

Mammography and Other Screening Tests for Breast Problems

What is a screening test?

A screening test is used to find diseases, such as cancer, in people who do not have signs or symptoms.

- ❖ This allows for early treatment and the earlier cancer is treated, usually the greater the chance of survival.

What screening tests are used to screen for breast problems?

Screening for breast problems includes

- ❖ mammography
- ❖ clinical breast exams,
- ❖ breast self-awareness (breast self exam).

What is mammography?



Mammography is a digital X-ray technique used to study the breasts and is done for two reasons:

- 1) as a screening test to regularly check for breast cancer in women who do not have signs or symptoms of the disease, and
- 2) as a diagnostic test to check lumps or other symptoms that you have found yourself or that have been found by a health care provider.

What is the best method of detecting breast cancer as early as possible?

A high-quality mammogram, with a clinical breast exam (an exam done by a professional health care provider), is the most effective way to detect breast cancer early when it is most treatable.

- ❖ Using a mammogram, it is possible to detect breast cancer that cannot be felt. However, like any test, mammograms have both benefits and limitations.
- ❖ When a woman examines her own breasts, it is called breast self-exam (BSE).
 - Studies so far have not shown that BSE alone reduces the numbers of deaths from breast cancer.
 - Therefore, it should not be used in place of clinical breast exam and mammography.

When should I start having annual mammograms?

At the *present time*, age 40 years is recommended as the starting point in order to find cancer at an early and more treatable stage. These guidelines change .

What if the result of my mammography reveals a lump?

Mammography by itself cannot definitely tell whether a lump or other finding is benign (not cancer) or malignant (cancer).

- ❖ If a mammography finding is suspicious for cancer, a biopsy is needed to confirm that cancer is present.
- ❖ In a biopsy, the lump or a small sample of cells from the lump is removed and is reviewed by a Pathologist.

How do I prepare for a mammogram?

- ❖ The day you have a mammogram, do NOT wear powders, lotions, or deodorants. Most of these products have substances that can be seen on the X-ray and make it hard to read.

What are the risks of mammography?

You may be concerned about the risk of cancer from the radiation used in mammography.

- ❖ Mammography uses a low level of radiation. Having a yearly screening mammogram does not increase cancer risk.
- ❖ You may request a throat guard to protect your thyroid during this exam.

What is digital mammography?

Digital mammography is the newest type of mammography technique.

Instead of using film, the image in digital mammography is stored as a digital file on a computer and allows the image to be enlarged or enhanced or specific areas to be magnified.



What is a clinical breast exam?

- We will examine your breasts during routine annual well woman checkups.
- The exam may be done while you are lying down, sitting up, or both.
- You may be asked to raise your arms over your head.
- The breasts are first checked for any changes in size or shape.
- We also look for puckers, dimples, or redness of the skin.
- We then feel for changes in each breast and under each arm.
- The nipple may be gently squeezed to check for discharge.

What is the position of the National Cancer Institute (NCI) on screening mammograms?

The National Cancer Institute recommends that women in their forties or older get screening mammograms on a regular basis, every 1 to 2 years.

- Women who are at increased risk for breast cancer should seek medical advice about when to begin having mammograms and how often to be screened. (For example, a doctor may recommend that a woman at increased risk begin screening before age 40 or change her screening intervals to every year.)

What are the factors that place a woman at increased risk for breast cancer?

Every woman has some risk for developing breast cancer during her lifetime, and that risk increases as she ages. However, the risk of developing breast cancer is not the same for all women. These are the factors known to increase a woman's chance of developing this disease:

- **Personal History**: Women who have had breast cancer are more likely to develop a second breast cancer.
- **Family History**: **About 5 percent of women with breast cancer have a hereditary form of this disease.**
- The risk of getting breast cancer increases for a woman whose mother, sister, or daughter has had the disease; or who has two or more close relatives, such as cousins or aunts, with a history of breast cancer (especially if diagnosed before age 40).
- **Genetic Alterations**: Specific alterations in certain genes, such as those in the breast cancer genes
 - BRCA1 or BRCA2, make women more susceptible to breast cancer.
- **Abnormal Biopsy**: Women with certain abnormal breast conditions, such as atypical hyperplasia or LCIS (lobular carcinoma in situ), are at increased risk.
- **Other conditions** associated with an increased risk of breast cancer:
 - Women ages 45 or older that have at least 75 percent *dense tissue* on a mammogram are at elevated risk. (This is not only because tumors in dense breasts are more difficult to "see," but because, in older women, dense breast tissue itself is related to an increased chance of developing breast cancer.)
 - Women who *received chest irradiation* for conditions such as Hodgkin's disease at age 30 or younger are at higher risk for breast cancer throughout their lives and require regular monitoring for breast cancer.
 - A woman who has her *first child at age 30 or older* has an increased risk of breast cancer.

Recent evidence suggests that menopausal women who have *long-term exposure (greater than 10 years) to hormone replacement therapy (HRT)* **MAY** have a slightly increased risk of breast cancer.

About 80 percent of breast cancers occur in women over the age of 50; the number of cases is especially high for women over age 60.

Breast cancer is uncommon in women under age 40, but, if occurring, can be the most aggressive.

What are some of the limitations of screening mammograms?

- Detection does not always mean saving lives:
 - Even though mammography can detect most tumors that are 5 millimeters in size, (5 millimeters is about 1/4 inch) and some as small as 1 millimeter, finding a small tumor does not always mean that a woman's life will be saved.
 - Mammography may not help a woman with a fast-growing or aggressive cancer that has already spread to other parts of her body before being detected.
- False Negatives:
 - False negatives occur when mammograms appear normal even though breast cancer is actually present.
 - False negatives are more common in younger women than in older women.
 - The dense breasts of younger women contain many glands and ligaments, which make breast cancers more difficult to spot in mammograms. As women age, breast tissues become more fatty and breast cancers are more easily "seen" by screening mammograms.
- False Positives:
 - False positives occur when mammograms are read as abnormal, but no cancer is actually present.
 - For women at all ages, between 5 percent and 10 percent of mammograms are abnormal and are followed up with additional testing (a diagnostic mammogram, fine needle aspirate, ultrasound, or biopsy).
 - Most abnormalities will turn out not to be cancer.
 - False positives are more common in younger women than older women.
 - About 97 percent of women ages 40 to 49 who have abnormal mammograms turn out **NOT** to have cancer, as compared with about 86 percent for women age 50 and older.
 - But all women have to undergo follow-up procedures when they have an abnormal mammogram.
- DCIS: Over the past 30 years, improvements in mammography have resulted in an ability to detect a higher number of small tissue abnormalities called ductal carcinomas in situ (DCIS), abnormal cells confined to the milk ducts of the breast.
 - Some of these can eventually go on to become actual cancers, but many do not. Because it is not possible to predict which ones will progress to

invasive cancer, DCIS is commonly removed surgically; some are treated with mastectomy, some with breast-sparing surgery.

- There is disagreement among experts about the extent of surgery necessary for DCIS.
- Younger women have a higher proportion of DCIS than older women. Approximately 45 percent of breast cancers detected by screening mammograms in women ages 40 to 49 are DCIS compared with about 20 to 30 percent of those detected in women age 50 and older.

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