



Bone & Metabolic Health

# Prodigy<sup>™</sup> from GE Healthcare

Performance and reliability  
with one of the largest  
installed base DXA systems  
in the world

[gehealthcare.com](http://gehealthcare.com)

# Prodigy

High performance, efficient and reliable DXA system with the versatility to offer bone density test and body composition analysis. Prodigy systems provide the option to scale up to a wide-range of clinical applications.

**Full and compact size DXA systems provide flexibility to meet the unique space requirements of your facility.**

Available in **Full** or **Compact** sizes.



Your practice demands dependable dual-energy X-ray absorptiometry (DXA) assessment, and Prodigy delivers with exceptional precision and low-dose radiation. You can depend on Prodigy to provide precise data on bone and soft tissue composition, including bone-mineral density (BMD), lean- and fat-tissue mass, and percentage of fat. At the same time, Prodigy helps streamline your patient care and practice workflow.

## Prodigy software packages – Customized to suit your needs

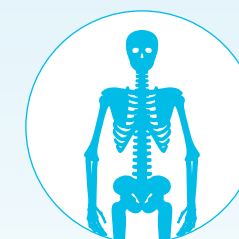
### Prodigy Primo



**Package includes:**

- Basic Skeletal Assessment
- Basic Body Composition

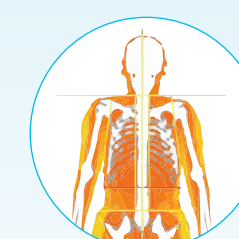
### Prodigy Pro



**Package includes:**

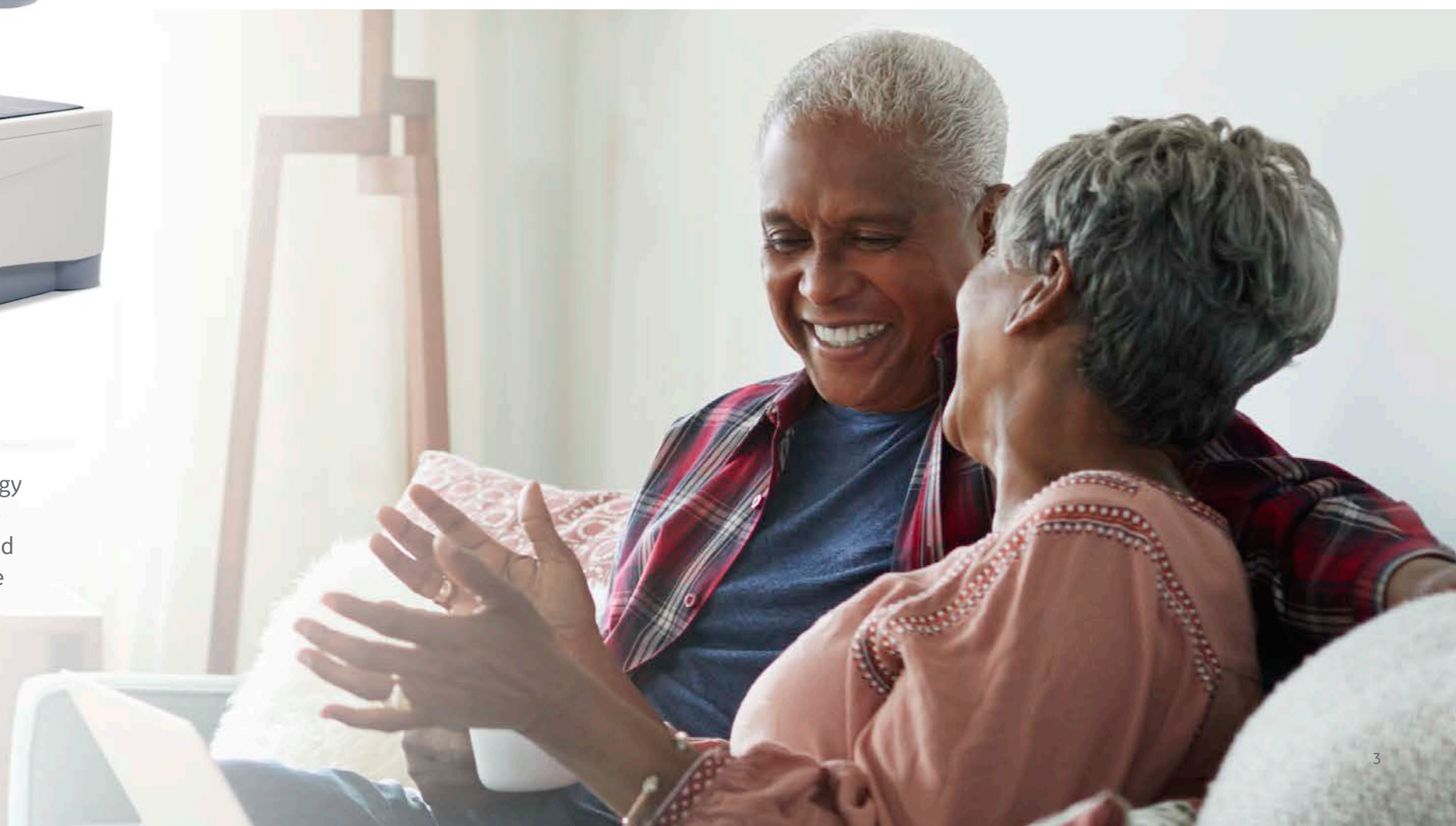
- Essential Skeletal Assessment
- Essential Body Composition Assessment
- Pediatric Measurements

### Prodigy Advance



**Package includes:**

- Advanced Skeletal Assessment
- Advanced Body Composition Assessment
- Pediatric Measurements
- Multi-User Database



# Solid performance makes Prodigy chosen worldwide

**Prodigy is our proven and dependable DXA product with a large global installed base across 120+ countries.**

Clinicians, Researchers and Practitioners have trusted the Prodigy DXA system for more than 20 years making it one of the largest selling DXA systems in the world.

## Prodigy with enCORE v18 software enables you to meet ISCD testing guidelines

### ISCD indications for Bone Mineral Density (BMD) testing:

- Women 65 and older
- Men 70 and older
- Post-menopausal women with a risk factor:
  - Low body weight
  - Prior fracture
  - High risk medication use
- Adults taking medications associated with low bone mass or bone loss
- Adults with disease or condition associated with low bone mass or bone loss

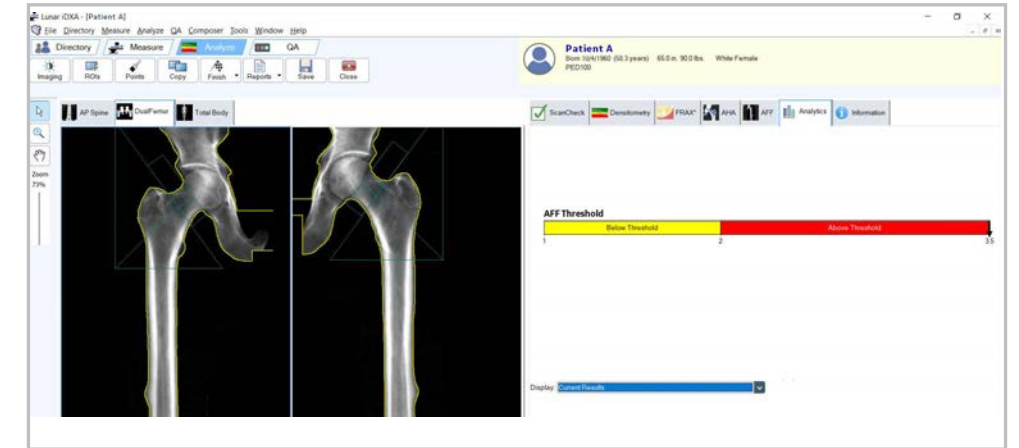
ISCD guidelines for BMD testing available at [ISCD.org](http://ISCD.org)



# Prodigy for Bone Health

Prodigy's reliable design and robust technology platform supports a comprehensive portfolio of clinical applications for bone health.

- Bone Mineral Density
- FRAX
- Trabecular Bone Score (TBS)
- DVA (includes LVA, APVA and Lateral BMD)
- Atypical Femur Fracture and more

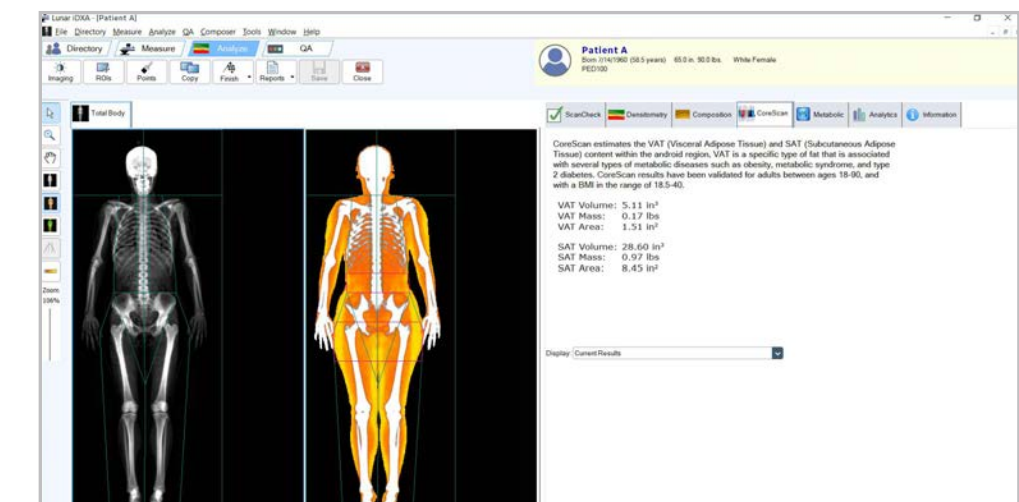


BMD Insights using AFF User Customizable Threshold

# Prodigy for Metabolic Health

Prodigy offers a wide range of clinical applications for metabolic health needs.

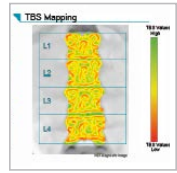
- Total Body Composition
- CoreScan
- Sarcopenia
- Fat Color Coding
- Custom Reference Population
- Option to Integrate Hydration Levels from BIA/BIS (TBW, ECW, ICW) to have 5 compartment models (LM, FM, BMC, ECW, ICW) and more



Newly Available: VAT Area and SAT Results

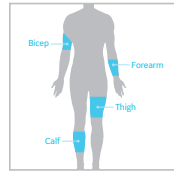
# A Few of our Newest Applications

## A wide breadth of applications and features



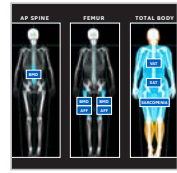
### Trabecular Bone Score – Integrated TBS<sup>1</sup>

Provides TBS score based on assessment of trabecular region of bone, including FRAX-adjusted TBS. Includes TBS license. Complimentary 60-day TBS software trial program available for new TBS customers.



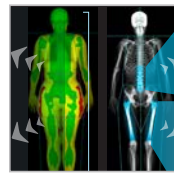
### Smaller Body Composition (Regions of Interest)<sup>5</sup>

Monitor and report on Regions of Interest (ROI) including upper arm, lower arm, upper leg and lower leg, to study changes in body composition in these regions.



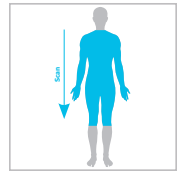
### DXAVision™

Provides one unified workflow and comprehensive reporting for BMD, AFF, VAT and SAT.<sup>2</sup> Designed to improve operator efficiency with a scan time up to 40% faster.<sup>3</sup> Includes Total Body and Smaller Body (ROI) Composition, Total Body Less Head (TBLH) and Neck-to-Knee for Adults.



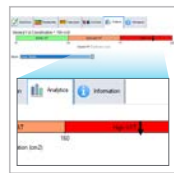
### Advanced Analytics

Provides deep BMD and Body Composition insights with custom equations, metrics and ratios based on 200+ DXA bone and body composition parameters. User-defined classification thresholds, trending and reporting.



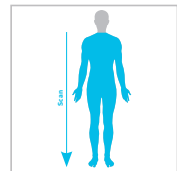
### Neck-to-Knee for Adults<sup>4</sup>

Performs a faster scan by omitting head and lower legs, providing an estimate of total body composition.



### Customizable Thresholds (AFF and VAT)<sup>6,7,8</sup>

Enables setting of custom thresholds to search for correlations: between "beaking" and the probability of AFF, and between VAT and the probability of metabolic disorders.



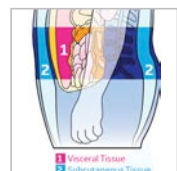
### Total Body Less Head (TBLH) for Adults<sup>5</sup>

Including the skull can mask changes occurring in other areas of the skeleton; this tool automatically performs a scan from the neck down. Can also get TBLH results for scans with the head included.



### Composer Reporting

Provides default style sheets, which can be edited using an intuitive WYSIWYG interface to quickly produce customized reports and templates.



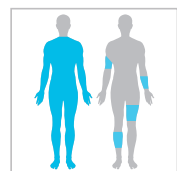
### CoreScan with VAT and SAT Results

CoreScan estimates Visceral and Subcutaneous Adipose Tissue (VAT and SAT) mass, volume and area within the android region. Values can be displayed in user-defined statistical formats and trends.



### Advanced Cybersecurity

Advanced cybersecurity features that meet U.S. Department of Defense Risk Management (DoD RMF) requirements.

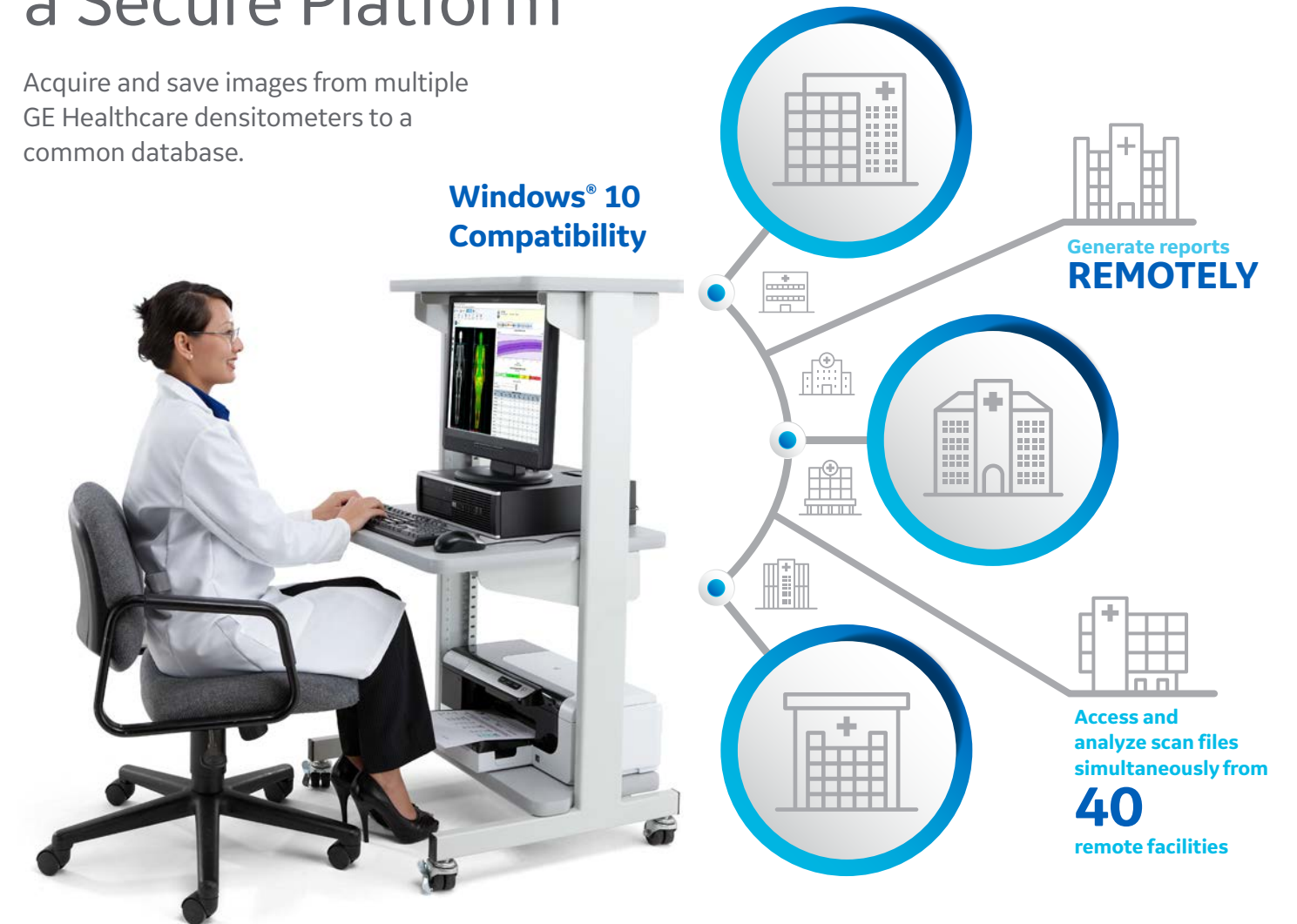


### Sports Athletics Package

Includes TBLH (Total Body Less Head) for Adults and Smaller Body Comp – ROI to easily scan and report on specific Regions of Interest. Facilitates study of localized changes in body composition.

# Multi-User Database with a Secure Platform

Acquire and save images from multiple GE Healthcare densitometers to a common database.



## Advanced security features protect your data.

Security Feature	Provided Benefit
IPv6 for DICOM and HL7	Communication protocol integrating IPSec for better security during data exchange
FIPS 140-2 Encryption	Federally compliant encryption standard that protects patient exam files using 256-bit encryption
Audit Trails	Logs information related to: <ul style="list-style-type: none"> <li>• Software configuration and user access changes, destination IP addresses</li> <li>• Database events including authentication, patient modification/deletion</li> <li>• Events supported by the DICOM Audit Trail Profile</li> </ul>
TLS for DICOM®	Provides security at the transport layer of a DICOM transaction by using encryption and node authentication. TLS is an updated, more secure, version of the SSL protocol.

# Detailed assessment in just a few clicks

**GE Healthcare Prodigy**  
 3030 Ohmeda Drive  
 Madison, WI 53718  
 Phone: 608 221-1551

**Bone Densitometry Report: Monday, February 18, 2013**  
 Referring Physician: Dr. Phlox

**PATIENT:**  
 Name: #####  
 Patient ID: ##### Birth Date: ##### Height: #####  
 Sex: ##### Measured: ##### Weight: #####  
 Indications: Low Calcium Intake Fractures: Treatments:

**ASSESSMENT:**  
 The BMD measured at Femur Total Left is 0.928 g/cm<sup>2</sup> with a T-score of -0.6. Bone density is up to 10% below young normal. This patient is considered normal according to World Health Organization (WHO) criteria. With a Z-score of -0.1, this patient's BMD is within normal limits for their age and sex, even though bone loss may have occurred.

Site	Region	Measured Date	Measured Age	WHO Classification	Young-Adult T-score	BMD
DualFemur	Total Left	###	###	Normal	-0.6	0.928 g/cm <sup>2</sup>

**RECOMMENDATION:**  
 All patients should ensure an adequate intake of dietary calcium and vitamin D. The NOF recommends adults under age 50 need 1,000 mg of calcium and 400-800 IU of vitamin D daily. Adults 50 and over need 1,200 mg of calcium and 800-1,000 IU of vitamin D daily. Effective therapies for the prevention of osteoporosis include bisphosphonates (Fosamax and Actonel) and Evista. Hormone therapy may be an option based on review of risks and benefits of treatment.

**FOLLOW-UP:**  
 People with diagnosed cases of osteoporosis or at high risk for fracture should have regular bone mineral density tests. For patients eligible for Medicare, routine testing is allowed once every 2 years. The testing frequency can be increased to one year for patients who have rapidly progressing disease, those who are receiving or discontinuing medical therapy to restore bone mass, or have additional risk factors.

Based on these results, a follow-up exam is recommended in ###

Fully customizable reports can be made as concise or as detailed as needed.

Treatment recommendations designated by the physician are automatically added and can include society guidelines.

**Your Facility Name**  
 Address 1  
 Address 2  
 DEXA Bone Densitometry Reminder: <LongDate>

<Date>

Dear Dr. Anderson,

Your patient A. Patient had a BMD test at our facility on <MeasureDate>

Based on the patient's T-score of <LowestT-Score> for <LowestT-ScoreSite> <LowestT-ScoreRegion>, we advise that this patient return to our facility for a repeat BMD test. Please recommend to your patient that a BMD test be scheduled by contacting our office at xxxxxxxxxx.

People with diagnosed cases of osteoporosis or osteopenia should be regularly tested for bone mineral density. For patients eligible for Medicare, routine testing is allowed once every 2 years. Testing frequency can be increased for patients who have rapidly progressing disease, or for those who are receiving medical therapy to restore bone mass.

Bone density tests are painless, noninvasive, and safe. Conducting them at regular intervals of a year or more can:

- Determine rate of bone loss
- Monitor the effects of treatment
- Detect low bone density before a fracture occurs
- Predict chances of fracturing in the future

Patient Information:  
 Patient: A  
 123 Main Street  
 Springfield, State

Patient's Risk Factors:  
 Indications: Osteoporosis  
 Fractures: Fractures

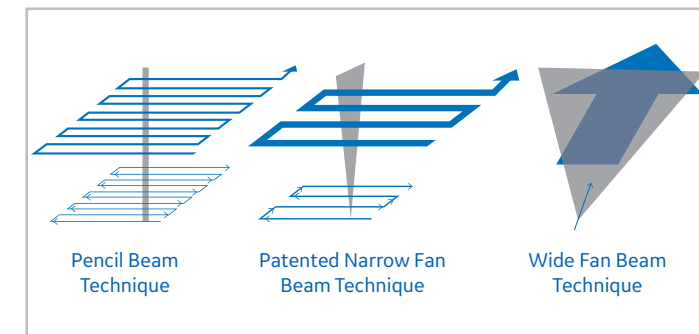
Sincerely,  
 Dr. Timely

# Robust Technology Foundation

## Third generation DXA technology - with over 30 years of innovations

### Patented Narrow Fan Beam Scan

Combining the features of pencil beams and wide fan beams, Narrow Fan Beam technology offers a shorter scan time with reduced magnification error (inherent to wide-angle fan beam scans).



### Low-Dose Photon Counting Technology

Dose-efficient photon counting detector technology more efficiently counts X-ray photons, lowering dosage to the patient.

### Innovative SmartScan™

Our SmartScan technology reduces scan time and X-ray dosage by identifying bone regions after each transverse sweep and estimating where to begin scanning on the subsequent sweep.

### K-edge Filter

An exceptional "K-edge filter" that creates a dual energy beam and absorbs the X-rays in the middle energy range and protects the patient against unnecessary exposure.

### Multi-View Image Reconstruction (MVIR)

By performing multiple transverse sweeps across the site of interest, MVIR accurately determines bone-height above the tabletop, minimizes magnification errors and provides excellent precision and accuracy.

### Low Scattered Radiation

Narrow-fan beam technology results in low scatter radiation in comparison to wide-angle fan beam systems.<sup>10</sup>

**GE Healthcare**  
 3030 Ohmeda Drive, Madison, WI 53718  
 Phone: 608 221-1551

**Patient:** #####  
**Referring Physician:** Dr. Phlox  
**Birth Date:** #####  
**Age:** #####  
**Height:** #####  
**Weight:** #####  
**Sex:** #####  
**Ethnicity:** #####  
**Measured:** ##### (10.00)  
**Analyzed:** ##### (15.00)

Region	BMD (g/cm <sup>2</sup> )	Young-Adult T-score	Age-Matched Z-score	WHO Classification
AP Spine L1-L4	1.325	1.2	1.7	Normal
DualFemur				
Total Left	0.928	-0.6	-0.1	Normal
Total Right	0.970	-0.3	0.2	Normal
Total Mean	0.949	-0.5	0.1	Normal
Total Diff	0.042	0.3	N/A	

OneScan performs spine and dual femur BMD measurements in a single protocol without repositioning.<sup>9</sup> Results print in a one-page report.

General purpose business reporting tools help you manage your practice. Prodigy will automatically:

- Generate referring physician letters
- Analyze populations and trends
- Export data to tab-delimited text files for use in Microsoft Excel®

## Performance comparison of DXA beam types

	Pencil Beam	Narrow Fan Beam	Wide Fan Beam
<b>Scan time</b>	Long	Short	Short
<b>Bone height measured</b>	No	Yes	No
<b>Magnification effects</b>	No	No	Yes
<b>Off-center distortions</b>	No	No	Yes
<b>Scattered radiation</b>	Lowest	Low	High

CLINICAL APPLICATION

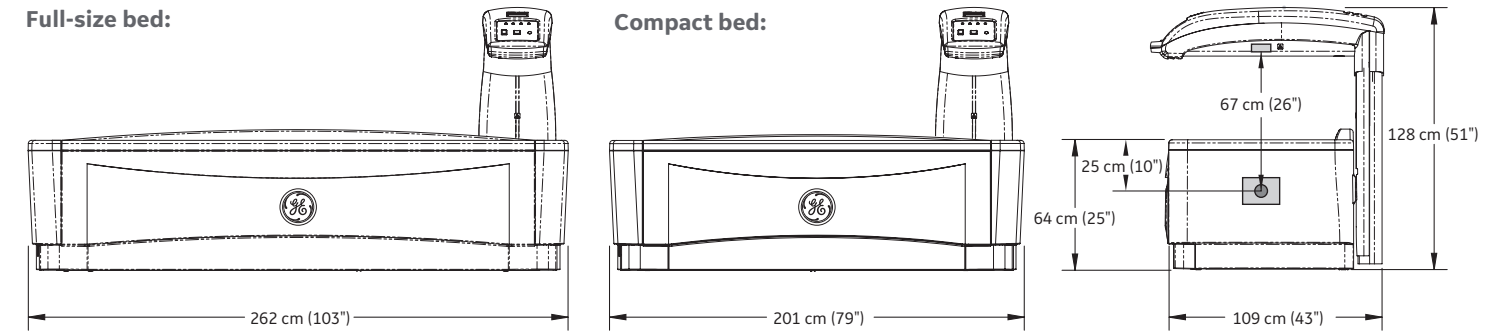
	✓ Standard	● Optional	✗ Not Available
	Primo	Pro	Advance
AP Spine	✓	✓	✓
Femur/Dual Femur	✓	✓	✓
Forearm/Non-seated Forearm	✓	✓	✓
Total Body BMD*	✓	✓	✓
FRAX® Fracture Risk Tool	✓	✓	✓
DVO Fracture Risk Tool <sup>11</sup>	✓	✓	✓
Multi-User Database (1-3)	✓	✓	✓
ScanCheck	✓	✓	✓
Practice Management	✓	✓	✓
Composer Report Tool	✓	✓	✓
OneScan	✓	✓	✓
OneVision	✓	✓	✓
Pediatric – AP Spine**	●	✓	✓
Pediatric – Femur*	●	✓	✓
Pediatric – TB (Birth to 20 YO)*	●	✓	✓
Total Body Composition*	●	✓	✓
DVA (Includes: LVA, APVA, Lateral BMD)**	●	●	✓
CoreScan*	●	●	✓
Advanced Body Composition <sup>12*</sup>	✗	●	✓
Orthopedic Hip	✗	●	✓
Advanced Hip Analysis	✗	●	✓
Orthopedic Knee	✗	●	✓
Hand	✗	●	✓
Multi-User Database (Up to 40)	✗	●	✓
Atypical Femur Fracture	✗	●	●
Sarcopenia*	✗	●	●
Small Animal	✗	●	●
Quick View (10 second scan)	✗	✗	✓

Integrated TBS	●	●	●
DXAVision™*	✗	●	●
Sports Athletics Package*	✗	●	●
Advanced Analytics Full*	✗	●	●
Advanced Analytics Bone*	✗	●	●
Advanced Analytics Body Comp*	✗	●	●

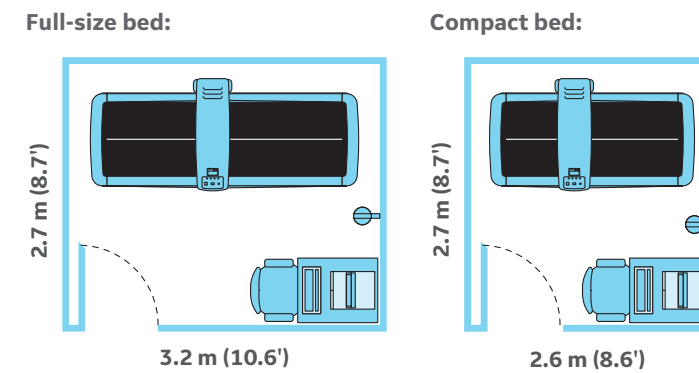
\*Not available in Compact size  
 \*\*Not available on Prodigy Primo Compact

# Specifications

## Scanner dimensions:



## Minimum room dimensions<sup>13</sup>:



## Scanner table specifications:

Scanner size (full-size bed)	262(W) x 109(D) x 128(H) cm (103" x 43" x 51")
Scanner size (compact bed)	201(W) x 109(D) x 128(H) cm (79" x 43" x 51")
Scanner weight (full-size bed)	272 kg (599 lbs)
Scanner weight (compact bed)	254 kg (559 lbs)
Patient table top height	64 cm (25")
Drive system	stepper motor with reinforced drive belts
Active scan area (full-size bed)	196 cm x 60 cm
Maximum patient weight supported	159 kg (350 lbs)
Active scan area (compact bed)	134 cm x 60 cm
Start position indicator	cross laser light (class II, <1 mW power)
Pad	washable patient mat
Attenuation of patient support table	<1.2 mm AL
Communication cable	7.62 m (25 ft) serial
Scanner leakage current	meets IEC 60601-1 safety standard

## Connectivity:

- Teledensitometry<sup>14</sup>
- DICOM® interface
- HL7 interface
- SQL Server

## Computer specifications:

- Intel® Core™ i3 Processor
- Windows® 10 IoT Enterprise 64-bit
- RAM 8 GB
- Hard drive 1 TB
- Optical drive DVD-RW
- Monitor 24" SVGA (minimum resolution 1920 x 1080 32-bit color)
- Archive 500 GB USB hard drive
- Adobe® Reader® DC
- Internet Explorer® 11
- Serial port onboard RS-232 115k baud DB
- Windows®-compatible printer

## Detector specifications:

Detector ..... LYSO X-ray counting detector

## Environmental specifications:

Power ..... 100-127 VAC 50/60 Hz 20A dedicated circuit  
 200-240 VAC 50/60 Hz 10A dedicated circuit  
 Consumption ..... idling 40VA, scanning 450VA  
 Distortion ..... sinusoidal waveform, less than 5% THD  
 Humidity ..... 20%-80% non-condensing  
 Room temperature ..... 18°C-27°C (65°F-81°F)  
 Scanner heat output ..... idling 150 BTU/hr, scanning 1500 BTU/hr  
 Console heat output ..... approx. 200 BTU/hr with 24" monitor  
 Ventilation ..... all cooling vents must remain unblocked  
 Dust, fumes, debris ..... install system in clean, ventilated area



**References:**

1. Consult for market availability.
2. Requires purchase of AFF application and Corescan (for VAT and SAT) application.
3. Data on file with GE Healthcare, April 2019.
4. Requires DXAVision™.
5. Requires DXAVision™ or Sports Athletics Package.
6. Requires Advanced Analytics.
7. Customizable Threshold for AFF requires AFF Application.
8. Customizable Threshold for VAT requires CoreScan application.
9. S.M. Hunt et al, "Changing Bone Densitometers in Clinical Practice: Effect on Precision Error", Presented at the American Society for Bone and Mineral Research Annual Meeting, September 23-27, 2005, Nashville, TN, USA.
10. Data on file with GE Healthcare, January 2017.
11. German speaking countries only.
12. Bone-Lean-Tissue Color Coding, Metabolic Results (ICW, ECW, TBW), Resting Metabolic Rate, Composer Style Sheets – Body Sports Medicine Segmental, Body Patient Weight Loss.
13. A small room kit with isolation transformer may be required. Please refer to local regulations.
14. Additional hardware may be required for fax capabilities.

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October 2020  
JB00512XE

