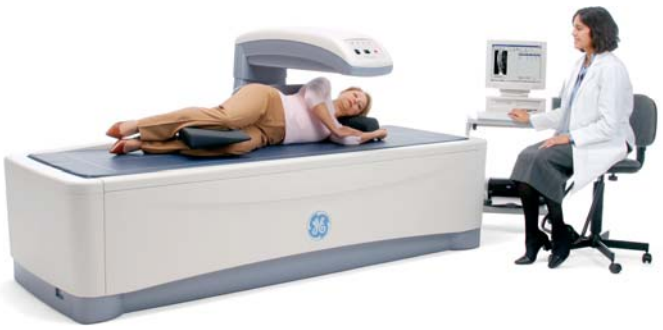
GE Healthcare

Case study

Low patient dose with GE bone densitometry



Patient radiation dose

Radiation dose is increasingly a top concern when treating patients with procedures involving X-ray. In February 2010, the FDA announced an initiative to promote the safe use of medical imaging devices. Radiation dose reduction and management has been a leading concern at recent RSNA annual meetings. Furthermore, decreasing patients' exposure to cumulative radiation dose is an area of focus for most radiology departments today. Prodigy* bone densitometers from GE help to minimize patient exposure by utilizing a lower radiation dose than the leading competitor.

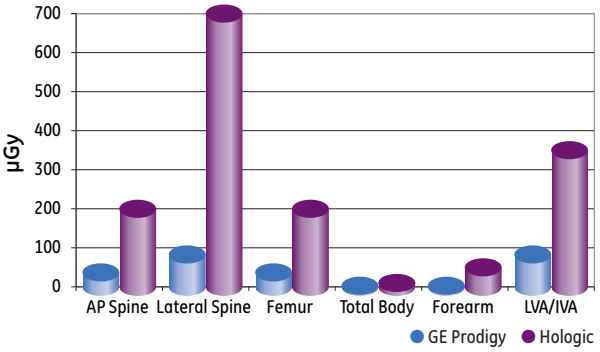
DXA and dose

Dual X-ray absorptiometry (DXA) is a leading technology in assessing bone health, and is used by the World Health Organization as the standard diagnostic method to assess fracture risk. Compared to other X-ray procedures, the radiation dose from DXA procedures are relatively very low. DXA technology requires minimal radiation to generate measurements of bone health.

Dose comparison

When compared to other DXA manufacturers, GE Prodigy bone densitometers perform osteoporosis assessment at a lower dose. A comparison of the technical specifications shows that Hologic† bone densitometers utilize 4 to 25 times more radiation than the GE Prodigy Advance (Figure 1).

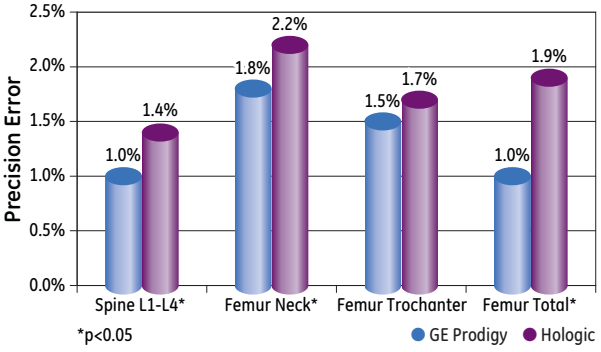
Figure 1. Comparison of patient dose using typical modes at most common sites. GE Prodigy and Hologic measurements are in micro-Grays (µGy) to be directly comparable[1]



Dose and precision

GE Prodigy bone densitometers are able to perform DXA scan at a lower dose without sacrificing precision. Both the GE Prodigy and Hologic meet the ISCD standards on precision error. Nonetheless, studies have shown that the precision error on GE Prodigy is lower than Hologic (Figure 2).

Figure 2. Comparison of GE Prodigy and Hologic precision error at the spine, total femur, and femoral neck[2]



Conclusion: Low dose and high quality with GE

The bone densitometer you choose can make a difference. Having your patients scanned on the GE Prodigy bone densitometer helps to minimize the amount of radiation your patients and operators are exposed to over time, while still delivering precise results. By choosing the GE Prodigy, you can provide excellent patient care and safety both by minimizing radiation and by providing high quality bone health assessment.

Indications for use: The Prodigy series bone densitometer provides an estimate of bone mineral density and fat and lean tissue mass. The values can then be compared to a reference population at the sole discretion of the physician.

CAUTION: Federal Law restricts this device to sale by or on the order of a physician.

References:

1. Information collected from Hologic's Discovery™ Series and Explorer™ Technical Specifications Manual, December 2003 and GE Lunar's Safety Information and Technical Specifications, October 2008
2. 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.

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Our "***healthymagination***" vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at **www.gehealthcare.com**.

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