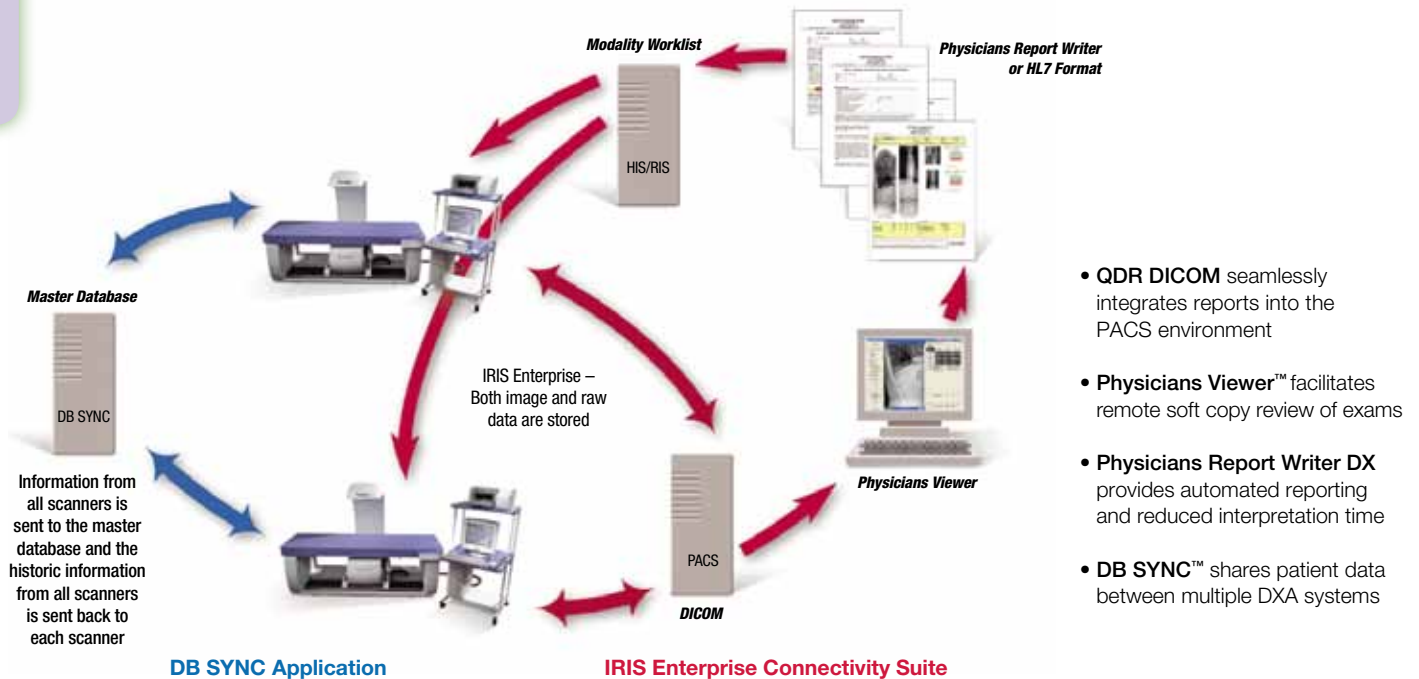
IRIS™ Enterprise connectivity suite provides the gateway for true paperless densitometry by providing a data management solution for facilities wishing to share data between scanners at different locations from virtually anywhere in the world.

Improved Workflow through Automated Reporting

For improved workflow, the Physicians Report Writer™ DX combines the patient's information, BMD, IVA™, and FRAX® data into a customizable electronic report. Physicians Report Writer DX utilizes report rules based on internationally recognized recommendations to populate four text areas: Indication, Interpretation, Recommendation and Follow-up for a concise formatted report.

Trend Reporting

The Discovery system makes it easy to track progress over time. Trend reports provide an easy method to compare visit to visit rates of change to facilitate the clinical management of your patient.





Improve Data Management

DB SYNC™, the new automatic APEX™ database synchronizer, is a standalone application that enables the databases of two or more QDR™ scanners to be merged into one master database which is available to all scanners. By combining IRIS™ Enterprise and DB SYNC, returning patients may be scanned on any available scanner improving workflow and optimizing productivity.

Support a Paperless Densitometry Workflow

The Discovery™ system offers more choices for securely accessing, storing and viewing information electronically. You can download patient data from existing electronic medical record systems and HIS/RIS, eliminating the time, error and costs associated with re-entering patient demographics. You can also connect the Discovery system to a hospital PACS for storing and retrieving patient records.

Transmit studies to your PACS viewing station, PC, or remote workstation for review from any location, and share images with other physicians for consultation or referral.

Discover **Unmatched Resources** and **Comprehensive Service**

When you purchase a Hologic® bone densitometry system, you purchase so much more than a best-in-class product. You also gain the resources and comprehensive solutions of a global company committed to helping you maximize your investment every step of the way. We are driven to provide superior products and service by raising the bar on support before, during, and after the sale through our dedicated teams.

Clinical Applications Training and Support

When your system is installed by our expert field service engineers, one of our Clinical Applications Specialists will visit your site to provide comprehensive hands-on training. This knowledgeable resource will continue to be available to you whenever you have a question or need additional assistance.

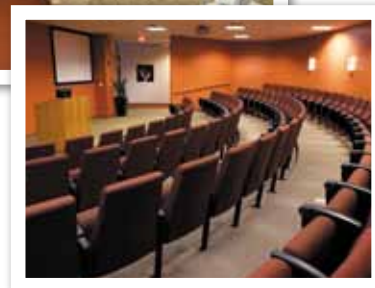
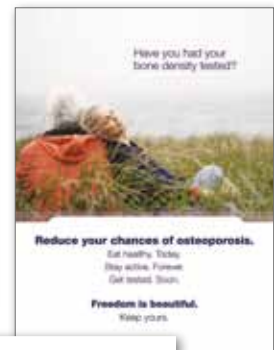
Marketing Support

To help you educate your patients about the importance of getting scanned and market your new services, we provide a customizable Online Marketer's Toolbox, giving you access to many marketing and educational materials and templates including press releases, advertisements, product images, patient brochures, posters and many other tools.

Continuing Education

Hologic offers both online and hands-on training for imaging professionals. The courses offered at the David Ellenbogen Center for Health Sciences Education in Bedford, Massachusetts, are presented by our expert Clinical Applications Specialists for technologists and operators performing bone densitometry procedures. Our online training features webinars, lectures, web-based training modules, procedural training videos and other educational resources covering a wide variety of healthcare topics. These online resources are available to Hologic customers and some web courses may be counted for CME credit.

For more information on courses at the Ellenbogen Center visit gotrainingcenter.com or visit hologic.com/medical-professionals to learn more about our online training



Real Time Product Support

Our product support organization is here to service customers in everything from clinical applications support to technical product support. All the skeletal health support calls are handled by our US based technical experts who are trained and specialize in coverage for specific products. They are available 7:30 AM East Coast Time to 5:00 PM West Coast Time, Monday through Friday ensuring assistance is always just a phone call away.

For more information on product support visit hologic.com/hologicproductsupport.

**We are committed to offering the best tools to support
a broad spectrum of patients over a lifetime of care.**

Hologic is defining the standard of care in women's health. Our technologies help doctors see better, know sooner, reach further and touch more lives. At Hologic, we turn passion into action, and action into change.

BREAST IMAGING SOLUTIONS | INTERVENTIONAL BREAST SOLUTIONS | BONE HEALTH
PRENATAL HEALTH | GYNECOLOGIC HEALTH | MOLECULAR DIAGNOSTICS

HOLOGIC[®]

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