

What You Need to Know
Before Treatment About:
Breast Cancer

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What You Need to Know About Breast Cancer

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**What You Need to Know Before Treatment
About:**

Breast Cancer

**Michigan Department of Community Health
Cancer Prevention and Control Section**

Revised September 2008

PATIENT RECEIPT OF INFORMATION

Signing this document is NOT a consent to treatment of any kind.

I _____ hereby certify that I have
(PATIENT'S NAME)

this day _____, received my copy of the brochure,
(DATE)

“BREAST CANCER: WHAT YOU NEED TO KNOW BEFORE TREATMENT,”

given to me by _____ .
(PHYSICIAN'S NAME)

SIGNED BY

Signing this document bars a patient from subsequently bringing a civil action against the physician providing the brochure based on failure to obtain informed consent, but only in regard to information pertaining to alternative forms of treatment of breast cancer, and the advantages, disadvantages, and the risks of each method.

This Booklet Is for You

We put together this information for women like you who have been told that they have breast cancer. Although men also can develop breast cancer, it is very rare that they actually do. In fact, about **1,990 men** in the United States are diagnosed with breast cancer each year. That's why the information in this booklet is directed toward women.

You can show this information to your friends or family members.

We wrote this booklet to help women and their families and friends better understand breast cancer. We hope it will encourage all readers to learn more about this disease.

The booklet contains information on breast cancer, including:

- the symptoms of breast cancer;
- how it is diagnosed;
- the treatments that are available;
- how people live with this disease; and
- the medical terms you may want to know.

However, no booklet can answer all your questions, and no booklet can replace talks with doctors, nurses, and other members of your health care team.

You can use this information to ask questions.

In the front of this booklet is a list of questions that you may want to ask your doctors as you learn more about your disease. There are also questions included in specific sections of this booklet.

By law, a doctor was supposed to give this to you.

The Michigan Breast Cancer Informed Consent Law (Public Act 368 of 1978, as amended) requires Michigan physicians to provide this brochure to all persons who have been diagnosed as having breast cancer.

Let us know that you got this booklet.

Please sign the form in the front of this booklet. This will let us know that your doctor has followed Michigan law and done two things: 1) given you this booklet, and 2) explained to you the different ways in which your breast cancer can be treated.

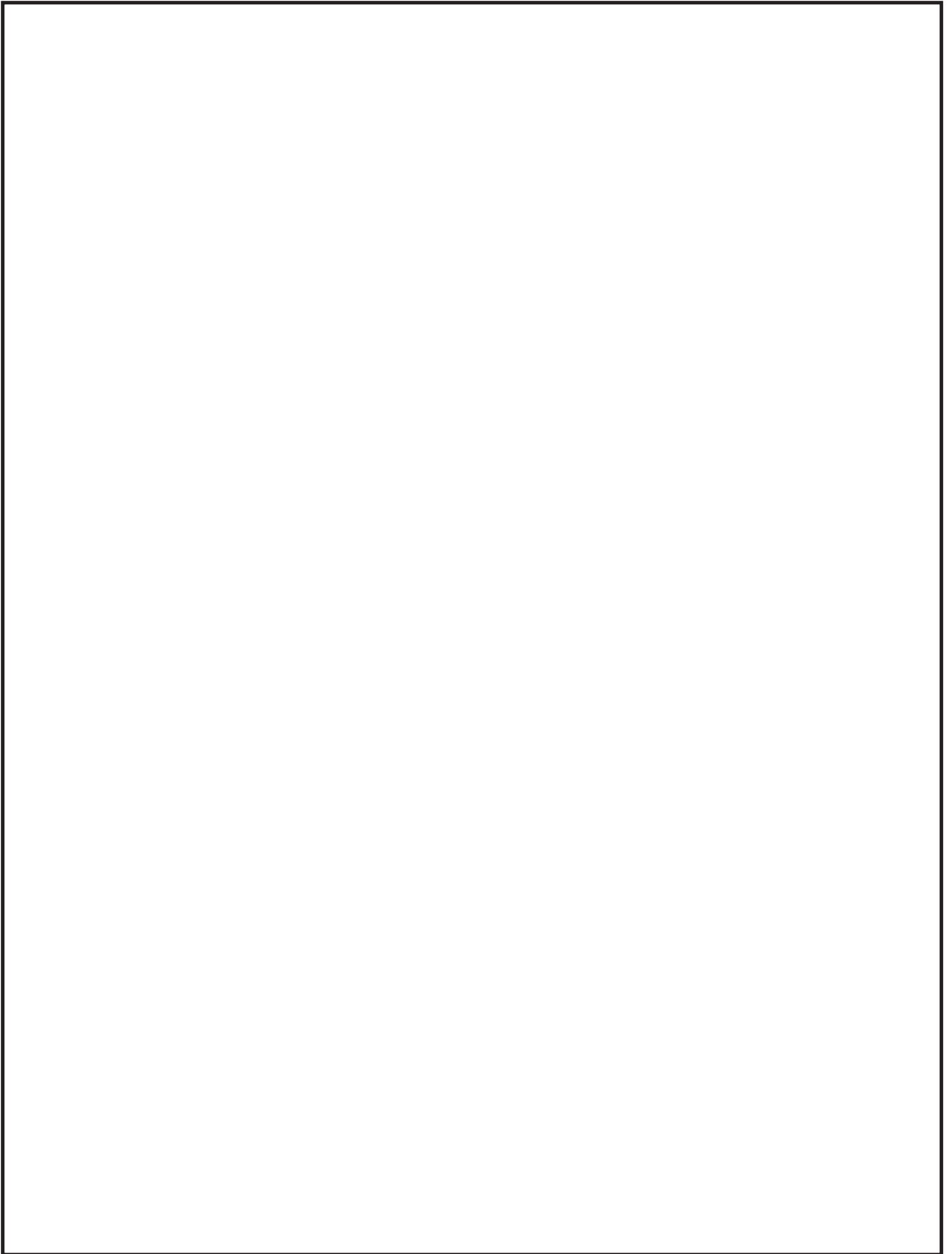


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QUESTIONS TO ASK YOUR DOCTOR

Do not be afraid to ask your doctors questions — even if your doctors seem to be in a hurry. Let them know you need to talk. You do have a right to understand.

First, look on these pages for good questions to ask. Find out what is involved in:

- **Getting diagnosed**
 - Having a biopsy (page 9)
 - Getting a second opinion (page 18)
- **Getting treated**
 - Having different kinds of surgery (page 22)
 - Having radiation therapy (page 32)
 - Having chemotherapy (page 34)
 - Having hormone therapy (page 39)
 - Joining a clinical trial (a research study for new treatments) (page 41)

Then, look at the questions below. You can ask these questions to find out more about:

- **Getting treated**
 - When it comes to the kind of treatment I have, do I have a choice?
 - If I can choose a treatment, what are my choices?
 - What are the benefits of each type of treatment?
 - What are the risks and side effects of each type of treatment?
 - Will I need to change my normal activities during treatment? If so, for how long?
 - Can I keep working during treatment?
- **Recovery and life after treatment**
 - How will I look after treatment?
 - Will I need to change my normal activities after treatment? If so, for how long?
 - Can I keep working after treatment?
 - Will I need help with healing and getting back on my feet? If so, can you refer me to a program that will help?
 - How often will I need to have check-ups?
 - Can you put me in touch with other women who have had a similar type of breast cancer treatment?
 - If I want to discuss problems my family and I have in coping with breast cancer, can you suggest someone?
 - Now that I have developed breast cancer, are my sister, daughter, and/or mother at risk, too? What should they be told? What should they do?

Finding Out About Breast Cancer

People Do Survive Breast Cancer

Breast cancer is serious, but more and more people do survive it.

Other than skin cancer, breast cancer is the most common *cancer* in women. But, with treatment, *survival rates* are higher than ever.

About 6,120 women in Michigan are diagnosed with breast cancer every year! When it is found and treated early, survival can be as high as 97-98 percent.

If you are worried, getting answers to your questions may help.

Finding out you have breast cancer can cause feelings of shock and stress, and you probably also have many questions. This booklet was written in the hopes of easing your stress by answering some of your questions.

Words that may be new to you are in *italics* in this booklet. If you read or hear a word that is new to you, you can turn to the section called “Medical Terms You Might Need to Know,” which starts on page (61), to find out what it means.

Remember, breast cancer can be treated.

It is very important that you know breast cancer is a very treatable disease. There is often more than one way of treating it. Take some time. Get as much information as you need to help you make the treatment choices that are best for you.

There is life after breast cancer.

You also need to understand that breast cancer is not a death sentence. This may be one of the most frightening things you have had to face, but with the right treatment, most women survive and go on to live happy, productive lives.

Thousands of women in Michigan who have undergone treatment for breast cancer will not die of breast cancer and, in fact, will live well into old age.

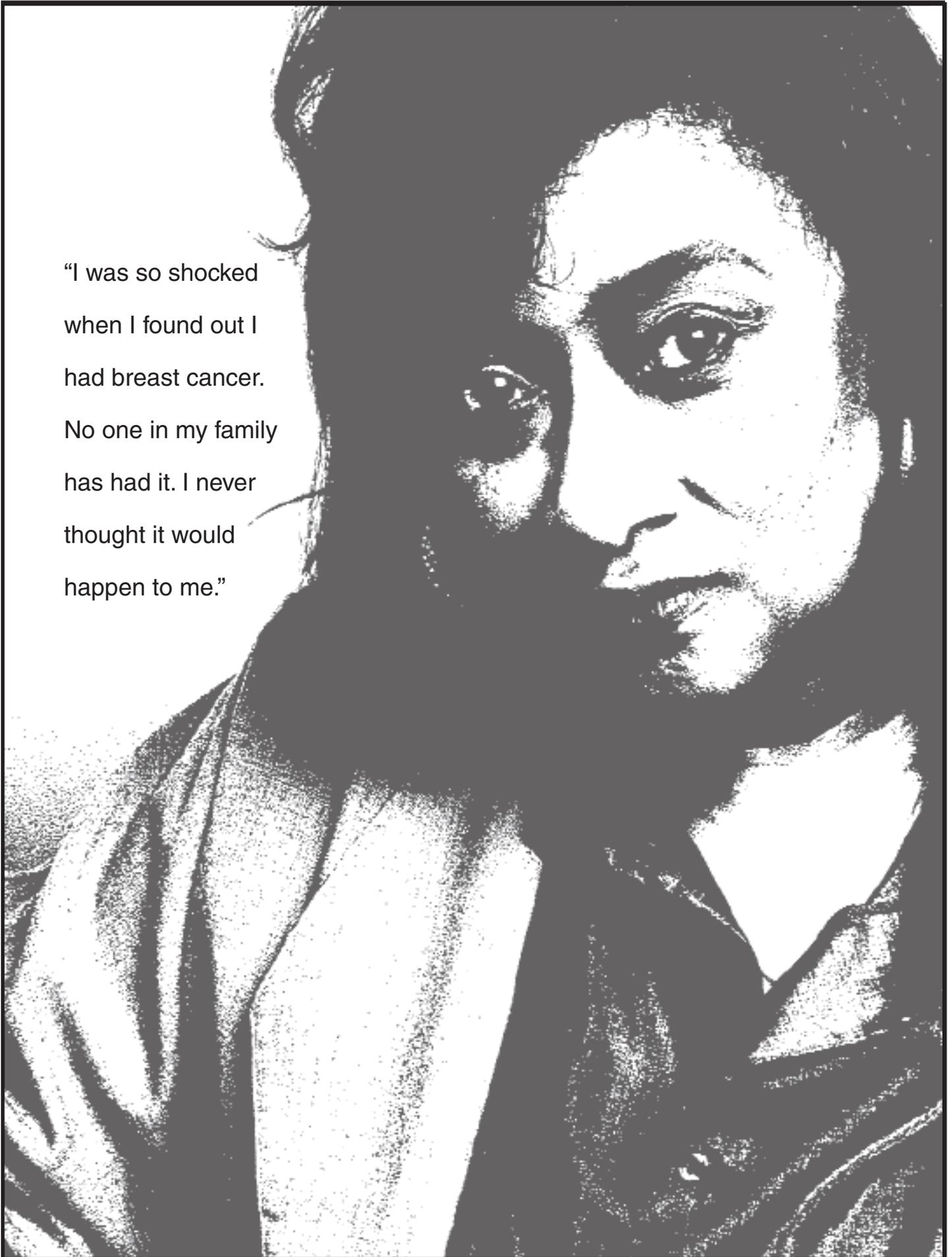
Why Did I Get Breast Cancer?

What Does NOT Increase Your Risk of Getting Breast Cancer?

Doctors cannot explain why one woman gets breast cancer and another one does not. But, they do know that:

- You cannot get breast cancer by bumping, bruising or touching your breast.
- Breast cancer is **not** contagious. No one can catch breast cancer from another person.
- Having cysts (*fibrocystic changes*) in your breasts does **not** increase your risk of getting breast cancer.
- Having large or small breasts does not increase or decrease your risk.

“I was so shocked
when I found out I
had breast cancer.
No one in my family
has had it. I never
thought it would
happen to me.”



What COULD Increase Your Risk of Getting Breast Cancer?

Scientists do not know exactly why breast cancer develops. But, they do know there are some things, called *risk factors*, which can increase a person's chance of getting the disease.

Research has shown that the following risk factors can increase an individual's chances of getting breast cancer:

- **Being a woman:** Being a woman is the main risk factor for getting breast cancer. White women are slightly more likely to develop breast cancer. African-American women are the second most likely, followed by Asian-American women, Hispanic women, and then Native American women.
- **Getting older:** Although most breast cancers are found in women over the age of 50, younger women do get breast cancer. The risk goes up for all women as they get older.
- **Having had breast cancer in one breast:** The risk of getting breast cancer in the other breast is a little higher after you have already had one breast cancer.
- **Having breast cancer in the family:** The risk of getting breast cancer increases for a woman whose mother, sister or daughter has had the disease. If one of these persons got breast cancer when they were 40 or younger, the risk to other family members is a little greater. Breast cancer in male family members also can increase the risk.
- **Carrying the gene:** Recent studies have shown that about 5-10 percent of breast cancers are passed down through families. Most of these breast cancers are caused by changes (*mutations*) in specific genes called the *BRCA1* and the *BRCA2 genes*. Women who inherit these changed genes have a very high risk, **(from 60 to 80 percent) of getting breast cancer by the time they reach 70 years of age.**
- **Having had cancer in one breast:** About 15 percent of women treated for cancer in one breast are likely to get cancer in the other breast later. But, remember; That means 85 percent of women treated for cancer in one breast do not get cancer in their other breast.
- **Female hormones:** Studies suggest that the longer a woman is exposed to estrogen (a female hormone), the greater the risk. That means you are at greater risk if you:
 - have your first child when you are over the age of 30;
 - have never had children;
 - start your first menstrual period before age 12;
 - stop your menstrual period after age 55; or
 - are on hormone replacement therapy **for more than 5 years.**
- **Obesity:** Fat cells produce estrogen, so women who are overweight, (mostly an increased risk after the menopause) are likely to have higher levels of estrogen in their bodies, increasing their risk.
- **Drinking alcohol:** Having more than an average of one drink per day can increase a woman's risk of getting breast cancer.

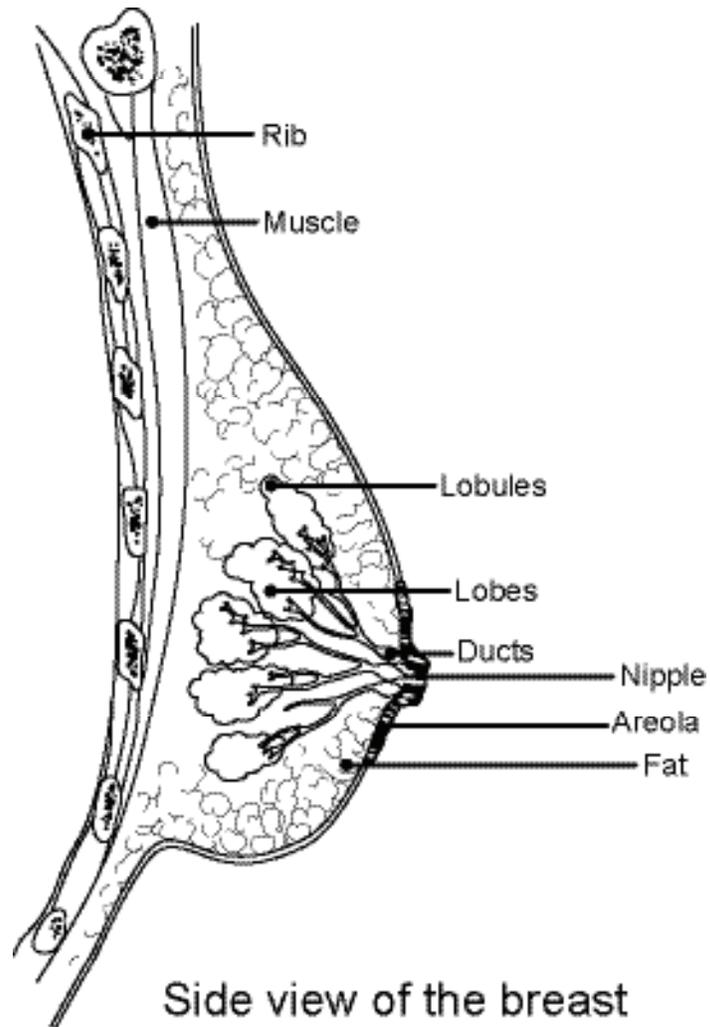
But, most women who develop breast cancer have none **or few of the risks listed above, other than being a woman and growing older. As you can see, much needs to be learned about what is causing most breast cancers.**

The Breasts

There are different types of breast cancer, and each of them is named for the location in which it is found in the breast. (See page 12 of this booklet.)

So, to understand discussions about breast cancer, it is helpful to know the main parts of the breast.

- **Lobes and lobules:** Each of your breasts has 15 to 20 sections, arranged like the petals of a daisy. These are called *lobes*. Each lobe has smaller *lobules*.
- **Ducts:** Your breasts have *ducts* that link the lobes and lobules. These ducts connect the lobes to your nipple.
- **Nipple:** The nipple is located in the center of the dark area of skin in the center of each breast. This dark area is called the *areola*.
- **Fat:** Fat fills the spaces between the other parts of your breast. The amount of fat determines the size of the breast.
- **Muscles:** Muscles cover your ribs and lie under your breasts. But, they are not part of your breasts. They hold your breasts up.



The Disease Called Cancer

There are more than 100 different kinds of cancer. There are at least 15 different kinds of breast cancer. They all have one thing in common: uncontrolled growth of cells that could break off and spread to other tissue.

- Normally, healthy cells make up your body's tissues, and they grow, divide, and replace themselves in an orderly way. This process keeps your body in good repair.
- But, sometimes, cells can lose the ability to control their growth.
 - These abnormal cells can grow too fast and without any order, making too much tissue and forming *tumors*.
 - These tumors can be *benign* or *malignant*.

Benign Tumors

- **These tumors are NOT cancer.**
- They will not spread to other parts of your body, and they are seldom a threat to your life.
- Often, they can be removed with surgery.
- If they are removed, they are not likely to return.

Malignant Tumors

- **These tumors ARE cancer.**
- They can spread **into** nearby healthy tissues and organs.
- Cancer cells also can break away from a malignant tumor and enter the bloodstream and the *lymphatic system*.
 - This process of cancer spreading to other parts of the body is called *metastasis*.
- If you have a malignant cancer tumor in your breast and the cancer cells have had a chance to spread before the tumor is removed, the cancer may return.
- That is why it is important to find these tumors as early as possible, before the cancer has had a chance to spread.

Diagnosis

If you have a symptom or screening test result that is abnormal, your healthcare provider must find out whether it is due to cancer or to some other cause. Your healthcare provider will ask about your personal and family medical history. You will also have a physical exam of your breasts (called *palpation*).

Your healthcare provider also may order a mammogram or other *imaging procedure*. These tests make pictures of tissues inside the breast. After the tests, your healthcare provider may decide:

1. No other exams are needed; or
2. You need to have a follow-up exam later on; or
3. You may need to have a biopsy to look for cancer cells.

Clinical Breast Exam

Your health care provider feels each breast for lumps and looks for other problems. If you have a lump, your healthcare provider will feel its size, shape, and texture. Your healthcare provider will also check to see if it moves easily. Benign lumps often feel different from cancerous ones. Lumps that are soft, smooth, round, and movable are likely to be benign. A hard, oddly shaped lump that feels firmly attached within the breast is more likely to be cancer.

Mammogram

Mammograms are x-ray pictures of the breast. Healthcare providers use them to learn more about unusual breast changes, such as a lump, pain, thickening, nipple discharge, or change in breast size or shape. Diagnostic mammograms (mammograms that take additional pictures of the breast) may focus on a specific area of the breast. They may involve special techniques and more views than screening mammograms.

Ultrasound

An *ultrasound* device sends out sound waves that people cannot hear. The waves bounce off tissues. A computer uses the echoes to create a picture. Your healthcare provider can view these pictures on a monitor. The pictures may show whether a lump is solid or filled with fluid. A *cyst* is a fluid-filled sac. Cysts are not cancer. But a solid mass may be cancer. After the test, your healthcare provider can store the pictures on video or print them out. This exam may be used along with a mammogram.

Magnetic Resonance Imaging

Magnetic resonance imaging (MRI) uses a powerful magnet linked to a computer. MRI makes detailed pictures of breast tissue. Your healthcare provider can view these pictures on a monitor or print them on film. MRI may be used along with a mammogram.

Biopsy

Your healthcare provider may refer you to a surgeon or breast disease specialist for a biopsy. Fluid or tissue is removed from your breast to help find out if there is cancer.

Some suspicious areas can be seen on a mammogram but cannot be felt during a clinical breast exam. Healthcare providers can use imaging procedures to help see the area and remove tissue. Such procedures include ultrasound-guided, needle-localized, or stereotactic biopsy.

Healthcare providers can remove tissue from the breast in different ways:

- **Fine-needle aspiration:** Your doctor uses a thin needle to remove fluid from a breast lump. If the fluid appears to contain cells, a pathologist at a lab checks them for cancer with a microscope. If the fluid is clear, it may not need to be checked by a lab.
- **Core biopsy:** Your doctor uses a thick needle to remove breast tissue. A pathologist checks for cancer cells. This procedure is also called a needle biopsy.
- **Surgical biopsy:** Your surgeon removes a sample of tissue. A pathologist checks the tissue for cancer cells.
 - An incisional biopsy takes a sample of a lump or abnormal area.
 - An excisional biopsy takes the entire lump or area.

If cancer cells are found, the pathologist can tell what kind of cancer it is. The most common type of breast cancer is ductal carcinoma. Abnormal cells are found in the lining of the ducts. Lobular carcinoma is another type. Abnormal cells are found in the lobules.

Questions to ask Your Doctor About Having a Biopsy

- What kind of biopsy will I have? Why?
- When and where will I have the biopsy?
- How long will it take? Will I be awake? Will it hurt? Will I have anesthesia? What kind?
- Are there any risks? What are the chances of infection or bleeding after the biopsy? Will there be a scar?
- How soon will I know the results?
- Will there be anything, such as lifting, that I should not do after the biopsy?
- If I do have cancer, who will talk with me about the next steps? When?

Taking Time to Decide What to Do

If the biopsy shows you have cancer, your doctor will suggest a treatment plan. This treatment may be scheduled to begin right away, or it may be scheduled for a later date.

Take some time to stop, think and get more information. Here's why:

- Treatment is something you cannot reverse.
- You have to live with it after it is done.
- You will want to feel like you made the very best choice you could for you and the kind of breast cancer you have.

Here's what you can do:

1. Get a second opinion if you want.

- Ask your doctor to recommend another provider who can give you a very good second opinion about your type of cancer.
 - **Many doctors will refer you to another expert in their field.**
 - There are breast cancer clinics you could be referred to where you would see several specialists on one day to get combined second opinions.
 - Most doctors do not mind if you ask to get another point of view.
- Call the American Cancer Society to find out where you can go for another opinion. (See "Sources for Information Contained in This Booklet" on page 59.)
- Look for another doctor who also knows about treating breast cancer:
 - who has the most up-to-date information about treating breast cancer;
 - who has a lot of experience treating breast cancer; and
 - who shows an interest in you and is willing to answer your questions.
- Check with your insurance company about your options in having them pay for a second opinion.

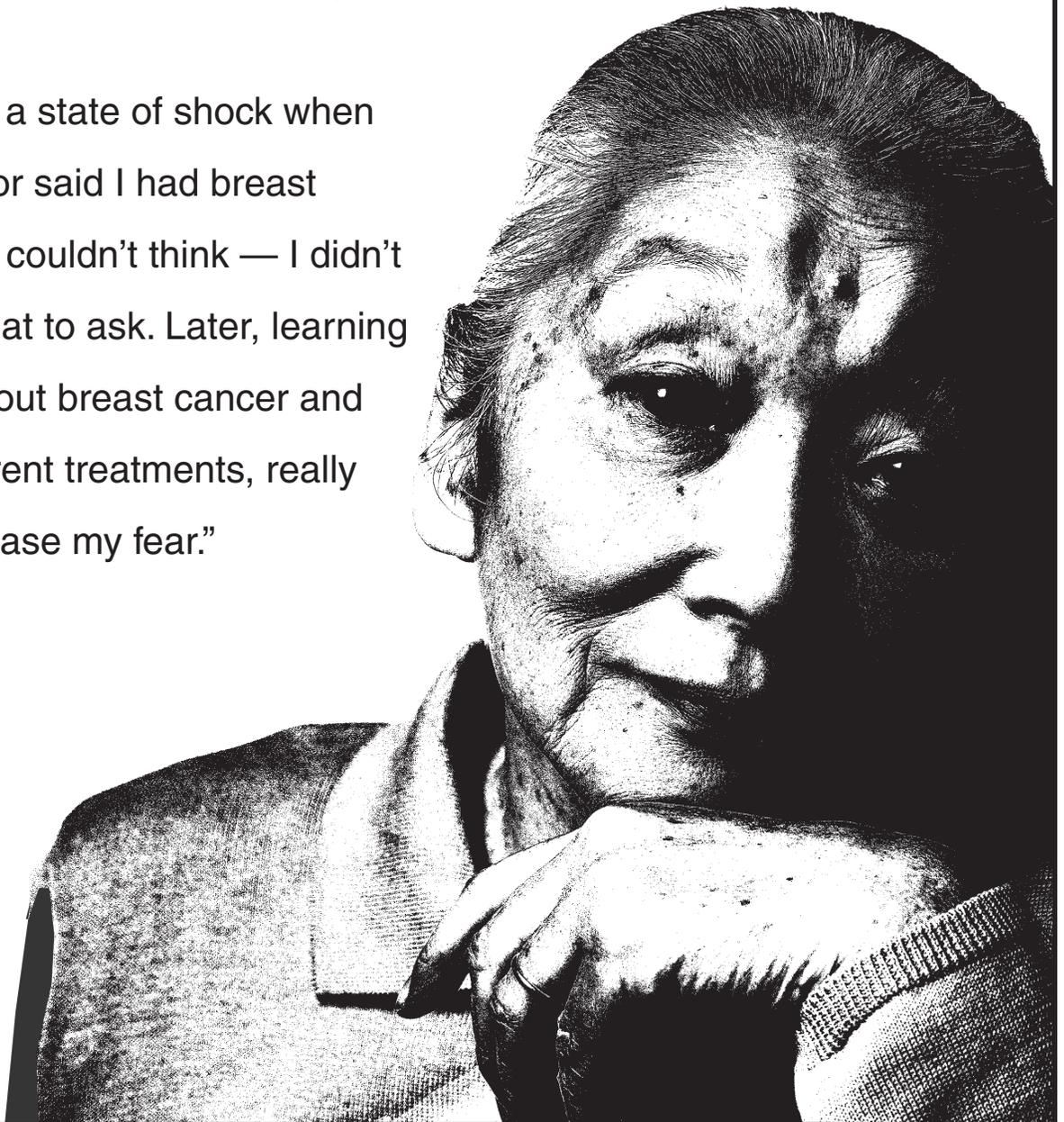
2. Do your own research.

- Talk with other people who are well informed about breast cancer. (See "Sources for Information Contained in This Booklet" on page 59.)
- Talk to breast cancer survivors.
 - Just remember that each person is different.
 - Since there are over 15 different types of breast cancer, what is good for one person, may not work for another.
- If you go to the Internet, remember that not all information on the Internet is reliable.
 - Get the facts from reliable sources.
 - A good place to start is to visit the World Wide Web sites listed on page 59 under "Sources for Information Contained in This Booklet."

3. Take some time to decide, but don't put off treatment for too long.

- Two to three weeks should not make a difference most of the time.
- If you do go for a second opinion:
 - Your two doctors may agree, or they may suggest different treatments.
 - If they suggest different treatments, you may take one doctor's advice over the other doctor's advice, or you may go back to one or both doctors with more questions.
 - **This might also be the time to go to a breast cancer clinic where you will see several specialists at one time who will give their combined opinions.**
- **The most important thing is** to get enough information about the kind of breast cancer you have and the treatment options. This will help you be able to make the best informed decision for you.

“I was in a state of shock when the doctor said I had breast cancer. I couldn't think — I didn't know what to ask. Later, learning more about breast cancer and the different treatments, really helped ease my fear.”



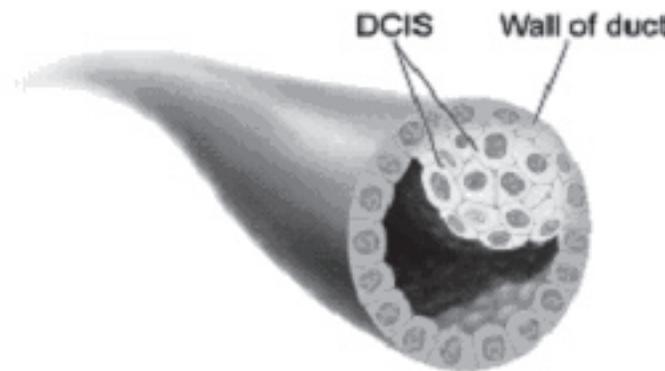
Types of Breast Cancer

There are several kinds of breast cancer. The most common types are:

- Breast cancer that **does not** spread, and
- Breast cancer that **can** spread.

Carcinoma in Situ (Cancer That DOES NOT Spread)

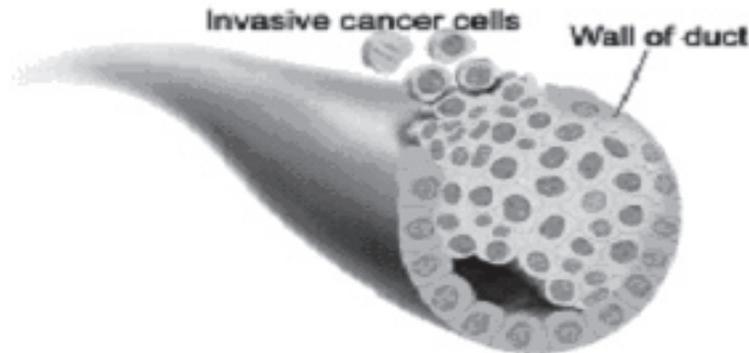
- This is cancer that has stayed inside the ducts or lobules where it began and has **not spread** to other cells.
- It is not considered invasive. But, it does mean changes have taken place in your body that increase the chance of getting an invasive cancer, later on in life.
- Death from this type of cancer is rare.
- There are two types of breast carcinoma *in situ*:
 - **Ductal carcinoma in situ**
 - < *Ductal carcinoma in situ* is located in the ducts that lead to the nipple.
 - < It is the most common type of non-invasive breast cancer.
 - < It is diagnosed when malignant cells are found inside the ducts.
 - < The cells have not spread through the walls of the ducts or into the fatty tissue of the breast.
 - **Lobular carcinoma in situ**
 - < *Lobular carcinoma in situ* is located in the lobular tissue (the lobes and lobules).
 - < It begins in the lobules, but does not go through the lobule walls.
 - < It is not breast cancer itself. But, it is considered a **risk factor** for the **development of invasive breast cancer in either breast.**



This picture shows ductal carcinoma in situ.

Invasive Cancer (Cancer that has started to grow outside the duct or lobule)

- **Invasive (or infiltrating) ductal carcinoma**
 - This cancer starts in a duct of the breast and then breaks through the wall of the duct into the fatty tissue of the breast.
 - It can spread to other parts of the body.
 - About 80 percent of all breast cancers in women are cancers that start in the ducts of the breast.
- **Invasive (or infiltrating) lobular carcinoma**
 - This cancer starts in the lobules and then breaks through the lobule walls.
 - It can spread to other parts of the body.
 - About 10 percent to 15 percent of all breast cancers are invasive cancers of the lobule.



**This picture shows cancer cells spreading outside the duct.
The cancer cells are invading nearby tissue inside the breast.**

Other Types of Cancer That Are Less Common

- *Paget's disease of the nipple*
 - In most cases, this type of breast cancer starts in a duct and spreads to the skin of the nipple.
 - This is a cancerous growth on the nipple that can **look** crusty and red with possible nipple discharge. You may feel burning or itching.
 - The nipple could also be pulled out or in.
 - This breast cancer only occurs in 1-3% of breast cancers
- *Inflammatory breast cancer*
 - *This type of breast cancer occurs in the lymph channels in the skin, causing the skin to be red, feel warm, and more thick. This breast cancer is often thought to be a breast infection in the beginning.*
 - The skin of the breast can look like an orange peel.
 - The breast can become larger, firmer, and may itch.
 - Inflammatory breast cancer is very rare, found in 1-3% of all breast cancers.

Understanding Your Pathology Report

What Is a Pathology Report?

The pathology report is the report that tells your doctor two things:

- Whether you have cancer, and
- If you do, what type of cancer you have.

The pathologist is a doctor who specializes in finding out what disease a person may have by studying cells and tissues under a microscope. The pathologist can tell whether or not the cells and tissue taken from your biopsy are malignant (cancerous) or benign (not cancerous).

A report is sent to your surgeon detailing the findings of this study. Your surgeon, and other doctors involved in your care, will use this report to help in making plans for your treatment.

Most pathology reports have your name listed either at the top or bottom of the report.

This is followed by specific information that is found in most reports of this kind.

Understanding Your Pathology Report

Although the information is precise and clear, the pathology report is written in a language for your doctor. If you want to understand more, you can ask your doctor to explain. You do not have to understand all the report says. Some people feel this is too much information and would rather skip this part. Parts of the pathology report include the following:

- **Demographics:** Patient and doctor information, such as name, address, birth date, and date of procedure.
- **Anatomical Pathology Diagnosis:** This is the most important part of the report. It includes the pathologist's diagnosis and all important information that will be needed for your treatment, including:
 - histology - the type of cancer and the arrangement of the cancer cells;
 - grade - how abnormal the cells appear and how aggressive the cancer appears to be;
 - stage - the size of the cancer and how far it has spread;
 - margin - the edge of tissue cut around the tumor; either no tumor or tumor at the margin.
- **Procedures/Addenda:** Estrogen/progesterone receptor status and HER2-neu status.
- **Clinical History/Pre-Operative Diagnosis:** The first diagnosis, before the pathologist took a closer look and made a more detailed diagnosis.
- **Procedure:** How the cells were collected (what kind of biopsy was done).
- **Specimen(s) Received:** What was received by the pathologist following the procedure and when it was received.
- **Gross Description:** Often called "the gross." What the pathologist saw, measured, and felt when examining the tissue with the naked eye (without a microscope).
- **Microscopic Description:** What the pathologist saw when examining the tissue under the microscope.

Stages of Breast Cancer

You may need more tests to help your doctor determine whether your cancer has spread.

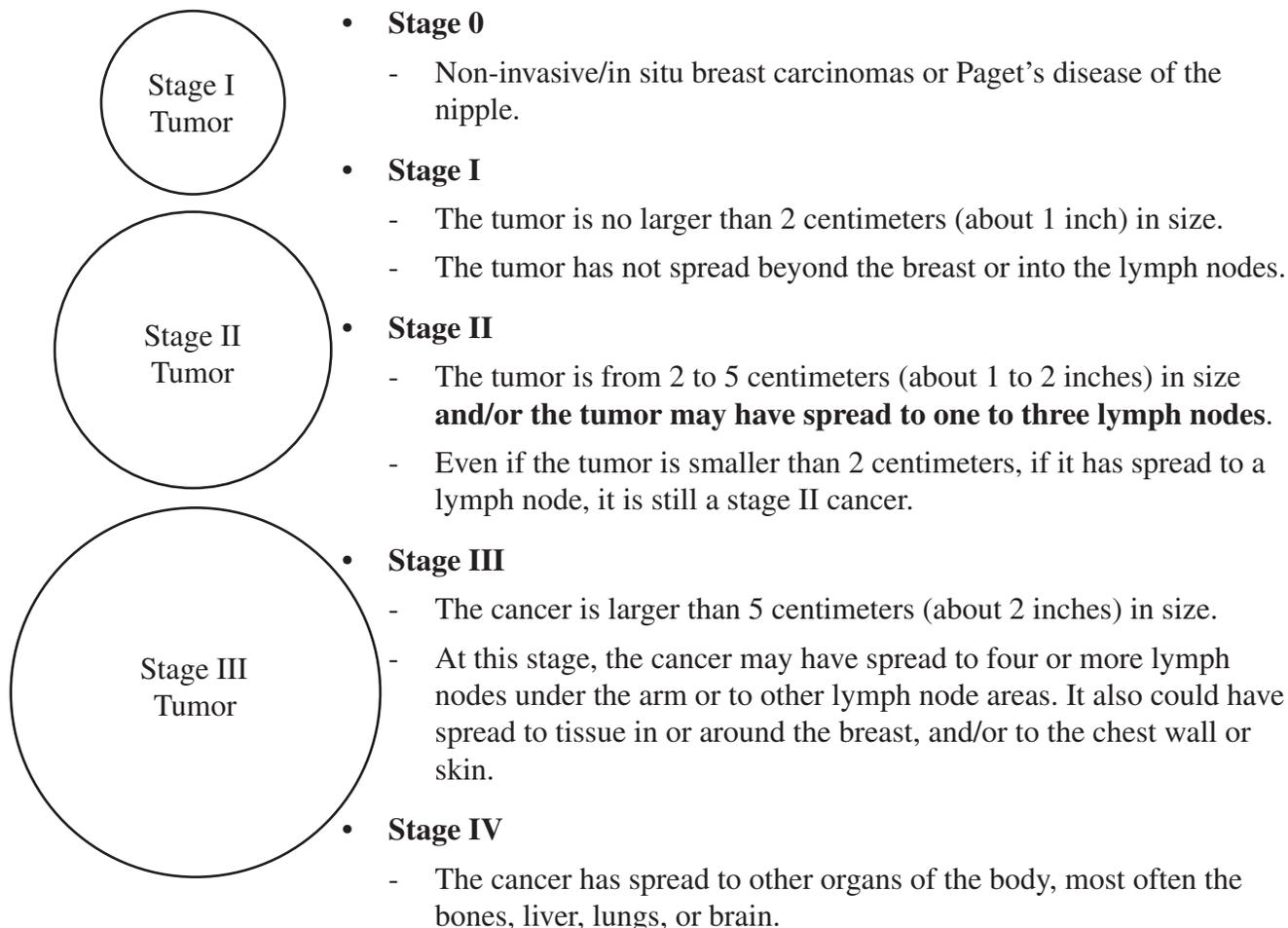
If, based upon your *biopsy*, you are diagnosed with cancer, he or she may order other special tests to learn more about your cancer. These tests will help to find out whether or not the cancer has spread from your breast to other parts of your body, **but there is not one test that can say for sure that the cancer has not spread.**

These tests may include:

- getting a sample of the lymph nodes in your breast and/or under your arm;
- chest X-rays;
- blood tests; and/or
- *scans* (bone scans, CT scans of the chest, abdomen or pelvis, MRI, and PET).

These tests help your doctor tell the extent, or *stage*, of your disease,

They are very important to help decide the best treatment for you. Doctors use the following system for saying **how big** the tumor is and **how far** it has spread. This is called **staging**.



Choosing Your Treatment

Today, we can catch cancer earlier and treat it better than we ever could treat it before. The following overview will give you a general idea of the things you need to know as you decide what to do.

Don't worry if you feel a bit confused by the new words and concepts presented here. Most people do, at first. This information will make it easier for you to understand your doctor's recommendations, help decide what is best for you.

The kind of treatment you can choose will depend upon many factors, including:

- the type of breast cancer you have;
- the specific features of your cancer cells;
- whether your cancer has spread;
- your age;
- whether you have been through menopause (sometimes called the “change of life”);
- your general health; and
- whether a hospital near you can do the treatment or whether you may have to travel far away for treatment.

There are Local treatments and Systemic treatments for breast cancer:

Local Treatments are treatments to get rid of the breast cancer in the breast.

- Local treatments include surgery and radiation.
- You don't always need both treatments. There are different options for each of these treatments that will be discussed .

Systemic Treatments are treatments that treat your whole body with medications.

- Systemic Treatments include chemotherapy drugs, hormone and targeted therapy drugs.
- You don't always need these treatments or you may need all three treatments. The different options for these treatments will be discussed.

Your doctor will talk to you about the treatment options you can choose for the kind of breast cancer you have. These options will be described later in the booklet.

You May Have a Choice

The majority of women will have a choice of various breast cancer treatments.

If your team of doctors decides you **can** have a choice of treatments, it means that one way of treating you and your particular cancer may work just as well as another.

- If you can have a choice, you will be able to decide which of these treatments — or combination of treatments — you would rather have.
- Your doctors will let you know the risks and benefits of each treatment.

You May Not Have a Choice

Because of your particular type of cancer, you may **not** have a choice of treatments.

Even if your team of doctors decides there is only one best way to treat your cancer, you can use the following information to help you understand more about your particular treatment.

- Before your treatment starts, you may want to ask a second doctor for an opinion about the kind of cancer you have and how it can best be treated.
- It is okay if you want to ask for a second opinion. **In most cases of breast cancer**, a short delay of two to three weeks will not reduce the chances that your treatment will be successful.

How to Get a Second Opinion

To get a second opinion, your doctor can do the following:

- Discuss your case with other doctors who treat breast cancer.
- Refer you to another doctor who also knows about breast cancer treatment.
- Refer you to a breast cancer clinic, where you can talk with a team of doctors and other health care providers to learn about breast cancer, breast cancer treatment options, and get recommendations from the entire team of physicians at one time.

The Specialists Who Help Treat Cancer

- Before making any decision or starting any treatment, you may wish to talk with each doctor who may be giving you a particular type of treatment.
- You have a right to get **second opinions** from other doctors if you have any doubts or questions about which treatment is best for you.
- You may want to consult with the following types of specialists:
 - A **surgeon** is a doctor who removes breast cancer with an operation.
 - A **radiation oncologist** is a doctor who gives breast cancer patients special X-rays to kill their cancer cells.
 - A **medical oncologist** is a doctor who selects drugs that either kill cancer cells or stop them from growing.
- You are entitled to know and compare all your choices.
- No competent doctor will object to your listening to another viewpoint.

Questions to Ask Your Doctor Before You Get a Second Opinion

1. Could you give me the names of specialists you think I should see? (You also may want to check your insurance coverage to be sure the names given to you are doctors that are on your insurance plan. If they are not, you may have to make other arrangements for payment before you see a doctor that is not part of your insurance plan.)
2. Is there an entire breast cancer **team** in the hospital where you practice? Do they have a breast cancer clinic of specialists to give treatment recommendations?
3. Tell me about your experience in dealing with breast cancer. What about the other doctor you are recommending? What is his or her experience with breast cancer?



Types of Breast Cancer Treatments

As has been mentioned previously, there are several ways to treat breast cancer, but all options can be divided into two main groups of treatments: Local and Systemic.

1. Local treatments treat the breast area only.

Local treatments get rid of cancer cells **in just the breast area**. These treatments help to get rid of cancer where it starts and begins to spread — the breast and the underarm area.

The two local treatments are:

- surgery
- radiation therapy

2. Systemic treatments flow through the whole body.

Systemic treatments get rid of cancer cells in the rest of the body. These treatments are helpful when the cancer has spread **or has the risk of having spread beyond the breast**.

Systemic treatments are:

- chemotherapy
- hormone therapy
- targeted therapy

Treatments may be combined or used alone, depending upon the type of cancer you have, the stage of your cancer, your age, hormone status, *Her-2neu Status* and other factors.

- **Systemic treatment before local treatment:**
 - Sometimes people may need a systemic treatment (such as chemotherapy) **before** a local treatment (such as surgery).
 - In this case, systemic treatment would be done to shrink the tumor **before** the surgery is done.
- **Systemic treatment after local treatment:**
 - Other people may have a systemic treatment (chemotherapy, hormone therapy or targeted therapy) **after** their local treatment (surgery and/or radiation therapy).
 - In this case, systemic treatment would be done to prevent cancer from coming back after the surgery or radiation therapy.
- **Systemic treatment alone:**
 - Systemic treatment also can be used alone.
 - When it is used alone, systemic treatment would be done to treat cancer that has spread.

You may want to try a new treatment in a research study.

- New and old forms of breast cancer treatment are always being tested, evaluated, and improved through research studies called *clinical trials*. **Generally, clinical trials for cancer compare the standard treatment with a possible new treatment.**

(See page 41 for more about clinical trials.)

- If your breast cancer has just been diagnosed, you may want to ask your doctor if being part of one of these clinical trials would be right for you.
- **You may be able to have more options for treatment by being in a clinical trial.**

Treatment Choices — Surgery

What to do? Remove the whole breast or just remove the lump? Here is what research has shown:

- **Women who just have the lump removed and then have radiation therapy live just as long as women who have their entire breast removed.**
- Studies continue to show this even after **more than 25 years** of research on those women.
- That means women who need surgery often can choose between having:
 - A *lumpectomy*, in which just the lump (the tumor), not the entire breast, is removed (this is also called *breast conserving surgery*), or
 - A *mastectomy*, in which the entire breast is removed.

Lumpectomy

A lumpectomy removes just the lump (the tumor that has the cancer) and a rim of normal tissue around the lump, not the entire breast. This means you can conserve or save your breast.

- Whenever possible, a lumpectomy is the recommended treatment.

How a Lumpectomy is Done

- A surgeon removes the breast lump and the area right around it to be sure that all of the cancer is removed. This area around the lump is called the **margin**. It is the edge of the normal tissue.
- If cancer cells are still at the margin of the tissue that's been removed, the surgeon can do another surgery to remove them.
- Most of the time, doctors will want you to have radiation therapy after a lumpectomy. This is to try to ensure that any cancer cells that may have spread to an area near the breast will be killed.

Advantages of a Lumpectomy

- Your entire breast will **not** be removed in a lumpectomy. The surgeon will remove only enough of your breast to get rid of the lump and an edge of normal tissue around it.
- It saves your body image and you can wear the same bras you have.
- Recovery from surgery is usually shorter.
- It may be easier to accept emotionally.

Disadvantages of a Lumpectomy

- You will need additional treatment with radiation therapy.
- The breast could be a little smaller.
- There could be a small change in the skin color and texture.

Reasons Not to Have a Lumpectomy

Most women would want to keep their breast, if possible. Doctors agree. But, there are some reasons not to have surgery that saves your breast:

- **Reasons that have to do with cancer:**
 - You have a very large tumor.
 - You have two or more areas with cancer.
 - You have already had radiation to the breast or chest area.
 - Your mammograms suggest that there may be very small spots of cancer throughout your breast (called diffuse microcalcifications).
- **Other reasons:**
 - You have a body connective tissue disorder that would make your body more sensitive to the side effects of radiation.
 - You are pregnant - **you cannot have radiation during a pregnancy.**
 - You do not think you will like the way your breast will look after a lumpectomy; ie: when the tumor is under the nipple, the nipple and tissue in the middle of the breast would have to be removed to do a lumpectomy.

Mastectomy

There are two types of mastectomies: 1) total simple mastectomy, and 2) modified radical mastectomy.

Total Simple Mastectomy

- In a *total simple mastectomy*, the entire breast is removed, along with the nipple and some skin.
- The lymph nodes are not removed.

Modified Radical Mastectomy

- In a *modified radical mastectomy*, the entire breast is removed, along with the nipple, some skin, and some underarm lymph nodes.
- The muscles are not removed.

Advantages of a Mastectomy

- The surgery removes about 95% of the breast tissue, lowering the risk of the cancer coming back in that breast.
- Radiation therapy is needed in only special circumstances.

Disadvantages of a Mastectomy

- Your entire breast and some of your surrounding skin will be removed.
- You would need more surgery to have breast reconstruction or need a breast form to restore your body image.
- You may feel unbalanced after surgery, especially if you have large breasts
- You may have arm swelling if doctors also removed some of the lymph nodes under your arm (called an axillary node dissection).
- **Recovery time is slightly longer than after a lumpectomy.**

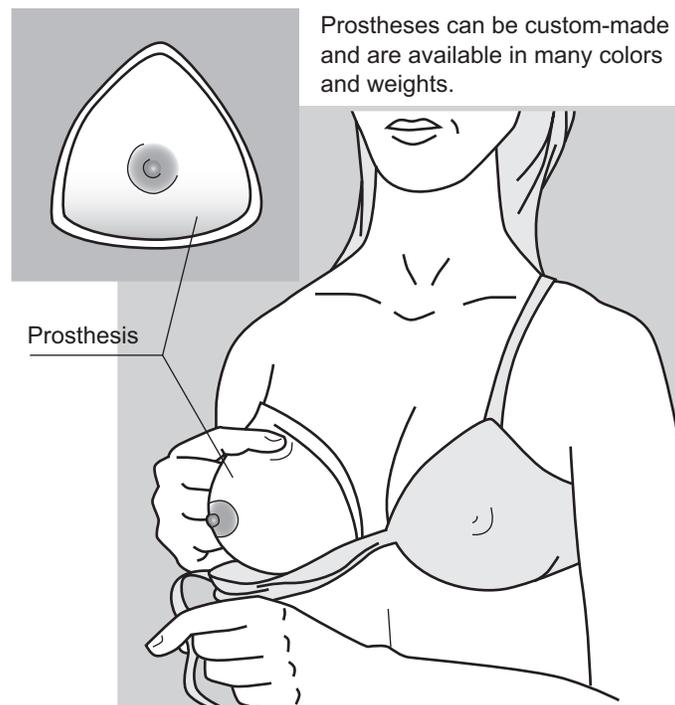
What is best for you?

- Each choice has its advantages and disadvantages. What is right for one woman may not be right for another. **Be sure to get all the facts about the kind of breast cancer you have and know if you are able to have either kind of surgery.**
- Remember that for most women, having a lumpectomy followed by radiation gives you the same survival as having a mastectomy.
- Having a lumpectomy preserves the way your breast looks, but you need to devote the time to come for radiation treatments.
- If you would choose to have a mastectomy, there are breast forms you can wear and/or you could have breast reconstruction.

Breast Reconstruction

Sometimes, women choose to have their breast rebuilt. This is called *breast reconstruction*. Other women choose to wear a breast form, called a prosthesis. What is important to know is that you have choices, and what is best for one person may not be for another.

- Today, almost any woman can have reconstruction of her breast.
- Breast reconstruction may be done at the same time the breast is removed. (This is called immediate reconstruction.)
- Breast reconstruction also can be done at a later time. (This is called delayed reconstruction).
- If you think you may want to have your breast rebuilt, talk with a plastic surgeon **before** your mastectomy.
 - Be aware that there are different ways to rebuild the breast, either using implants or transferring some of your body tissue to rebuild the breast.
 - The plastic surgeon will discuss these different ways with you, and let you know which options to rebuild the breast would work best for you and what it could look like.
 - If you decide you want reconstruction done, the plastic surgeon will work closely with your surgeon.



Questions to Ask Your Doctor About Having a Lumpectomy

1. Is a lumpectomy something I could choose to have? Why or why not?
2. Will a lumpectomy give me the same chance of the cancer not returning, as a mastectomy?
3. How much breast tissue will be removed?
4. How will my breast look after treatment? Can you show me pictures?
5. Where and how big will the scar be?
6. How much pain should I expect in the first few days after the procedure?
7. Do I need to arrange to have someone help me with daily activities?
8. How long before I can go back to my regular work and my regular activities?
9. Will there be any long-term effects of a lumpectomy?

Questions to Ask Your Doctor About Having a Mastectomy

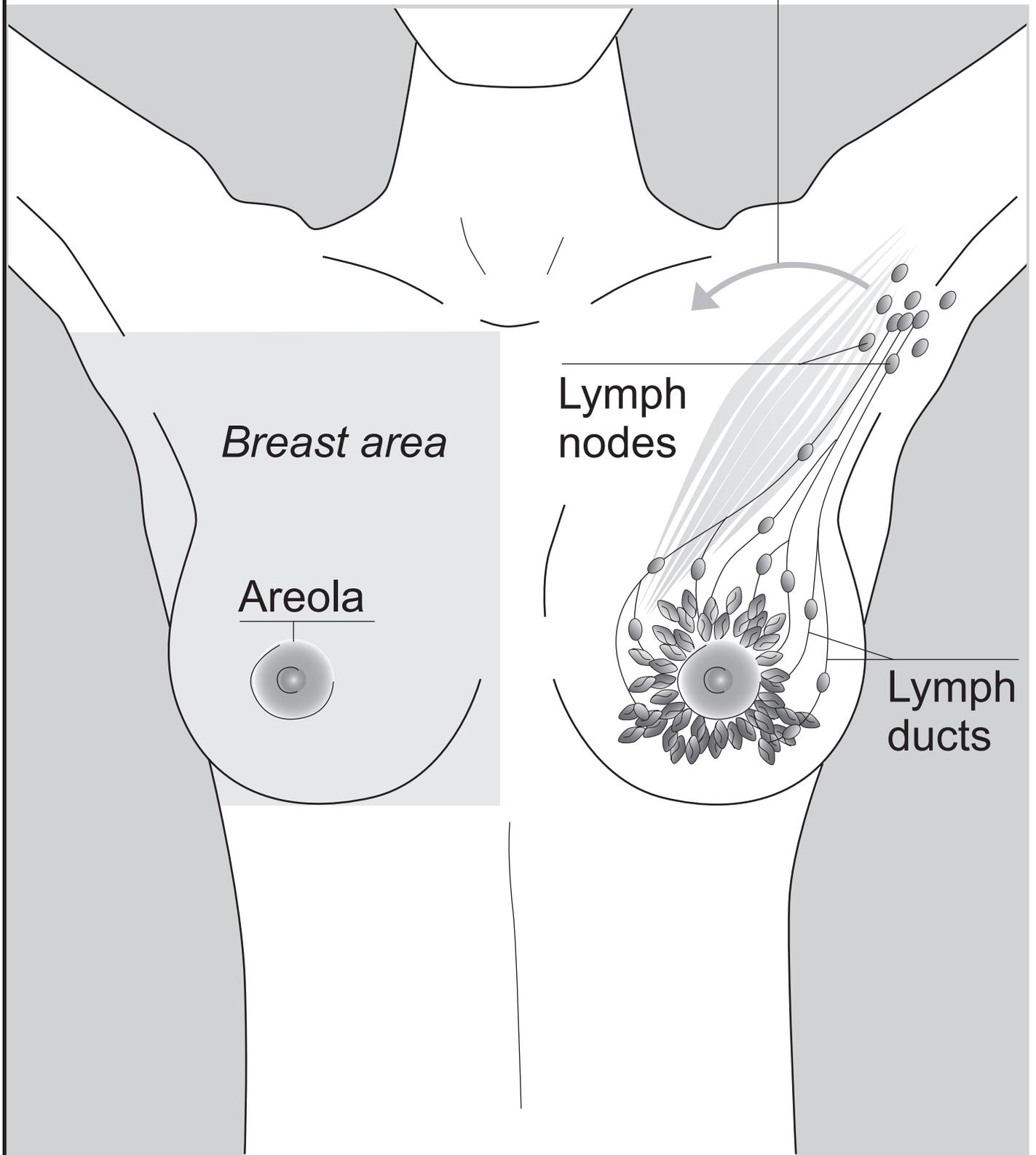
1. Is a lumpectomy an option for me instead of a mastectomy? Why or why not?
2. Does a mastectomy decrease the chances of the cancer coming back?
3. How will I look after a mastectomy if I decide against reconstruction?
4. Can you show me pictures?
5. How much pain should I expect in the first few days after the procedure?
6. Do I need to arrange to have someone help me with daily activities?
7. How long before I can go back to my regular work and my regular activities?
8. Can you refer me to a plastic surgeon so I can discuss what I can do to change the way my breast will look? (This can involve surgery to reconstruct or rebuild the breast.)
9. What kind of reconstruction procedure do you think would be best for me?
10. Who can I talk to about my concerns related to appearance, dating, pregnancy, etc.?

Lymph Node Surgery

Why Lymph Node Surgery Is Done

- Whether you have had all or part of your breast removed, if you have an invasive breast cancer, your doctors need to know whether the cancer has spread to your lymph nodes. Lymph nodes drain fluid into your blood stream and are thought to be the way most breast cancers can spread.
- If you have cancer cells in the lymph node(s) this does increase the chance that cancer cells have spread through the blood stream to other parts of the body.
- Women who have a type of cancer that does not spread (such as ductal carcinoma *in situ* or lobular carcinoma *in situ*) usually do not need their lymph nodes checked.

Lymphatic fluid returns
to main circulation



How Lymph Node Surgery Is Done

The kind of lymph node surgery depends on each person. If there is no sign that the lymph nodes are large under the arm or that the cancer has spread, most women can have the preferred method which is a *sentinel lymph node biopsy*, as this procedure has fewer side effects.

Sentinel Lymph Node Biopsy

- Most surgeons offer the procedure called sentinel lymph node biopsy as a way to determine whether cancer has spread to the lymph nodes.
- During this type of surgery, the surgeon will inject a blue dye and a radioactive substance around the tumor.
- The lymphatic fluid in that area will carry the radioactive substance and/or dye to the first node(s) in its path (these are called the sentinel lymph node(s)). The dye will help the surgeon locate the sentinel node(s).
- Once the sentinel node(s) has been identified, the surgeon removes just those particular lymph node(s).
- The pathologist will take a close look at the sentinel nodes to see if **cancer has spread there**.
- If no cancer cells are found, the surgeon can assume that the other nodes are free of cancer, as well and will not need to do a full axillary lymph node dissection (removing 10 to 20 lymph nodes). This means you will not **run as great a risk of damage to nerves and lymph ducts, which often can occur when some axillary lymph nodes are taken out**.
- This kind of surgery is less likely to make your arm swell. That is because the surgeon just removes the sentinel node(s) instead of several more lymph nodes under your arm.

Axillary Lymph Node Dissection

- This surgery can be done through a separate small incision in the armpit if the sentinel lymph nodes have cancer cells at the time of a lumpectomy. It also can be done through the main surgical incision at the time of a mastectomy or lumpectomy.
- The surgeon will remove a portion of tissue that has 10 to 20 lymph nodes in it.
- The tissue that is removed will be sent to the pathologist for examination.
- Each node will be examined under the microscope to see if there are any cancer cells.
- Your doctor will receive a pathology report three to 10 days after surgery. This report will let your doctor know if there were any positive lymph nodes, (had cancer cells in them).
- This kind of lymph node surgery takes about an hour. The surgeon tries to avoid injuring one of several important nerves that pass through this area.

- After the surgery, a drain may be placed into the armpit to help remove blood and fluid that drains out from the operated area.
- You will have to care for the incision and the drains the same as you will have to care for your lumpectomy or mastectomy.
 - You will need to keep it dry until the incision begins to heal and the drains are removed.
 - The drains may be in place from three to six days.
- This kind of surgery **will increase the risk of your arm swelling, though the majority of women will not have this problem.** (See page 31 to find out more about swelling of the arm and what to do if it happens.)

After Lymph Node Surgery

Lymph nodes drain fluid and send white blood cells to help you heal. With some of them gone, you have a risk of having some side effects. If you only have the sentinel node(s) removed, side effects are much less likely to occur, and if they do, they are not as great as they can be if you have more axillary lymph nodes removed. Possible side effects include:

- **Numbness**
 - You may have numbness and tingling in your chest, under your arm, and in your shoulder and arm.
 - These problems usually go away within a few weeks, but some numbness may be permanent.
 - The numbness should not interfere with your normal daily activities.
- **Shoulder stiffness**
 - The skin in your breast area may feel tight, and the muscles of your arm and shoulder will feel somewhat stiff.
 - Your doctor, nurse, or physical therapist can recommend exercises to help you regain movement and strength in your arm and shoulder and to help reduce any pain and stiffness in your neck and back.
 - Carefully planned exercises should be started as soon as your surgeon says you are ready, often within a day or so after surgery.
 - The first exercises you do will be gentle, and you will be able to do them in bed.
 - Gradually, your exercises will become more active.
 - Regular exercise should become part of your normal activities.
 - Most patients regain full movement and strength within a few months.
 - If you have a mastectomy and immediate breast reconstruction, your exercise needs will be slightly different than if you had not had the immediate breast reconstruction. Ask your plastic surgeon.
 - Your plastic surgeon and your surgeon will explain the best exercises for you.

- **Possible swelling in the arm and hand**
 - The flow of lymph fluid in that arm will be slowed, since some of the lymph nodes have been removed.
 - In some women, this means that fluid builds up in their arm and hand, causing swelling. This is called *lymphedema*.
 - The removal of lymph nodes also means that you may be **more** likely to get an infection in your arm.
 - Lymphedema can start right away after surgery, or months or years later.
 - Do not ignore feelings of tightness or swelling in the arm. Call your doctor if this happens.
 - Most women do not have a big problem with lymphedema. About 13% of women who have axillary nodes removed may have some problems with lymphedema and about 5% of women who have the sentinel node surgery. However, since no one can predict who will get it or when, all women who have had lymph node surgery, need to know about the risks.

What to Do To Lower the Risk of Lymphedema (Arm Swelling)

- To reduce or prevent fluid build-up after surgery, you can:
 - Do certain exercises your doctor or a physical therapist will show you.
 - Rest with your arm propped up on a pillow so that your arm is raised above the level of your heart.
- To prevent infections and protect your arm and hand on the treated side:
 - Avoid having blood drawn or injections or vaccinations given in that arm.
 - Avoid having blood pressures taken on that arm.
 - Wear gloves when gardening.
 - Protect the arm from sunburn, burns while cooking, and harsh chemicals.
 - Use insect repellent to avoid bites and stings.
 - Avoid tight elastic sleeves or jewelry on that arm.
 - Carry heavy purses or packages on the other arm.
 - Use an electric shaver for your underarms.
 - If you get a cut, wash it right away, and then use an antibacterial medication and cover it.
 - Check for redness and soreness. If you see any, report it to your doctor immediately.
- If lymphedema becomes a problem later on, you should tell your doctor, who may suggest other solutions.

Treatment Choices — Radiation Therapy

In radiation therapy, a radiation oncologist uses a beam of high energy rays to destroy cancer cells that might remain in the breast area after surgery.

How Radiation Therapy Is Done

Radiation therapy can be done in one of these ways:

1. External beam radiation

In external radiation treatment, the radiation comes from a machine **outside** your body. The radiation is given to your entire breast.

2. Brachytherapy

Is internal radiation, where the radiation is actually put inside your breast. There are two ways it can be done:

- *Interstitial catheters* - small tubes are placed in the breast around where the cancer was removed. Radiation can be given into these tubes.
- *Mammosite technique* - a balloon, with a thin tube attached, is placed inside the breast when the lumpectomy is done. The balloon is inflated and the radiation is put inside the balloon through a tiny tube controlled by a computer.

Doctors may use more than one type of radiation therapy for some women, depending upon their cancer.

An extra boost of radiation is usually given to the tumor site. The boost may be either external or internal using one of the techniques discussed above.

Advantages of Radiation Therapy

- Your breast will not have to be removed.

Disadvantages of Radiation Therapy

- Treatment with external radiation is usually done five days a week for six to seven weeks.
- Treatment with mammosite radiation can usually be done in one week.
- Radiation therapy is usually done only at large hospitals or medical centers. So, you may have to travel outside your community for treatment.
- If you are pregnant, you cannot have radiation therapy.
- If you have a collagen-vascular disease, you may not be able to have radiation therapy.

Effects of Radiation Therapy Treatment

- You may become tired as the therapy continues, and you may need to rest more than usual.
- Skin reactions in the breast area, such as reddening that looks like a sunburn, are common. So skin care is important at this time. But, you should not use lotions or creams on your skin **except those your radiation oncologist has you use.**
- There may be long-term changes in the appearance and texture of your breast and the skin over your breast.
- You can have arm swelling if radiation is given to the armpit area. This is because radiation may affect lymph node drainage.

Questions to Ask Your Doctor About Radiation Therapy

1. Why do I need radiation therapy?
2. How many treatments will I need?
3. How is the radiation oncologist involved if therapists give the radiation treatments?
4. How will I know if the treatments are working?
5. Can I continue my usual work or exercise schedule?
6. Can I miss a few treatments?
7. Can I arrange to be treated elsewhere if I am traveling?
8. What side effects, if they occur, should I report right away?
9. Can I expose the treated area to the sun?
10. Will I be able to get pregnant and have a child after treatments?
11. Can I wear a bra during treatments?

Treatment Choices — Chemotherapy

Chemotherapy is treatment with drugs (chemicals), given by mouth or into a vein. These drugs are used to kill cancer cells.

Why Chemotherapy Is Done

- Chemotherapy is a *systemic therapy*. Unlike a local therapy, it travels through the bloodstream to kill cancer cells anywhere they may be in your body.
- If you have chemotherapy **after** surgery, it is called *adjuvant therapy*.
 - It is used to kill hidden cancer cells.
 - These cells usually do not cause symptoms or show up on X-rays or tests, but they can start new tumors in other parts of the body.
 - Chemotherapy can kill these cells.
- If you have chemotherapy **before** surgery, it is called *neo-adjuvant therapy*.
 - Sometimes, oncologists give patients systemic chemotherapy before surgery to try to shrink the tumor.
 - This could allow a woman who would have needed a mastectomy to possibly have *breast conserving surgery/ lumpectomy*, and avoid losing a breast.

How Chemotherapy Is Done

There are many different drugs that are used to kill cancer. Often, several drugs are given together during chemotherapy.

- Your doctor will talk to you about which drugs are best for you and your type of breast cancer.
- Doctors give chemotherapy in cycles, with a recovery time after each treatment.
- The total time for chemotherapy treatments are usually three to six months.

Advantages of Chemotherapy

- This treatment can kill any, hidden cancer cells that could have spread to other areas of your body and cannot be found with tests.
- It can sometimes be used to shrink a large breast tumor and let a women have a lumpectomy instead of a mastectomy.

Disadvantages of Chemotherapy

- The side effects you experience from chemotherapy will depend upon the drugs you are given. You should remember that each person reacts to each drug differently.
- Chemotherapy affects fast growing cells, such as blood-forming cells and those cells that line your digestive tract. As a result, you may have side effects, such as:
 - a lower resistance to infection;
 - less energy;
 - a loss or a gain of appetite;
 - nausea and vomiting (there are medications that can help this);
 - diarrhea and/or constipation;
 - mouth sores; and
 - an allergic reaction.
- Hair cells are also fast growing cells, so you could lose all or some of your hair, both on your scalp and on the rest of your body.
- Pre-menopausal women taking chemotherapy often have the symptoms of menopause. This can be temporary or permanent, often depending on how close you were to starting the menopause before you started the chemotherapy drugs. Some of the symptoms that can occur are:
 - hot flashes;
 - vaginal dryness;
 - pain during intercourse; and
 - irregular or no periods.

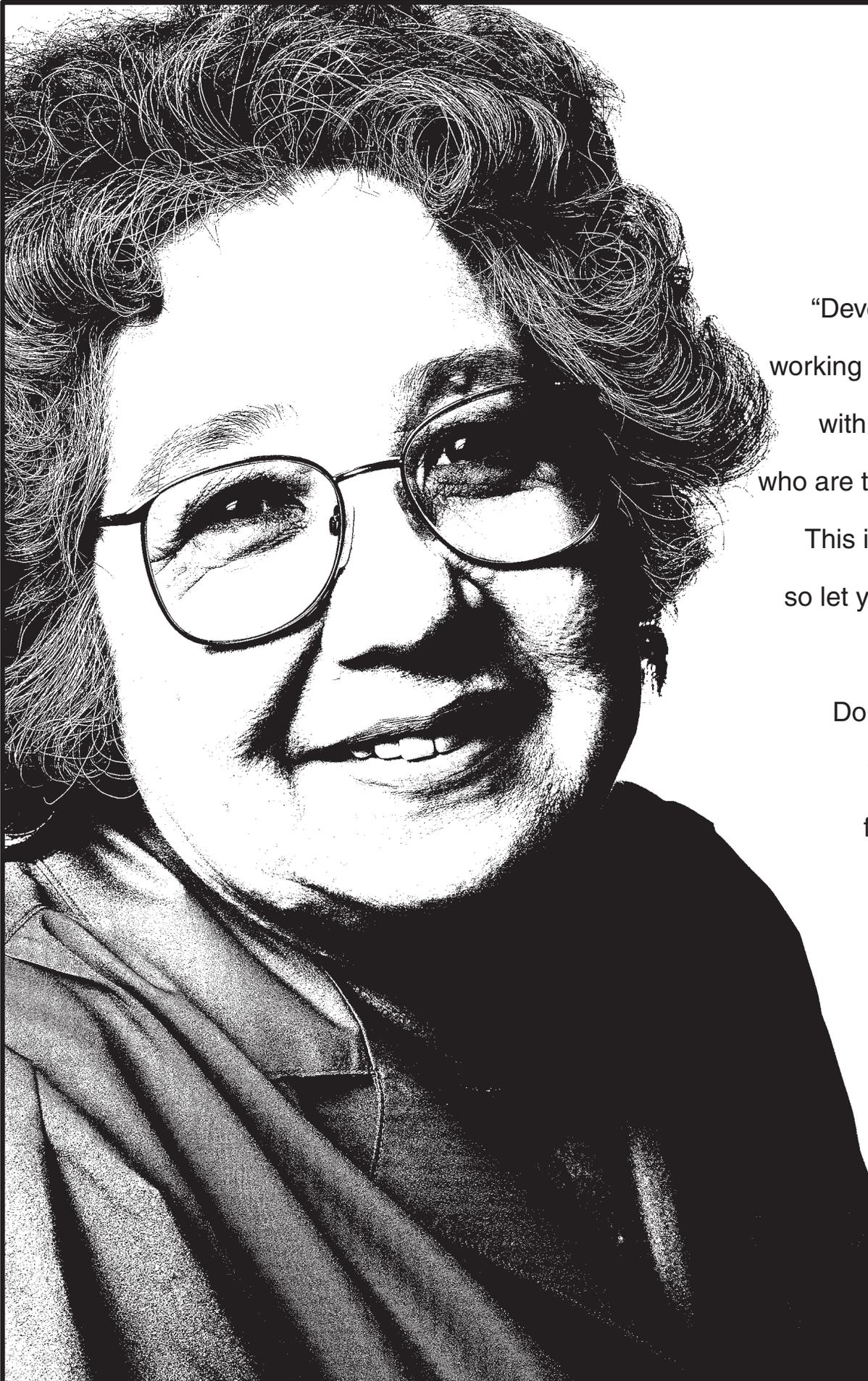
What Else You Should Know About Chemotherapy

- A gene test called *Oncotype DX* can be done for certain kinds of early breast cancer, to give more information about how helpful chemotherapy may be. When the tumor is small, no lymph nodes have cancer cells and your tumor is estrogen receptor positive, this test could be ordered. This test along with the staging, grading and all other things looked at for your breast cancer, can help decide the best treatment options for you.
- Biological therapy is sometimes given. This kind of drug treatment is to stimulate the immune system to fight cancer. We now have a drug called Herceptin, (trastuzumab) known as a monoclonal antibody. Antibodies are what fight infections, diseases and viruses in our bodies. Monoclonal antibodies are made in a laboratory to target certain proteins on cells to destroy them.
 - Your breast cancer will be tested to see if it has too much of a protein called HER-2/neu that can make cancer cells grow. About 25% of breast tumors have too much of this protein.

- This type of breast cancer is known as HER2 positive. We now have Herceptin that can target the HER2 protein, stick to it, and prevent the cancer from being able to grow.
- This drug may be added to the other chemotherapy drugs, if you have this protein in your tumor. The HER2 new protein cells are targeted by Herceptin, making it a targeted therapy.
- **If you think you might be pregnant, tell your doctor before having chemotherapy.**
 - The cancer-killing drugs used may harm unborn babies. So, you should tell your doctor if you know you are pregnant or think that you might be.
 - If you are not pregnant, you must use effective forms of birth control while you are undergoing chemotherapy.
- **Some side effects of chemotherapy can be treated.**
 - Several drugs can be used to prevent and reduce nausea and vomiting.
 - A new group of drugs called *growth factors* can help reduce tiredness and infections by helping the bone marrow recover, keeping your white and red blood cells from going too low.
- **Some side effects of chemotherapy may last.**
 - Chemotherapy is the best option for many women to treat and control breast cancer.
 - Once you finish chemotherapy, the side effects you may have usually will go away.
 - Sometimes, some side effects may last. This will depend upon:
 - < the drugs that are used, and
 - < whether you have other treatments, such as radiation and hormonal treatments, in addition to chemotherapy.
 - Discuss this with your doctor when you know which drugs will be recommended.
 - Remember, each person can react to drugs in different ways.

Questions to Ask Your Doctor About Having Chemotherapy

1. Do I need chemotherapy? Why?
2. What drugs do you recommend?
3. What are the risks and benefits of chemotherapy?
4. How successful is this treatment for the type of cancer I have?
5. How long will my treatments be?
6. How will you be able to tell if the treatments are working?
7. What side effects will I have?
8. Do I need someone to come with me? Can someone come with me?
9. Can I work while I am having chemotherapy?
10. Can I travel on short business or pleasure trips between treatments?
11. What other limitations can I expect?



“Develop a good
working relationship
with the doctors
who are treating you.

This is your time,
so let your feelings
be known.

Don't be afraid
to speak up
for yourself.”

Treatment Choices — Hormone Therapy

Hormone therapy is a way to stop the growth of tumors by blocking the hormones that make them grow. Like chemotherapy, hormone therapy acts on any cancer cells that exist throughout your whole body.

Why Hormone Therapy Is Done

- This treatment works for a breast cancer that is growing because a hormone (estrogen) is causing it to grow. A hormone test is done on all breast cancer tumor cells to see if they are the kind that can grow because of estrogen. If your tumor tests negative, it means estrogen is not causing it to grow and hormone therapy will not be a treatment choice.
- Estrogen is a hormone produced mostly by your ovaries, but also by hormones from the adrenal glands and from fatty tissue. This hormone can cause some breast cancers to grow.
- Women whose tumors test positive for hormones can be given drugs that block the effects of estrogen or lower the estrogen levels in their body.

How Hormone Therapy Is Done

- If you have not gone through menopause, you may be able to take Tamoxifen.
 - The most commonly used hormone therapy drug has been Tamoxifen. It works to block estrogen from feeding the tumor and making it grow.
 - You would take Tamoxifen daily in pill form, usually for five years.
 - Tamoxifen remains the treatment of choice if you have not gone through the menopause (“change of life”).
 - If you are still having menstrual cycles, you would need to use an effective form of birth control.
- You may be able to take *Aromatase Inhibitors: Femara, Arimidex or Exemestane*.
 - Tamoxifen has been the standard hormone treatment for years. But, clinical trials have now shown that after you have gone through the menopause, there are other hormone agents that are more effective against breast cancer. They are called *aromatase inhibitors*, and work by stopping estrogen from being made. Three drugs have been approved: *Femara (letrozole)*, *Arimidex (anastrozole)*, and *Exemestane (aromasin)*.
 - These drugs have been shown to be more effective than Tamoxifen in preventing breast cancer from coming back in women post menopause.
- You will have to stop any hormone replacement therapy you are on.
 - The usual hormones given after menopause (“change of life”) might make your breast cancer cells grow.
 - So, you should not take replacement estrogen or progesterone (hormone replacement therapy) without talking with your oncologist.

Advantages of Hormone Therapy

- Most hormone therapy drugs can be taken in the form of a pill.

Disadvantages of Hormone Therapy

Hormone therapy could cause:

- hot flashes, vaginal dryness, and other symptoms of menopause (“change of life”), regardless of your age;
- infertility and/or irregular periods, meaning some women may not be able to have a baby after this kind of treatment;
- small risk of endometrial cancer when you take Tamoxifen (you should discuss this possibility with your doctor);
- possible loss of calcium from bones causing bone fractures and /or joint pains when you take the aromatase inhibitors.

Questions to Ask Your Doctor About Having Hormone Therapy

1. Did the tests on my tumor show that the cells were sensitive to hormones? (Were they estrogen receptor positive or progesterone receptor positive?)
2. Should I be treated with hormonal therapy and/or with chemotherapy? Why?
3. How will hormone therapy affect my chances of having children?
4. Will hormone therapy have an affect on my ability to have sex?

Treatment Choices — Clinical Trials

A clinical trial is a research study that is done to find out about new treatments. A clinical trial is only done when they think the new treatment might be better than the one we are now giving. Your doctor might suggest that you join a clinical trial to help scientists get these answers.

What You Should Know About Clinical Trials

- All people who join a clinical trial are watched very closely and receive the best possible medical care.
- Being in a clinical trial means you might get a new and promising treatment earlier than you otherwise could get it.
- However, you can't be sure the treatment in a clinical trial will help you.
 - If a treatment does not seem to be helping you, your doctor can take you out of the study and give you standard treatment.
- If you choose to participate in a clinical trial, you can decide to stop participating in the trial at any time.

How Clinical Trials Work

- All new treatments being researched with a clinical trial have to go through three steps or phases:
 - **Phase I trial:** Tests the best way to give a new treatment and how much is a safe dose;
 - **Phase II trial:** Tests how well the new treatment destroys cancer cells; and
 - **Phase III trial:** Compares the new treatment to the standard treatment.
- Each phase of a clinical trial builds upon information from earlier phases.
- **Remember:** Every successful treatment we have today started as a clinical trial, and the patients who participated were the first ones to benefit.

The Purpose of Clinical Trials

What Researchers Are Studying in Clinical Trials

Research gives us hope in the fight against cancer. Clinical trials can focus on many things. Scientists are looking for ways to prevent breast cancer, find better ways to detect it as well as new treatments. Some of the things being looked at:

- Drugs to lower hormone levels to prevent their effect on breast cells.
- Ways to detect breast cancer with tumor markers that may be in urine, blood or nipple discharge.
- Other ways to diagnose with a PET (positron emissions tomography) scan or an MRI.
- Using your immune system to fight cancer with new biological treatments. A vaccine to help the immune system fight cancer cells is being studied.
- Using artificial antibodies to fight cancer (Monoclonal Antibodies).
 - < They may cause fewer side effects because they can target just the cancer cells. Most cancer drugs also affect other cells in the body. This is why you may feel sick when you are taking drugs to treat your cancer.
 - Herceptin (Trastuzumab)
 - < *Herceptin* (discussed earlier) is the first monoclonal antibody drug tested in clinical trials, to be used to treat women with breast cancer.
 - < These studies tested the use of Herceptin in women with HER-2/neu early breast cancers. The result of those studies is how we know it is a better treatment for women with early Her-2/neu positive breast cancer.
 - New uses of drugs already approved by the FDA (US Food and Drug Administration)
- Using non drug treatments such as radiation therapy instead of surgery in certain cases.
- Medicines and treatments to relieve side effects.
- Different combinations of treatments with drugs, radiation and surgery.

These and many other questions can be asked by clinical trials to get answers about best treatments. If you are interested in taking part in a clinical trial, talk to your physician about it.

Questions to Ask Your Doctor About Clinical Trials

1. Is there a clinical trial I could be in?
2. What are they trying to find out in this study?
3. Are there tests I would have to have for the trial?
4. How does this treatment work?
5. Will I know which treatment I am getting?
6. How long does this treatment last?
7. What results can I reasonably expect in my own case? Could this new treatment really help me?
8. What are the current accepted treatments? How do they compare to the treatment used in this study?
9. What would be the cost? Will my insurance pay for it?
10. What side effects of this treatment might I have?
11. What follow-up tests are needed? How long will I need to be available for follow-up tests?

Complementary Therapies and Alternative Treatments

As you begin to think about getting the best treatments, you will hear discussions about *complementary or alternative therapies* (non-traditional treatments) such as acupuncture, antioxidants, macrobiotic diets, relaxation, and imagery.

None of these have been proven to cure cancer. But, some can, in fact, help reduce pain, nausea, tiredness, or other side effects of cancer treatment.

It is important that you discuss any complementary or alternative therapy you may be taking or considering taking with your doctor **before** you start your cancer treatment to make sure it won't interfere with what your doctor is doing. **This includes any drug, vitamin, herb, or other remedy you are using or would consider using.**

What You Should Know About Complementary Therapies and Alternative Treatments

Friends or other persons may suggest that you use treatments that have not been recommended by your doctors. If they do, here are some things you should know.

Complementary therapies are used along with proven medical treatments. They are used to help relieve side effects and to generally make you feel better.

- There has long been a belief in the mind body connection. Emotions like anxiety, fear, and grief can have an effect on the body. For example, people under stress are more likely to get a cold. Learning ways to cope with these emotions may help you feel better. Some complementary therapies people use, include: meditation, guided imagery, spiritual support, laughter, music, massage, exercise, joining a support group, etc.
- Some of these complementary therapies have been shown to also decrease pain and other side effects of treatment proven medical treatments. They are often promoted as a cure for cancer, when there have been no scientific studies by U.S. standards.

Alternative Treatments are used in place of proven medical treatments. They are often promoted as a cure for cancer, when there have been no scientific studies by U.S. standards.

- A good example was *laetril*-a substance made from apricot pits and cyanide. It was presented as a cure for cancer. Scientific studies were done and found laetrile to be useless and harmful for many people. Some people lost their lives from cyanide poisoning.
- Another more recent non approved treatment has been shark cartilage. An FDA approved clinical trial also proved it to be useless in fighting cancer.
- Some alternative treatments may be harmless. But, they still should not be used in place of the treatment your doctor recommends, that have been scientifically proven to help.

- Others, in addition to not working, may injure you or interfere with the treatment your doctor recommends.
- Some of these non-traditional treatments can be costly.
- Some herbal supplements (such as soy products) contain large quantities of estrogens that come from plants.
 - We still do not know for sure if plant estrogens can affect breast cancer cells and breast cancer treatments.
 - You should speak with your doctor before starting regular use of these plant estrogen products.

Remember: If you are using a non-traditional treatment, please let all of your doctors know what you are using and how often.

“When a breast cancer survivor who had been through it and looked so good visited me, it gave me a lot of hope.”



Selecting Your Treatment

If you have the earliest (Stage 0) Lobular Carcinoma (LCIS)

- LCIS is usually not treated with additional surgery, after the original biopsy. It is not an invasive cancer and does not usually become one. But, it is considered a risk for getting an invasive cancer in both breasts. Possible options to reduce risk, include:
 - Tamoxifen or Raloxifen, (drug choice depends if you are pre-menopausal or post menopausal), can lower risk when taken for 5 years.
 - Preventive mastectomies may be an option to consider for women with a very high risk of getting an invasive breast cancer, i.e. a strong family history with several people in the family with breast cancer, and/or genetic testing shows you carry the gene that can cause breast cancer.
 - Observation can be a treatment with follow-up every 6-12 months, including a medical history, mammogram and GYN exam if taking normal therapy.

If you have very early (Stage 0) Ductal carcinoma In situ (DCIS)

- **You can choose a local treatment**
 - < a mastectomy, with or without reconstruction, or
 - < a lumpectomy, followed by radiation therapy(a sentinel lymph node biopsy is sometimes done to be sure there are no invasive cells. Removal of lymph nodes under the arm is not necessary).
- **You can choose a systemic treatment**
 - < Systemic treatment could include taking Tamoxifen for 5 years, if the tumor is estrogen receptor positive. Tamoxifen is the only hormone therapy approved for use when you have stage 0 breast cancer. It is to reduce the risk of developing an invasive breast cancer.

If You Have Early Stage (Stage I or Stage II) Breast Cancer

- **You can choose a local treatment.**
 - Choices may include:
 - < a mastectomy, with or without breast reconstruction. (A sentinel lymph node biopsy and/or underarm lymph nodes will be removed).
 - < a lumpectomy, followed by radiation therapy. (A sentinel lymph node biopsy and/or removal of lymph nodes under the arm will be done).
 - Whether you will need a mastectomy or a lumpectomy followed by radiation therapy depends upon many factors, such as:
 - < the size and location of your tumor;
 - < the type of cancer you have;
 - < your age and your general health;

- < the size of your breast; and
 - < your personal choice.
- **After your local treatment, your doctor also may suggest systemic treatment.**
 - Choices may include:
 - < chemotherapy,
 - < hormone therapy, or
 - < monoclonal antibody (I.e. Herceptin)
 - This additional treatment is called *adjuvant therapy*.
 - < It is used to help prevent the cancer from returning by killing undetected cancer cells that may remain in your body.
 - The choice of taking chemotherapy, hormone therapy, and/or a monoclonal antibody, depends upon many factors, including:
 - < your age;
 - < whether or not you have gone through menopause;
 - < whether or not the estrogen hormone makes your tumor grow;
 - < size of tumor;
 - < how fast the cancer is growing;
 - < whether your tumor is HER2 positive;
 - < other considerations.

If You Have Later Stage (Stage III or Stage IV) Breast Cancer

- If you are diagnosed as having **Stage III** breast cancer:
 - You probably will have **both** local and systemic treatment.
 - Your local treatment may be surgery and/or radiation therapy.
 - Your systemic therapy will be chemotherapy and could include hormone therapy and monoclonal antibodies.
- If you are diagnosed as having **Stage IV** breast cancer:
 - You will probably receive a systemic treatment.
 - Your systemic therapy will be chemotherapy, and could include hormone therapy and a monoclonal antibody.
 - You also may (or may not) need surgery or radiation therapy to control the breast tumor.
 - If you have Stage IV breast cancer, your doctor also may want to use radiation to treat any cancer that has spread to other parts of your body.

Living Your Life After Treatment

It is normal to feel anxious when your active treatment ends. Some women say:

- They feel depressed.
- They don't want their treatment to end, because they miss being actively involved in fighting the cancer.
- They feel like they are left out in the cold after getting so much care and attention during treatment.

It may take some time to adjust to the change in your life. But, women do to recover and enjoy their lives as breast cancer survivors.

Follow-Up Care

Regular follow-up exams are very important after breast cancer treatment. Ask your doctor how often you should have these done.

It is normal to be afraid of what these follow-up exams may find. But, it also is important to remember that these exams can help to find any problems so they can be treated right away.

Your doctor will tell you how often you should have check-ups. These check-ups may include:

- an exam of your chest, underarm and neck;
- a complete physical exam;
- blood tests;
- a mammogram; and
- scans and other X-rays that your doctor will order as needed.

Women with Breast Implants

- Women with breast implants may or may not need *mammography*. This depends upon whether or not they still have breast tissue left.
- If an implant is present in a breast that has breast tissue, routine mammography is recommended.

After a Lumpectomy

- After a lumpectomy, your doctor may recommend that you have a mammogram on the treated breast every six months for a year or two.
- After that, your doctor may recommend you have a mammogram on the treated breast every year.
- You should still continue to get routine mammograms at regular intervals on your untreated breast.

After Reconstructive Surgery

- Women who have had reconstructive surgery following removal of *all breast tissue* do not need routine mammograms on the reconstructed side.
- If some breast tissue **is** remaining, your doctor may order a mammogram.
- You should still continue to get routine mammograms at regular intervals on your untreated breast.

The Importance of Early Detection

Breast cancer can be treated best *before* it has spread.

- That means that the earlier breast cancer is found and treated, the better your chances are for complete recovery.
- Keep this in mind:
 - Finding breast cancer does not have to mean that life is over.
 - Many women have found breast cancer, gotten it treated, and then gone on with their lives.
 - If cancer is found early, there may be choices for treatment.
- You need to continue to practice early detection after a breast cancer diagnosis. That's because once you have had breast cancer, you are at an increased risk for a second cancer.

Tell your friends and loved ones what you've learned about breast cancer.

- Share this information with your family and friends. It could save their lives.
- It is important that your family and friends know all women are at risk for breast cancer. Early detection gives them their best protection for survival.
- **Women of average risk, should:**
 - Practice monthly breast self-examinations, starting at age 20.
 - Get a screening mammogram every year, starting at age 40.
 - Have a yearly breast exam by a health care professional, every year after age 40.
Women in their 20's and 30's should have an exam by a health care professional every 3 years.

Check with your doctor if you have any of these symptoms:

- A lump or thickening in your breast or under your arm.
- A change in the size or shape of your breast.
- A change in or any discharge from your nipple, especially if it comes out by itself and stains your clothing.
- A change in how the skin feels, the color, or any redness, swelling, dimpling, puckering or scaling.
- Pain in your breast.

Remember, it does not mean you have cancer if you have one of these symptoms. But, if you notice *any* changes in your breasts, you need to tell your doctor.

- Breast cancer can cause changes in your breasts, but, breast changes also can be caused by other problems that are not as serious as cancer.
- The only way to know for sure is to have the changes in your breasts checked by your doctor.

Mammograms and Clinical Breast exams do help.

Breast cancer can cause one or more symptoms, or it can cause none at all.

The most common ways women find out they have breast cancer are:

- They find a lump, thickening, or change in the breast, themselves.
- They have a mammogram that shows a change.
- Their doctor finds something in a yearly exam.

Sometimes, mammograms can miss the cancer.

- It is possible to have a mammogram and still not find a breast cancer that is there.
- This does happen from time to time.
- Then, other tests can help find the cancer.

You know your own body. If you think something seems wrong, pay attention to it.

You may have a normal mammogram and still feel something that doesn't seem right, such as a lump or thickening in your breast.

Trust yourself. If **you** feel that there is something wrong, tell your doctor.

- Your doctor may not agree with you that your changes need to be checked. If so, find doctor who will listen to you and do any necessary tests.
- If the changes you have noticed do turn out to be the result of cancer, the sooner you find out for sure, the better your chances are for getting it treated successfully.

Examine Your Own Breasts — Every Month

What You Should Know About Breast Self-Examination

- Women's breasts come in many sizes and shapes.
- Every woman's breasts change during her life because of age, monthly menstrual cycles, pregnancy, menopause, or the taking of birth control pills or other hormones.
- Therefore, women often are confused about what their breasts are supposed to feel like.
 - It is normal for your breasts to feel lumpy and uneven.
 - Sometimes, your breasts will be swollen and tender, especially right before your menstrual period.
- By doing monthly breast self-examinations, you can learn what is normal for your own breasts, and you will be more likely to find anything unusual that might be a warning sign of cancer.

How to Examine Your Own Breasts for Changes

- Ask your doctor to teach you how to perform breast self-exams, and then examine your own breasts every month.
- The best time to do self-breast exams is at the end of your menstrual period, sometime during the first week after you finish your period, when your breasts are the least swollen and tender.
- If you have already been through the menopause, pick a date of the month you can remember, and check your breasts on that date every month.
- If you do find changes, you should report them to your doctor immediately.



Coping with Breast Cancer

Breast cancer can change your life.

A breast cancer diagnosis can change your life and the lives of those close to you. It is natural for you and your family and friends to have many different and sometimes confusing emotions.

Talk with people who can help.

- Concerns about what the future holds are common. People also worry about tests, treatments, a hospital stay, medical bills, and the possibility that the cancer may come back. This is common.
- Talking with doctors, nurses, social workers, and other members of your health care team may help to calm your fears and ease confusion.

Ask questions. Try to play an active role in your care.

- You can take an active part in decisions about your medical care by asking questions about breast cancer and your treatment choices.
- You and your family members and friends may find it helpful to write down questions to ask your doctor as you think of them.
- Taking notes during visits to your doctor will help you remember what was said.
- You may find it helpful if one of your family members goes with you to your appointments and sits in as you talk with your doctor.
- After the visit, you and your family members will be able to discuss what you heard and clarify what the doctor said.
- Ask your doctor to explain anything that is not clear. Women often ask about:
 - the extent of their cancer;
 - how it can be treated;
 - how successful the treatment is likely to be; and
 - the risk other women in their family (including their daughters, sisters and mother) have of developing breast cancer.
- To help you prepare, use the questions we have included in the beginning of this booklet and in specific sections throughout the booklet as a guide to ask your doctor.

It is normal to be upset.

- You and the people close to you may feel frightened, angry or depressed after you are told about your cancer and even during your treatment.
- These are normal reactions that people have when faced with a serious health problem.
 - Sometimes, women who have had breast cancer are worried, especially after surgery, that the changes to their body will affect not only how they look, but also how other people feel about them.
 - They may worry about holding a job, caring for their family, or starting new relationships.
 - Concerns about sex, how your body will look during and after treatment, and feeling like a woman also can be upsetting.

It may help to talk with others who can listen or help. This would include:

- **People close to you.**
 - Many women who have had breast cancer have found that they cope with their emotions better if they can talk openly about their illness and their feelings with those who love them.
 - Sharing feelings with those people who are close to you, including your children, can help everyone feel more at ease and can open the way for others to show their concern and offer their support to you.
- **Other women who have been through the same thing.**
 - Many patients feel that it helps to talk with others who have faced problems like theirs.
 - You can meet other breast cancer patients through self-help and support groups.
 - In addition, your health care providers may be able to put you in touch with other women who have had similar experiences with breast cancer.
- **Professionals who can help.**
 - Your doctor is the best person to give advice about treatment, working or limiting daily activities.
 - If it is difficult to talk with your doctor about your feelings or other very personal matters, it may be helpful to speak with a nurse, a social worker, a counselor, or a religious advisor.
- **But, not everyone can help.**
 - Not everyone in your family may be ready to talk about their feelings at the same time. This may create additional stresses within your relationships.
 - Try to accept that each person handles this in her or his own way. It does not mean they do not care.

Support Services

Getting support may make things seem a little easier.

Learning to live with the changes that are brought about by having breast cancer is easier for you and for those who love you when you have helpful information and support services.

- **You can talk with a social worker at your hospital or clinic.**
 - Often, a social worker at your hospital or clinic can suggest local and national groups that will help you with rehabilitation, emotional support, financial aid, transportation, or home care.
 - A hospital social worker also can help you find out about breast cancer programs in your community.
- **You can contact the American Cancer Society.**
 - The American Cancer Society has many services for cancer patients and their families.
 - Their Reach to Recovery program offers special help for all breast cancer patients.
 - < Trained volunteers, who have had breast cancer themselves, will visit you and lend emotional support to you before and after your treatment.
 - < They will talk with you and share their own experiences with breast cancer treatment, rehabilitation, and breast reconstruction or fitting of breast forms.
 - < Anyone can refer you to the Reach to Recovery program at the time of your surgery. Your neighbor or your friend can refer you, as well as your social worker or nurse. **You can also call and refer yourself.**
 - Your local American Cancer Society office may have additional information about local programs and services. You can find your local office by looking in the phone book or contacting the national office. To contact the national American Cancer Society office:
 - < call them toll-free at 800-227-2345, or
 - < visit their Web site at www.cancer.org.
- **You can contact the National Cancer Institute.**
 - The National Cancer Institute is the nation's primary agency for cancer research.
 - The National Cancer Institute offers free information about support programs and services for breast cancer patients and their families through its Cancer Information Service.
 - To contact the National Cancer Institute's Cancer Information Service:
 - < call them toll-free at 800-4-CANCER (TTY at 800-332-8615 for deaf and hard of hearing callers) or
 - < visit their Web site at <http://cis.nci.nih.gov>.

Remember: Breast cancer is very treatable!

Thousands of women in Michigan have undergone treatment for breast cancer and will not die of breast cancer. In fact, they will live well into old age, leading happy and productive lives.

Sources for Information Contained in this Booklet

American Cancer Society, Great Lakes Division

1-800-ACS-2345

Web site: www.cancer.org

Description: A nationwide community-based voluntary health organization dedicated to eliminating cancer through prevention, research, education, advocacy, and service.

National Alliance of Breast Cancer Organizations

9 East 37th St., 10th Floor

New York, NY 10016

Phone: 888-80-NABCO

Web site: www.nabco.org

Description: A national network that provides information and assistance to anyone with questions about breast cancer. Also acts as a voice for breast cancer survivors.

National Breast Cancer Coalition/Fund

1101 17th Street, NW, Suite 1300

Washington, DC 20036

Phone: 800-622-2838 or 202-296-7477

Web site: www.stopbreastcancer.org

Description: The National Breast Cancer Coalition's trained advocates have lobbied at the national, state and local levels for public policies that impact breast cancer research, diagnosis and treatment.

National Cancer Institute

Office of Cancer Communications

National Institutes of Health

U.S. Department of Health and Human Services

Building 31, Room 10A24

Bethesda, MD 20892

Phone: 301-496-2351

Cancer Information Service: 800-4-CANCER (800-422-6237)

Web site: www.cancernet.nci.nih.gov

Description: A federal government agency for cancer research and training. Offers descriptions of clinical trials that are available, and provides information for women with breast cancer,

NCCN National Comprehensive Cancer Network

Phone: 1-888-909.NCCN

Web Site: www.nccn.org

Description: The National Comprehensive Cancer Network and the American Cancer Society partner, to provide patients and the public with cancer treatment information that is easy to understand

Susan G. Komen Breast Cancer Foundation

5005 LBJ Freeway, Suite 250

Dallas, TX 75244

Phone: 800-IM AWARE (800-462-9273)

Web site: *www.breastcancerinfo.com and www.komen.org*

Description: A national organization that provides and promotes research and education. Offers culturally diverse information about breast cancer.

Y-ME National Breast Cancer Organization

36964 Eagle Way

Chicago, IL 60678-1369

Phone: 800-221-2141 (24-hour hot line in English)

800-986-9505 (24-hour hot line in Spanish)

Web site: *www.y-me.org*

Description: A national organization that provides information and support, in both Spanish and English, for people with breast cancer.

Medical Terms You Might Need to Know

Adjuvant therapy (AD-ju-vant THER-a-pee): Treatment given in addition to the primary treatment.

Areola (a-REE-o-la): The area of dark-colored skin around the nipple.

Aspiration (as-per-AY-shun): Removing fluid or tissue from a lump with a needle.

Axilla (ak-SIL-a): The underarm.

Arimadex (a-RIM-a-dex): A hormonal treatment drug that can be used to deprive a tumor of estrogen in women past the menopause.

Aromasin (Exemestane): A hormonal treatment drug used to deprive a tumor of estrogen in women past the menopause

Aromatase Inhibitors: Drugs that block estrogen from being made by the adrenal gland. The drugs are used to treat women with hormone positive tumors when they are past the menopause.

Axillary lymph node dissection: Surgical removal of some of the lymph nodes from under the arm.

Autologous bone marrow transplantation (aut-TOL-o-gus): A procedure in which a person's own bone marrow is removed and stored, and then given back to that person after high-dose chemotherapy. This procedure can help prevent life-threatening side effects.

Benign (bee-NINE): A growth that it is not cancer and, therefore, will not spread to other parts of the body.

Biopsy (BY-op-see): The removal of a sample of tissue so it can be examined under a microscope to see if cancer cells are present.

- An excisional biopsy is surgery that is done to remove an entire lump.
- An incisional biopsy is surgery that is done to remove part of the tumor.
- A needle biopsy or aspiration is the removal of tissue or fluid with a needle.
- Stereotactic needle biopsy (stereo-TACK-tik BY-op-see): A procedure that can be done when a mass or abnormal area is too small to be felt, but can be seen on a mammogram. A computer finds the abnormal area so the doctor can use a needle to do a biopsy.

Bone Scan: a test using a radioactive substance that will light up the bones to show any thing abnormal.

BRCA1 and BRCA2 genes: Changes in these genes increase a woman's risk of developing breast cancer.

Breast brachytherapy (Bray-kee-THER-a-pee): A way to deliver radiation therapy by putting the radioactive substances directly into the breast.

Breast conserving surgery: Surgery to remove a cancer or abnormality in the breast, without removing the entire breast.

Breast reconstruction: A surgical operation in which a plastic surgeon restores the form and appearance of a breast after it has been totally or partially removed through a mastectomy.

Cancer (CAN-sir): A term for more than 100 diseases that involve uncontrolled, abnormal growth of cells. Cancer cells can spread through the bloodstream and lymphatic system to other parts of the body.

Carcinoma (car-si-NO-ma): Cancer that begins in the lining or covering tissues of an organ.

Carcinoma in situ (car-si-NO-ma in SY-too): Cancer that involves only the cells in which it began and has not spread to other tissues.

- *Ductal carcinoma in situ* (also called “intraductal carcinoma”) is found in the ducts of the breast.
- *Lobular carcinoma in situ* is found in the lobules of the breast.

CAT scan or CT scan: A test using x-rays to see the body in sections

Chemotherapy (kee-mo-THER-a-pee): Treatment with anti-cancer drugs.

Clinical trial: Studies of cancer treatment. Each study is designed to answer scientific questions and to find better ways to treat patients.

Cyst (sist): An abnormal sac within a tissue or organ, usually filled with fluid.

Duct: A tube in the breast through which milk passes from the lobes to the nipple.

Estrogen (ES-tro-jin): A female hormone

External radiation: Radiation therapy that uses a machine located outside the body to aim high-energy rays at the cancer.

Femara (letrozole): A hormonal treatment drug to deprive a tumor of estrogen, used in women who are past the menopause.

Fibrocystic changes: Nodularity (lumpiness) of both breasts, often accompanied by tenderness, that gradually increases with age until menopause and that may increase and decrease with the beginning and the end of the monthly menstrual cycle.

Growth factors: A group of drugs that help the bone marrow produce more blood cells.

HER-2/neu: A protein found on some breast cancer cells that affects their growth.

Herceptin (trastuzumab) (her-SEP-tin): A monoclonal antibody drug that blocks the HER-2/neu protein that can be on some breast cancer cells, affecting their growth.

Hormone receptor tests: Laboratory tests done on breast cancer tissue that has been removed during surgery to determine whether the growth of the cancer cells in that tissue is affected by the presence of estrogen or progesterone.

Hormone replacement therapy: Hormones sometimes taken after menopause to relieve symptoms such as hot flashes and to prevent osteoporosis (thinning of the bone).

Hormone therapy: Cancer treatment that involves removing, blocking or adding hormones.

Hormones: Chemicals produced by certain glands in the body. Hormones control the way certain cells or organs act.

Immunotherapy (Im-MUN-o-therapy): Therapy that uses the immune system, your body's natural defense system, against disease and infections.

Implant radiation: Radiation therapy that places materials that contain radiation into the breast through thin plastic tubes.

Inflammatory breast cancer (in-FLAM-a-tory): A kind of breast cancer in which the breast is red, feels warm, and the skin may thicken to look and feel like an orange peel.

In-situ: cancer that is still inside the tissue it started in and has not spread

Interstitial Catheters: catheters put inside the breast to give radiation

Lobe: A part of the breast; each breast contains 15 to 20 lobes, arranged like the petals on a daisy.

Lobule (LOB-yul): A subdivision of the lobes of the breast; each lobule ends in dozens of tiny, milk-producing bulbs.

Local treatment: Radiation therapy or surgery that affects cells in the tumor and the area close to it.

Lumpectomy (lump-ek-to-ME): Surgery that removes the breast lump. A lumpectomy usually is followed by radiation therapy.

Lymph (limf): An almost colorless fluid in the lymphatic system channels that bathes body tissues and carries cells that help fight infection.

Lymph nodes: Small, bean-shaped organs located along the lymphatic system. Lymph nodes (also called lymph glands) filter bacteria or cancer cells that would otherwise travel through the lymphatic system. Lymph nodes are one of the first places where breast cancer may spread. They are located in the armpits and other areas of your body.

Lymphatic system (lim-FAT-ak): The tissues and organs (including the bone marrow, spleen, thymus, and lymph nodes) that produce and store cells that fight infection; also the channels that carry lymph fluid.

Lymphedema (lim-fa-DEE-ma): Swelling of the hand or arm caused by the extra fluid that may collect in tissues when lymph nodes are removed or blocked.

Malignant (ma-LIG-nant): Cancerous. (See the definition for "cancer.")

Mammogram (MAM-o-gram): An X-ray of the breast. Usually, a woman has two mammograms of each breast, one taken from the side and one from the top.

Mammography (mam-OG-ra-fee): The X-ray procedure of taking a mammogram to detect breast tumors or other abnormalities in the breast.

Margin: the edge of tissue removed during surgery. A clear margin means there are no cancer cells at the edge of tissue removed.

Mammosite: form of partial breast radiation, where the radiation is put inside the lumpectomy space

Mastectomy (mass-TEK-ta-me): Surgery to remove the breast.

Medical oncologist: A doctor whose specialty is treatment of cancer with medications (chemotherapy).

Menopause: The time of a woman's life when her menstrual periods stop; also called "change of life."

Metastasis (me-TAS-ta-sis): The spread of cancer from one part of the body to another. Cells in the metastatic tumor (the second tumor) are generally like those in the original cancer.

Modified radical mastectomy (mass-TEK-ta-me): Surgery to remove the entire breast, some of the skin, and some underarm lymph nodes; the muscles are left in place.

Monoclonal antibodies (mon-uh-CLO-nul): Antibodies made in a laboratory that are used to seek out antigens of cancer cells and give treatment directly to those cancer cells.

MRI (Magnetic Resonance Imaging) A magnet scan that does not use radiation. Can give a more clear picture of fatty tissue.

Mutations (mew-TAY-shuns): Changes in genes.

Neo-adjuvant treatment (nee-O AD-ju-vant): Using drugs to shrink a tumor before surgery.

Oncologist (on-KOL-o-just): A doctor who specializes in treating cancer.

Oncotype Dx: a test that can be done for women with a new, early diagnosis of breast cancer, to help see how likely the breast cancer is to reocur and if they should be treated with chemotherapy

Paget's disease of the nipple: A rare form of cancer that starts in the milk ducts and spreads to the nipple and areola. The nipple area can be crusty, red or draining.

Palpation (pall-PAY-shun): A simple technique in which a health care provider lightly presses with his/her hand(s) on the surface of the body to feel the organs or tissue underneath.

Pathologist (pah-THOL-o-just): A doctor who identifies diseases by studying cells and tissues under a microscope.

PET (Pos-it-ron emission toe-mog-raphy) scan: a body scan that uses glucose that is radioactive to find changes.

Progesterone (pro-JES-ter-own): A female hormone.

Prosthesis (pros-THEE-sis): An artificial breast used to replace the appearance of a breast that has been removed during surgery.

Radiation oncologist (ray-dee-AY-shun on-KOL-o-just): A doctor whose specialty is treating cancer with radiation (radiation therapy).

Radiation therapy (ray-dee-AY-shun THER-a-pee): Treatment with high-energy rays from X-rays or other sources to kill cancer cells.

Risk factor: Anything that increases a person's chance of developing a disease.

Scans: Imaging tests that allow a physician to visualize various parts of the body to help determine whether cancer is present.

Sentinel lymph node biopsy (sen-TIN-al): Locating the first lymph node (also called the sentinel node) through injecting a blue dye and/or radioactive tracer into the tumor site. Once the sentinel node has been identified, it is removed and biopsied. If there is no cancer in the sentinel node, no more nodes are removed.

Stage: The term used to describe how far the cancer has spread within the body.

Staging: The process of learning whether cancer has spread from its original site to another part of the body.

Surgeon: A doctor who performs operations.

Surgery: An operation.

Systemic therapy (sis-TEM-ak THER-a-pee): Treatment that reaches and affects cells all over the body.

Total simple mastectomy (mass-TEK-ta-me): Surgery to remove the entire breast, along with the nipple and some skin, but not the lymph nodes.

Tumor (too-MER): An abnormal mass of tissue.

Ultrasound (UL-tra-sound): A test that bounces sound waves off tissues and converts the echoes into pictures. Tissues with different densities reflect sound waves differently, making it possible to tell the difference between a fluid-filled cyst and a solid mass.

Wire localization: A procedure where a lump or abnormal area that cannot be felt is located with a hollow needle. A wire is put through the needle and left there, and then the needle is removed. This helps the surgeon find the area to be removed during surgery.

X-ray: High-energy radiation used in low doses to diagnose diseases and in high doses to treat cancer.

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