PATIENT EDUCATION

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Gynecologic Problems • EP178

Mammography and Other Screening Tests for Breast Problems

Most breast problems are minor, but some can be serious. The most serious, breast cancer, is a leading cause of cancer death in women.

***Screening tests** are used to find conditions in people who do not have signs or symptoms. This allows early treatment. Screening for breast problems includes **mammography**, clinical breast exams, and breast self-awareness. How often you should screen is based on your age and your risk factors for breast cancer.*

This pamphlet explains

- *why mammography is done*
- *who should have screening mammography and how often*
- *how mammography is done*
- *results and what they mean*
- *benefits and harms of having mammography*
- *how a clinical breast exam is done*
- *how to develop breast self-awareness*

Why Mammography Is Done

In the United States, a woman's lifetime risk of developing breast cancer is about 12%. This means one in eight women will develop breast cancer by age 75 years. More women are surviving breast cancer than ever before due in part to early detection through screening.

Mammography is the primary tool used to screen for breast cancer. Mammography uses X-ray technology to view the breasts. The images created are called a ***mammogram***. A doctor called a radiologist reads the images.

Mammography is done for two reasons: 1) as a screening test to 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 an ***obstetrician–gynecologist (ob-gyn)*** or other health care professional. This pamphlet focuses on screening mammography.

Mammography by itself cannot tell whether a lump or other finding is ***benign*** (not cancer) or ***malignant*** (cancer). If a mammography finding is suspicious for cancer, a follow-up test called a ***biopsy*** is needed to see if cancer is present. In a biopsy, the lump or a small part of it is removed and looked at under a microscope.

Who Should Have Screening Mammography

Screening recommendations are different for women at high risk of breast cancer and for women at average risk of breast cancer. A woman may be at high risk of breast cancer if she has one or more of the following:

Talking With Your Doctor

If you are 40 years or older, talk with your ob-gyn or other health care professional about when to start having mammograms and how often to get them. If your ob-gyn or other health care professional does not ask you about having mammograms, bring up the topic yourself. It may help to bring a list of questions. You also can take notes during your visit. You can start the conversation with these questions:

- Can we talk about the benefits and risks of mammography for me?
- What are my chances of having breast cancer?
- When should I start getting regular mammograms?
- How often should I get them?

You can ask more specific questions based on your age. If you are aged 40–49 years:

- What are the pros and cons of getting mammograms before I turn 50?

If you are aged 50–75 years:

- What are the pros and cons of getting mammograms every 2 years instead of every year?

If you are older than 75 years:

- Do I need to keep having mammograms?

As you talk, you may have some other questions:

- If I get a mammogram, how long will it take to get the results?
- Will you call me with the results?

You and your ob-gyn or other health care professional should share information, talk about your wishes, and agree on when and how often you will have breast screening. Together, you can decide what is best for you.

- a family history of breast cancer, ovarian cancer, or other inherited types of cancer
- ***gene*** changes linked to breast cancer, such as ***BRCA1 and BRCA2 mutations***
- a history of chest radiation treatments at a young age
- a history of high-risk breast biopsy results

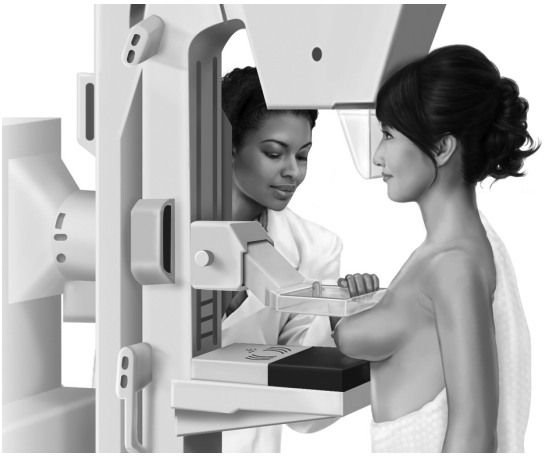
Women without these risk factors are at average risk. Average-risk women should be offered mammography starting at age 40 years. If they have not started screening in their 40s, they should begin having mammography no later than age 50 years. Screening should be done every 1 or 2 years until at least age 75 years.

You and your ob-gyn or other health care professional should talk together about what age to begin screening (see box "Talking With Your Doctor"). If you are older than 75 years, talk with your ob-gyn or other health care professional about whether you should continue having mammography. For women at high risk of breast cancer, screening may begin at a younger age, may be more frequent, and may involve additional types of screening tests, such as ***magnetic resonance imaging (MRI)***.

How Mammography Is Done

To get ready for the test, you will need to completely undress from the waist up and put on a gown. You will be asked to stand in front of the X-ray machine. One of your breasts will be placed between two flat plastic plates. You will feel firm pressure on your breast. The plates will flatten your breast as much as possible so that the most tissue can be viewed. The plates also hold your breast still so the images are not blurry. These steps will be repeated to take a side view of the breast. The test then is done on the other breast.

Screening Mammography



During a screening mammogram, the breast is placed between two plastic plates. The plates then are briefly compressed to flatten the breast tissue. Two views usually are taken of each breast.

The pressure of the plates often makes the breasts ache. This discomfort is brief. If you have periods, you may want to have the test done in the week right after your period. The breasts often are less tender at this time.

If you have ***breast implants***, tell your ob-gyn or other health care professional. Breast implants can make it more difficult to see certain parts of the breast. You also should mention your implants to the person who is doing the test. Extra care will be taken when the breast is compressed.

The day of your test you should not wear powders, lotions, or deodorants. Most of these products have substances that can show on the X-ray. They can make your mammogram hard to interpret.

Results and What They Mean

All radiologists use the same system (called BI-RADS) to classify mammography results. Your screening mammogram result will be given a score. BI-RADS scores are as follows:

0—More information is needed. You may need another mammogram or other kind of imaging test before a score can be given.

1—Nothing abnormal is seen. You should continue to have routine screening.

2—Benign conditions, such as cysts, are seen. You should continue to have routine screening.

3—Something is seen that probably is not cancer. A repeat mammogram should be done within 6 months.

4—Something is seen that is suspicious for cancer. You may need to have a biopsy.

5—Something is seen that is highly suggestive of cancer. You will need to have a biopsy.

Your screening mammogram report also may include comments about breast density. The breasts are made up of areas that produce milk, ducts that carry the milk to the nipple, and fibrous tissue and fat that give breasts their shape. When breasts are dense, they have more fibrous tissue and less fat. Breast density is a normal and common finding on a mammogram, but breast density may make it harder for a radiologist to see cancer. If your report says you have dense breasts, your ob-gyn or other health care professional may discuss other screening tests in addition to mammography.

Benefits and Harms of Having Mammography

Early detection of breast cancer with screening mammography may decrease the risk of dying from breast cancer. But like other screening tests, mammography is not perfect. Mammography may miss cancer even when it is present. If results do not show cancer but you do in fact have cancer, it is called a false-negative result. False-negative results can lead to delays in treatment.

Mammography also may show something that is thought to be cancer, but when results of follow-up tests are read, they show that you do not have cancer. This is called a false-positive result. Follow-up testing can be inconvenient and uncomfortable, and it can cause anxiety. In some cases, additional testing can lead to increased costs for the patient.

When deciding at what age to start screening and how often to be screened, it is important to keep the potential benefits and harms in mind. For women at average risk, starting screening at age 40 years prevents slightly more deaths from breast cancer than starting screening at age 50 years, but it leads to more unnecessary follow-up testing and false-positive results. Having screening every year also prevents more deaths from breast cancer than screening every 2 years, especially for women in their 40s, but at the cost of more unnecessary follow-up testing. At age 55, screening every 2 years appears to give a more equal balance between benefits and harms. You and your ob-gyn or other health care professional should discuss the options for screening mammography and make the decision that you are most comfortable with (see box "Talking With Your Doctor").

How a Clinical Breast Exam Is Done

Your ob-gyn or other health care professional may examine your breasts during routine checkups. This is called a clinical breast exam. For women who are at average risk of breast cancer and who do not have symptoms, the following are suggested:

- Clinical breast exam every 1–3 years for women aged 25–39 years

When to Have Breast Screening

If you are at average risk of breast cancer, follow these recommendations for screening:

	Mammography	*Clinical Breast Exam**	*Breast Self-Awareness*
Ages 25–39 years	Not recommended	Every 1–3 years	Ongoing
Ages 40 years and older†	Every 1–2 years	Every year	Ongoing

If you are at high risk of breast cancer, you will have enhanced screening. This may include starting mammography at an earlier age, having more frequent clinical breast exams, and having yearly MRI screening.

*These are suggested guidelines. You and your ob-gyn or other health care professional should discuss the options for clinical breast exams and make the decision that you are most comfortable with.

†If you are older than 75 years, talk with your ob-gyn or other health care professional about whether to continue having mammography.

- Clinical breast exam every year for women aged 40 years and older

You and your ob-gyn or other health care professional should discuss the options for clinical breast exams and make the decision that you are most comfortable with.

A clinical breast exam takes only a few minutes. The exam may be done while you are lying down or sitting up. The breasts are checked for any changes in size or shape. Your ob-gyn or other health care professional also may look for puckers, dimples, or redness of the skin. He or she may feel for changes in each breast and under each arm.

How to Develop Breast Self-Awareness

Breast cancer often is found by a woman herself. This happens in almost one half of all cases of breast cancer in women aged 50 years and older. More than 70% of cases in women younger than 50 years are found by women themselves. For this reason, it is important to develop an understanding of how your breasts normally look and feel. This is called breast self-awareness.

Breast self-awareness does not require you to examine your breasts once a month or with a precise method. Instead, it focuses on having a sense of what is normal for your breasts so that you can tell if there are changes—even small changes—and report them to your ob-gyn or other health care professional.

Finally…

Regular breast screening can help find cancer at an early and more curable stage. Screening also can find problems in the breasts that are not cancer. Breast screening includes mammography, clinical breast exams, and breast self-awareness. For the best results, follow the screening recommendations for your age group and personal breast cancer risk (see box "When to Have Breast Screening").

Glossary

Benign: Not cancer.

Biopsy: A minor surgical procedure to remove a small piece of tissue that is then examined under a microscope in a laboratory.

BRCA1 and BRCA2: Genes that function in the control of cell growth. Changes in these genes have been linked to an increased risk of breast cancer and ovarian cancer.

Breast Implants: Sacs filled with saline or silicone gel that are placed in the area of the breast.

Cysts: Sacs or pouches filled with fluid.

Gene: A segment of DNA that contains instructions for the development of a person's physical traits and control of the processes in the body. It is the basic unit of heredity and can be passed down from parent to offspring.

Magnetic Resonance Imaging (MRI): A method of viewing internal organs and structures by using a strong magnetic field and radio waves.

Malignant: A term used to describe cells or tumors that are able to invade tissue and spread to other parts of the body.

Mammography: A procedure in which X-rays of the breast are used to detect breast cancer.

Mammogram: An imaging technique in which X-rays of the breast are used to detect breast cancer. The image that is created is called a mammogram.

Mutations: Permanent changes in genes that can be passed from parent to child.

Obstetrician–Gynecologist (Ob-Gyn): A physician with special skills, training, and education in women's health.

Screening Tests: Tests that look for possible signs of disease in people who do not have signs or symptoms.

This Patient Education Pamphlet was developed by the American College of Obstetricians and Gynecologists. Designed as an aid to patients, it sets forth current information and opinions on subjects related to women's health. The average readability level of the series, based on the Fry formula, is grade 6–8. The Suitability Assessment of Materials (SAM) instrument rates the pamphlets as "superior." To ensure the information is current and accurate, the pamphlets are reviewed every 18 months. The information in this pamphlet does not dictate an exclusive course of treatment or procedure to be followed and should not be construed as excluding other acceptable methods of practice. Variations, taking into account the needs of the individual patient, resources, and limitations unique to the institution or type of practice, may be appropriate.

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