

Full Spectrum of Women's Imaging at Lourdes Burlington



Images courtesy GE Healthcare

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Convenience, ease of scheduling appointments, speed in receiving results and treatment by staff are often cited by women in choosing a facility to obtain a mammogram.^{1,2}

The Women's Center at Lourdes Medical Center of Burlington County offers the latest imaging technology—including full-field digital mammography, breast MRI and bone densitometry—with convenience, personal care and attention.

"We are a fully integrated women's imaging center," said **Bruce Saffran, MD, Ph.D.**, an interventional radiologist at Lourdes Medical Center of Burlington County. "We have the latest tools to accurately diagnose breast cancer and osteoporosis."

Digital Mammography

The GE Healthcare Senographe Essential Full-Field Digital Mammography system is the most advanced technology of its kind available, allowing for precision imaging of diverse body types, including pre- and perimenopausal women and women with heterogeneously dense or extremely dense breasts.

The system features computer-aided detection, which allows physicians to better pinpoint potential abnormalities than with traditional X-ray film. The images are clear and easy to read, offering better views of the breast, such as near the skin line and chest wall.

"The computer detects so many more shades of gray than the human eye," said Dr. Saffran. "We can catch calcifications even sooner, and women are exposed to less radiation."

The digital system also is faster than film. The image is ready to be read within 10 seconds—no more waiting for films to be developed to ensure the images are usable. In-room control allows technologists almost instantaneous image review. The system's workstation allows radiologists to read patient images, including information from multi-modality studies, at a single point of review. Radiologists can pull up previous studies for historical comparison or comparison against ultrasound and MRI, resulting in a more comprehensive exam. Images are stored electronically and can be sent electronically to the consulting physician.

Ultrasound

A complement to mammography available at Lourdes is ultrasound. Ultrasounds can evaluate whether a lesion discovered on a mammogram (or by palpation during clinical breast exam) is a cyst or solid mass. The test can also see ducts, lobes, muscle layers and infectious fluid collection such as abscesses.

If necessary, ultrasound-guided breast biopsy can be used to determine the nature of a lesion. Biopsy techniques include cyst aspiration, fine-needle aspiration and core needle biopsy using a vacuum-assisted device.

Stereotactic Breast Biopsy

Another minimally invasive option at Lourdes for determining if a lesion is cancerous or benign is stereotactic (mammographically guided) breast biopsy. One of the latest nonsurgical diagnostic tools, stereotactic biopsy is especially useful when the mammogram suggests:

- a suspicious solid mass;
- microcalcifications;
- a distortion in the structure of breast tissue;

Core needle with vacuum-assisted technique is routinely used in stereotactic breast biopsies.

Breast MRI

A complementary test to mammography and ultrasound is magnetic resonance imaging (MRI). MRI is known to be more sensitive for detecting breast cancer than mammography, with a 71 to 100 percent accuracy rate compared to a 16 to 40 percent accuracy rate.³ As a result, the American Cancer Society recommends breast MRI for women with greater than a 20 to 25 percent lifetime risk for breast cancer,

including women with a strong family history of breast or ovarian cancer and patients treated for Hodgkin's disease.

"MRI has the ability to image in three dimensions and provide good physiologic and morphologic information. MRI provides information that helps women and surgeons make better treatment decisions. MRI prior to surgery helps reduce the number of positive or inadequate margins on difficult tumors such as ductal carcinoma in situ and lobular cancers," said Dr. Saffran.

Indications for breast MRI include patients who present with and for:^{4,5}

- BRCA1 or 2 mutation or have a first-degree relative with the mutation and are untested;
- a lifetime risk of breast cancer of 20 to 25 percent or more using BRCAPRO, Claus or Tyrer-Cuzick models;
- received radiation treatment to the chest between ages 10 and 30, such as for Hodgkin's disease;
- carry or have a first-degree relative who carries a genetic mutation in the TP53 or PTEN genes (Li-Fraumeni syndrome and Cowden and Bannayan-Riley-Ruvalcaba syndromes);
- lobular cancer;
- occult breast cancers;
- close or positive surgical margins;
- postoperative scar versus tumor recurrence;
- monitoring of neoadjuvant therapy or brachytherapy;
- suspected multiple or bilateral cancer;
- implants and known or suspected cancer;
- problematic mammograms.

"MRI is best used as an adjunct to mammography and ultrasound," Dr.

Saffran added. "It should not be used to distinguish a benign from a malignant process or to preclude biopsy of a suspicious lesion."

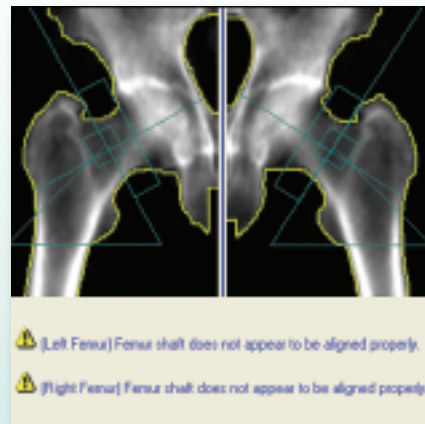
Bone Densitometry

Lourdes also features GE Healthcare's state-of-the-art Lunar Prodigy Advance bone densitometer. Research conducted by the National Osteoporosis Foundation suggests that low bone density, particularly for postmenopausal women, may indicate the need for drug therapy to reduce the risk of hip and spine fractures. The earlier the bone loss is detected, the sooner changes in diet, exercise and/or medication can be instituted and further deterioration halted.

A densitometry, or DEXA, scan identifies bone loss at major fracture sites, such as the spine, femur and hip. The scan also can provide total body composition assessment, 10-year fracture risk, spine and dual femur bone mineral density and dual energy vertebral assessment. Computer-aided detection automatically flags characteristics of scans that require closer attention.

In addition, if a patient received a DEXA scan at another facility and is on drug therapy, Lourdes can input the previous scan to determine if the medication is effective.

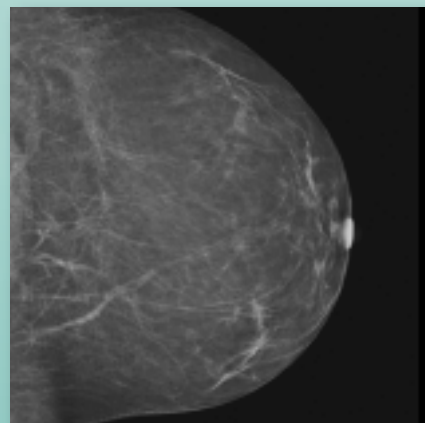
"A DEXA scan is an effective screening to determine a patient's risk for osteoporosis and convenient to obtain during the same appointment as a mammogram," said **Kenneth Chen, DO**, an OB/GYN on staff at Lourdes Medical Center of Burlington County.



The Lunar Prodigy bone densitometer detects and flags characteristics that require closer review.



A total body exam provides precise bone density and body composition results in one scan.



Scattered fibroglandular densities are visible in the digital image above.

¹Engelman K, Cizik A, Ellerbeck E. Women's satisfaction with their mammography experience: results of a qualitative study. *Women & Health*. 2006;42:17-35.

²Suter L, Nakano C, Elmore J. The personal costs and convenience of screening mammography. *Journal of Women's Health & Gender-Based Medicine*. 2002; 11:667-672.

³University of Texas M.D. Anderson Cancer Center. Alternating mammography and MRI may be best. *Radiology Today*. Jan. 26, 2009;10:24.

⁴American Cancer Society. Guidelines for breast screenings with MRI as an adjunct to mammography. *CA Cancer J Clin*. 2007;57:75-89.

⁵Porter B. Current best clinical indications for breast MRI. Presented at the 29th Annual Symposium of the American Society of Breast Disease; April 14-16, 2005; Las Vegas, Nevada.

CONTACT

To schedule a patient for an imaging appointment at Lourdes Medical Center of Burlington County, call 1-877-APPT-LHS (1-877-277-8547).