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## Breast Health and Imaging Glossary

Women today are taking a proactive approach to their own breast care in particular. With the rapid changes in technology, women can feel more comfortable with making choices when they know their options and understand the techniques and diagnostic tools radiologists use for breast cancer detection and treatment. **HerSpace: Breast Imaging Associates**, an independent breast imaging and diagnostic center, offers the following glossary of common terms used in breast cancer detection and diagnosis:

### **Film Screen Mammography**

This traditional form of mammography uses film to create and store the image. Mammography is the only diagnostic tool proven to have a positive impact on the death rate from breast cancer, reducing it by 30-60 percent if cancer is first detected on a mammogram. Most experts attribute the recent decline in the national breast cancer death rate to the increasing use of screening mammography, recommended annually for women beginning at age 40, and earlier if there is a strong family history.

### **Digital Mammography**

One of the latest technologic advances in breast imaging, digital mammography uses less radiation to produce images of the breast with greater latitude and contrast than film screen mammography. Studies show a decrease in the number of additional views needed with digital mammography because of the ability of the breast imager to manipulate the images on the computer screen. Images are stored electronically so that studies can no longer be lost. Though not yet proven, it is hoped that digital mammography will increase detection of early subtle breast cancers. HerSpace's Founder and Medical Director [Dr. Beth Deutch](#) was the first radiologist in New Jersey to be certified in digital mammography.

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**High Resolution Breast Ultrasound**

Reconstructed sound waves reflected back to a computer from the breast tissues generate an image of portions of the breast. This modality is used to determine if an abnormality is a cyst or solid tumor and, if a solid tumor, whether it has benign or malignant features. This helps the radiologist determine if the next step is routine follow-up, short interval follow-up, aspiration or biopsy. The lack of ionizing radiation also makes this study ideal for the primary evaluation of breast abnormalities in younger or pregnant women.

Screening breast ultrasound may be recommended in addition to the yearly screening mammogram for those women who are at high risk for breast cancer and have dense breasts or otherwise difficult to interpret mammograms. Studies have shown an increase in the cancer detection rate of 20 to 30 percent in this population of women when screening ultrasound is added to screening mammography. Ask your referring physician and the breast imagers at **HerSpace** if you meet the criteria for this study.

**Breast Magnetic Resonance Imaging (MRI)**

High-resolution contrast-enhanced breast MRI may detect small cancers not seen on mammography. It is helpful in better assessing extent of disease in some patients recently diagnosed with breast cancer. The added information an MRI provides can help fine-tune the surgical management of the disease. Breast MRI is also used to evaluate for breast implant rupture. Certain high-risk patients now are advised to undergo annual breast MRI examinations six months between annual mammograms. HerSpace is the only facility in Monmouth and Ocean counties to offer this procedure.

The Breast Imagers at **HerSpace** offer expert interpretation of Breast MRI studies performed on a high field strength magnet at Middletown Medical Imaging, located in Ventura Plaza on 1275 Rte. 35 North in Middletown, N.J. In keeping with the **HerSpace** commitment to the highest quality cutting edge technology, [Dr. Deutch](#) and staff have personally selected the Breast MRI equipment, including the most advanced compression phased array breast coil, and developed the special software protocols to be used.

**Galactography**

This simple procedure uses dye instilled into a breast ductal system to evaluate the cause of nipple discharge.

**The Lesion**

A breast biopsy may be recommended when the radiologist identifies a "lesion" or abnormality on the mammogram and/or breast ultrasound. While it is natural for a woman to feel anxious about the need for a breast biopsy, consider the fact that 70 to 80 percent of the lesions recommended for biopsy turn out to be benign. Unfortunately there is an overlap between what some benign and some cancerous lesions look like on the mammogram, and that is why so many benign

biopsies are performed.

Breast cancer may have several faces on imaging: it may appear as calcium, or as a mass with or without calcium, as a distorted tissue pattern, or asymmetric tissue density. The significance of calcium on the mammogram is as a sign of activity at the cellular level. This is usually benign activity. However, a percentage of early breast cancers called DCIS (Ductal Carcinoma In Situ) may present as calcium only. This is cancer in its earliest curable stage. When the pieces of calcium are tightly grouped, new or changing and varied in appearance, there exists a higher likelihood that they represent this early type of cancer, and biopsy will be recommended. A mass or tumor is any space-occupying lesion. If fluid-filled, it is a benign cyst. If composed of solid tissue or cells, it may be benign or malignant. If a solid mass is new, enlarging or irregular in contour and content, a biopsy will be recommended. Most invasive breast cancers will present with a mass on imaging. Distortions and asymmetries are more subtle imaging findings of breast cancer, where breast imaging experience and expertise is crucial to avoid delays in diagnosis.

### **Mammotomy**

The latest and most technologically advanced core needle breast biopsy technique, mammotomy (also referred to as directional vacuum-assisted biopsy), uses a probe that gently vacuums, cuts and removes tissue samples for testing. The advantages of mammotomy over other needle biopsy techniques include: (a) single insertion of the probe (b) the ability to fully remove many of the smaller lesions and (c) the ability to insert a 2 mm stainless steel marker at the biopsy site for future follow-up.

### **Imaging Guidance (Stereotactic, Ultrasound and MRI)**

If the abnormality is best seen on mammography, the biopsy will be guided by x-rays and is called stereotactic biopsy. The patient will lay face-down on a special table with the breast placed in compression through an opening in the table. The radiologist works from below the table, which elevates and lowers on command.

If the abnormality is best seen on ultrasound, the biopsy is performed using ultrasound guidance, with the patient lying on her back or up on one side. Typically, stereotactic guidance is used to biopsy micro calcifications or other subtle mammographic findings not seen on ultrasound. Ultrasound guidance is used to biopsy most masses and may allow better access to lesions near the chest wall or close to the nipple. The lack of radiation makes this approach ideal for young or pregnant women. The easier positioning is optimal for elderly patients or those who cannot lie on their stomachs. Otherwise the mammotome biopsy experience is the same.

Breast MRI and MRI-guided vacuum biopsy, the latest and least invasive method of obtaining tissue from a suspicious finding on breast MRI is performed in the MRI suite. HerSpace is the first breast imaging facility in Monmouth and Ocean

counties to offer this procedure.

### **The Biopsy Experience**

At **HerSpace**, [Dr. Deutch](#), along with an experienced technologist, will perform the biopsy quickly. We start by locally anesthetizing the breast, after which there should be no pain or discomfort. After a tiny incision is made in the skin, the mammotome probe is inserted into or immediately beneath the abnormality with 1 mm precision. It typically takes 10 to 15 minutes to complete the biopsy. At the end of the procedure, assuming the abnormality has been completely or largely removed, a 2mm stainless steel marker is placed in the biopsy site to identify it on future imaging. It is so tiny that a woman will never feel it. Five minutes of pressure is applied to stop the mild post-biopsy bleeding. The tiny incision requires only a small bandage and no sutures.

### **Cyst Aspiration**

This quick, minor procedure uses a fine needle to drain fluid from a cyst, which is either complex or “dirty” in appearance on ultrasound, painful or large enough to obscure portions of the mammogram.

### **Needle Localization**

This technique localizes a breast abnormality seen on imaging studies to allow for accurate surgical excision. The procedure – which uses a thin needle to insert a thinner hooked wire to the area of concern – may be guided by mammography, ultrasound or MRI. The breast imagers at **HerSpace** use digital mammography when the procedure requires x-ray guidance in order to decrease procedure time and patient discomfort. It is performed prior to a lumpectomy in patients recently diagnosed with breast cancer by core needle biopsy and prior to initial surgical diagnostic biopsy for abnormalities that cannot be biopsied using less invasive techniques.

### **Ductal Lavage**

Ductal lavage (rinsing) is a method of collecting cells from inside the milk ducts to be analyzed by pathologists for the presence of any atypical changes. Atypical cells are not necessarily precancerous, but their presence increases a woman’s risk of developing breast cancer. This study is meant to help women at high risk for breast cancer (family or personal history of breast cancer, BRCA1, 2 carriers, high risk lesion on previous breast biopsy) make decisions about risk reduction options, such as tamoxifen treatment or prophylactic mastectomy.

**Bone Densitometry = DEXA (Dual Energy X-Ray Absorptiometry)**

A DEXA scan is used to assess a patient's risk of fracture due to osteoporosis, which is a thinning of the bones as we age and go through menopause. This fast noninvasive test takes ten minutes to perform and uses a minimal amount of low-energy x-rays passed through your hip and spine to identify bone mineral loss (osteoporosis).

**Clinical Breast Exam (CBE)**

Breast cancer organizations and healthcare advocates recommend women in their 20s and 30s have a clinical breast exam performed by a healthcare professional as part of their regular health exam, preferably every three years. Women 40 and older should have an exam annually. HerSpace offers clients a comprehensive CBE by a certified nurse practitioner who specializes in women's health in conjunction with their annual mammography.

**Genetic Education and Testing**

HerSpace is the first breast imaging facility in the region to include genetic education and testing for patients. The service includes a series of one-on-one sessions to review family history, determine inherited risk factors and testing options. To learn more about the benefits of genetic counseling, please consult with HerSpace staff.

**Imaging Consult /Second Opinion**

The breast imagers at **HerSpace** are often asked to provide a second expert interpretation of breast imaging initially performed elsewhere. It is advised that a woman seek an expert opinion from a dedicated Breast Imager regarding an abnormal mammogram reading before undergoing a biopsy. Many times the outside recommendation is reversed or altered or, if the biopsy is deemed necessary, the patient may be offered a less invasive biopsy approach.

For additional information about the latest options and techniques in breast healthcare, please contact the staff at HerSpace: Breast Imaging Associates, ([www.herspacebreast.com](http://www.herspacebreast.com)) located in Monmouth Corporate Park I, Building A, Suite 130, 187 State Highway 36 in W. Long Branch, east of the Monmouth Mall off Garden State Parkway Exit 105, Tel: #: 732-571-9100.

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