PIPER BREAST CENTER™
Communiqué

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Digital Mammography – Is it Better?

~ by Deborah L. Day, MD

Digital mammography is a technology that has been available since 1996. A woman getting a mammogram will likely not notice a difference in the digital versus film-screen procedure.The breast is still compressed and two views of each breast are routinely obtained. The major differences occur within the computers that acquire and display the breast images. The images do not appear on films. Instead, the digital computer system captures the breast images and electronically sends them to a viewing screen where the radiologist sees and interprets them. The digital mammogram can be modified by the radiologist using magnification, contrast and edge enhancement techniques for better visualization of abnormalities. Storage of digital mammograms is also different and significant time is saved by eliminating film processing, handling and filing.

The earliest clinical studies on digital mammography were designed to show that radiologists were at least as accurate reading digital mammograms as film mammograms. More elaborate studies have been ongoing. The results of the Digital Mammographic Imaging Screening Trial were recently published. This five-year study involved 49,500 women at 33 sites in the U.S. and Canada. Though film mammography remains a highly effective means for early detection of breast cancer, the study found digital mammography to be more accurate in detecting cancer in women under age 50 years, women with dense breast tissue and in pre- and peri-menopausal women. Of the women in the study, about 65 percent fell into at least one of these groups.

Nationwide, about 8 percent of mammography units are digital. This is primarily because of the cost. The price tag for digital equipment is more than three times that of a film mammography unit. We are very fortunate at the Piper Breast Center. Thanks to many very generous donors, we installed our second digital mammography unit in January 2006. Now, two of our three units are digital. This will greatly increase our flexibility in scheduling both analog and digital exams.

We are continually challenged by exciting advancements in breast cancer detection, prevention and treatment. Because Piper Breast Center is a hospital-based, comprehensive center with a multispecialty team approach to breast care, we are uniquely positioned to meet these challenges for the benefit of our patients.

Did You Know …

~ by Carol Bergen, RN

A change in breast tissue, such as a lump, area of thickening, skin dimpling or nipple discharge, should be reported to and checked by your physician or nurse practitioner. The health care provider will usually do a clinical breast examination (CBE) and may order specific breast imaging, such as a diagnostic mammogram or ultrasound, rather than a screening mammogram. The CBE often provides additional information to the radiologist so he or she can individualize the imaging techniques and interpretations.

Mark your calendar!

The Twin Cities' Race for the Cure is Sunday, May 14. Be sure to stop by the Piper Breast Center's informational booth that day!

ABBOTT NORTHWESTERN HOSPITAL
Allina Hospitals & Clinics

Virginia Piper Cancer Institute

The Sentinel Lymph Node Study – What's Next?

~ by Dan Dunn, MD

Quality of life for many breast cancer patients is improved if their surgery involves removal of fewer axillary, or armpit, lymph nodes. In 1997, the Piper Breast Center began a research study to determine the effectiveness of removing only one or a few of the nodes that are the first to receive lymphatic fluid that drains from a region of the breast. These are called "sentinel" lymph nodes (SLN) and their removal is called sentinel lymph node biopsy.

If the SLN is found to be cancer-free, we now know that removal of the remaining axillary lymph nodes is unnecessary because of the very small chance that they would have cancer in them. Our clinical study results have shown that removal of the SLN aids in method of "staging," which helps determine the extent of breast disease and assists in treatment planning.

Study results also confirmed that our surgeons have the expertise necessary to perform SLN biopsies. More than half of the patients have avoided complete axillary lymph node removal because the SLN was negative for cancer.

In 2002, we embarked on a separate clinical study of approximately 100 women whose SLN was found to have a very small amount of cancer cells. Patients in this study have subsequently undergone complete axillary lymph node removal. This study was designed to examine the remaining lymph nodes using the same highly sensitive pathology techniques that were used on the SLN. Our goal is to determine how often cancer has metastasized, or spread, to these remaining lymph nodes. This information will help us better understand whether it is always necessary to perform a complete axillary lymph node removal on patients whose SLN is found to contain only a very small amount of cancer.

This study is ongoing; 89 patients have been included to date. By the end of the study we hope to identify additional patients who may avoid the need for complete axillary lymph node removal.

Watch future issues of *Communiqué* for updates.

Sexuality and Breast Cancer

~ by Margaret MacRae, MD

Sexuality is a very important aspect of all of our lives. People diagnosed with breast cancer may find that sexual relationships are negatively affected by several factors:

■ **Fatigue** may result from chemotherapy, surgery and radiation therapy. Fatigue and associated irritability decrease sexual desire.

■ **Hormonal changes** in premenopausal women can cause increased irritability or mood swings and may also be associated with **depression**. Tamoxifen and some other medications used for the treatment of breast cancer can intensify the affects of hormonal changes.

■ **Hot flashes** interrupt sleep and add to fatigue.

■ A patient who has undergone a mastectomy **may feel less sexually attractive** to her mate than previously and this certainly can add to her sense of depression.

■ **Anxiety** associated with the fear of a recurrence of breast cancer may be a significant concern in patients who have been diagnosed with breast cancer. This may create stress or inhibit relaxation.

When the sense of sexuality is affected, depression may result. There are a number of medications that may be safely taken by patients with a history of breast cancer to help increase libido, decrease hot flashes and treat depression or insomnia as needed. Talking with one's partner about feelings of a diminished sense of sexuality is of the utmost importance. Many qualified counselors are available to assist in this discussion if an individual so desires. Being diagnosed with breast cancer does not mean you cannot have a healthy and satisfying sexual relationship.

Communiqué is produced for friends of Abbott Northwestern's Piper Breast Center, 800 East 28th Street, Minneapolis, MN 55407-3799, **612-863-3150**.

Medical editor ~ Beverly Trombley, MD

The Use of Herceptin® in the Treatment of Breast Cancer

~ by Margaret MacRae, MD

The drug Herceptin has been in the news recently. It has been shown to be effective in preventing and treating the recurrence of breast cancer in patients who have a cancer that is HER2/neu positive. Under normal circumstances, the HER2 gene is found in each chromosome of every human cell. This means there are two HER2 genes in every cell. These genes aid in the growth, division and repair of the cells. When cancer is present the gene sometimes starts to make too many copies of itself. This is called gene amplification.

Invasive breast cancers are routinely checked for the presence of HER2/neu gene amplification, which occurs in approximately one in six patients with breast cancer. HER2/neu positivity, if present, indicates that the cancer has a tendency to be more aggressive than cancers that are HER2/neu negative. Therefore, it is advisable for patients whose breast cancer is HER2/neu positive to consider being treated with Herceptin in conjunction with chemotherapy.

One adverse side effect of Herceptin therapy is a decrease in the heart's ability to contract with normal strength as it beats. Therefore, before Herceptin therapy starts, a patient's cardiac function is evaluated with a MUGA heart scan to make certain treatment with Herceptin would be safe. In a patient without cardiac function abnormalities, Herceptin has few adverse side effects. Some patients may develop an allergic reaction when the drug is first given, but the likelihood of a severe allergic reaction is small.

Herceptin must be given intravenously. It can be given with certain types of chemotherapy, most often with the drug Taxol. Herceptin may be given weekly for one year following the completion of chemotherapy for patients whose cancer is Stage II or higher at the time of diagnosis. If a patient has Stage I cancer, which is a cancer smaller than two centimeters in size with no ancillary nodal involvement, Herceptin is not yet recommended. Long-term prognosis for patients with early-stage breast cancer is often thought to be quite excellent without the addition of Herceptin. In the future, Herceptin may be recommended as adjuvant therapy for patients with early-stage breast cancer. It is not curative therapy for patients whose cancer has spread, or become metastatic, but it definitely can be effective in slowing the progression of metastatic breast cancer.