



For Women Facing a Breast Biopsy

Mary's doctor calls to give her the results of her mammogram. The doctor says, "It's not normal, and I think we need to biopsy the area in question." Mary's first thought is, "Could this be breast cancer?" When she asks, the doctor explains that a biopsy (taking out and testing tissue from the suspicious area of the breast) is the only way to find out.

Another woman, Peg, just found a lump in her breast. She knows that the lump wasn't there last month. Her first thought: "I probably should see the doctor about this, but I'm sure it isn't cancer."

Women react in different ways when they learn that something may be wrong with their breasts. Whatever their feelings and thoughts, at some point most women want to know more about what is happening.

Women who have had breast lumps, suspicious mammograms, and breast biopsies helped write this. They have gone through something much like what you may be going through now.

Here we will explain the basics of benign (non-cancer) breast conditions, diagnostic tests (such as different types of biopsies), and breast cancer. You will also learn more about coping with your concerns and fears, and where to find emotional support. The information you get here should not take the place of talking with your doctor or nurse. And, there are many details that we cannot cover here. So in each section, we've added a list of questions that you might want to discuss with your doctor and nurse.

We will explain many medical terms that you may hear during testing and diagnosis. As you learn these terms, you will better understand what is being said to you. Knowing what these terms mean can help you as you talk with your health care team. We also have a *Breast Cancer Dictionary* that many women and their doctors find very helpful. Call us at 1-800-227-2345 for a free copy.

Benign breast conditions: Not all lumps are cancer

If you find changes or something unusual in one of your breasts, it is important to see a doctor or nurse as soon as possible. But keep in mind that most breast changes are not cancer. Just because your doctor wants you to have a biopsy does not mean you have breast cancer: 4 of every 5 biopsy results are not cancer. But the only way to know for sure is to take out and test tissue from the suspicious area of the breast.

Non-cancerous breast conditions are very common, and they are never life threatening. The 2 main types are fibrocystic changes and benign (be-**nine**) breast tumors.

Fibrocystic changes

Fibrocystic changes are benign changes in the breast tissue that happen in about half of all women at some time in their lives. This change often happens just before a menstrual period is about to begin. Although this used to be called fibrocystic disease, it is not a disease at all. These changes can cause cysts (fluid-filled sacs) and areas of lumpiness, thickening, or tenderness; nipple discharge; or pain in the breast. If they are painful, cysts can be treated by taking out the fluid with a needle and syringe, but they may fill up again later.

A cyst cannot be diagnosed by physical exam alone, nor can it be diagnosed by a mammogram alone. To be sure that a lump (mass) is really a cyst, the doctor can do either a breast ultrasound or take the fluid out of the cyst with a thin, hollow needle.

A cyst is filled with fluid. If a mass has any solid parts, it is no longer a simple cyst and you may need to have more tests. Some masses can be watched with mammograms, but others may need a biopsy. The size, shape, and edges (margins) of the mass help the doctor figure out whether it may be cancer.

Lumps and areas of thickening caused by fibrocystic changes are almost always harmless. If fibrocystic changes are uncomfortable or painful, doctors may suggest that you avoid caffeine or reduce your salt intake. In severe cases, doctors can prescribe medicines that may help reduce or relieve your symptoms.

Benign breast tumors

Benign breast tumors are non-cancerous areas where breast cells have grown abnormally and rapidly, often forming a lump. Unlike cysts, which are filled with fluid, tumors are solid. Benign breast tumors may hurt, but they are not dangerous and do not spread outside the breast to other organs. Still, some benign breast conditions, such as papillomas and atypical hyperplasia, are important to know about because women with these conditions have a higher risk of developing breast cancer. For more information, see our document called *Non-Cancerous Breast Conditions*.

A biopsy is the only way to find out if a lump is benign or is cancer. (See the section "Types of biopsy procedures" for more information.) In a biopsy, part of the lump or suspicious area is removed and looked at under a microscope.

If a benign tumor is large, it may change the breast's size and shape. Depending on the size and number of benign tumors, doctors may recommend that it be removed by surgery.

If the benign tumor is growing into the tissue of the milk ducts, it may cause an abnormal discharge from the nipple. In some cases, this can be treated by surgery to remove the tumor.

Other benign breast conditions

Mastitis

Mastitis is a breast infection that most often occurs in women who are breast-feeding. The breast may become red, warm, or painful. Mastitis is treated with antibiotics. But if the mastitis does not get better when you take antibiotics, it is important that you let the doctor know right away. Some breast cancers can look a lot like infections.

Fat necrosis

Fat necrosis sometimes happens when an injury to the breast heals and leaves scar tissue that can feel like a lump. A biopsy can tell if it is cancer or not. Sometimes when the breast is injured, an oil cyst (fluid-filled area) forms instead of scar tissue during healing. Oil cysts can be diagnosed and treated by taking out (aspirating) the fluid.

Duct ectasia

Duct ectasia is common and most often affects women in their 40s and 50s. Its symptoms are usually a green, black, thick, or sticky discharge from the nipple, and tenderness or redness of the nipple and area around the nipple. Duct ectasia can also cause a hard lump, which is usually biopsied to be sure it is not cancer. Redness that does not improve may need to be biopsied to be sure it is not cancer.

Diagnostic tests for breast conditions

The 2 main tests used to diagnose breast conditions are mammograms and ultrasound. Magnetic resonance imaging (MRI) is also being used more as a diagnostic tool along with one of the other 2 tests.

More details on these and other imaging tests used to diagnose breast changes can be found in another one of our documents, *Mammograms and Other Breast Imaging Procedures*.

Diagnostic mammogram

If a woman has noticed breast changes or symptoms, or if a routine screening mammogram has found a suspicious-looking area, she may need to get a diagnostic mammogram. During diagnostic mammograms, more x-rays are taken of the breast and extra pictures are focused on the suspicious area. (See "Appendix A" for more information on breast cancer.)

Mammograms are usually a black-and-white picture of the breast tissue on a large sheet of film that is read, or interpreted, by a *radiologist* (a doctor specially trained to read these kinds of tests). For a mammogram, the breast is pressed between 2 plates to flatten and spread the tissue. This may be uncomfortable, but it is needed to get a good, clear picture. The pressure only lasts a few seconds. The entire mammogram procedure takes about 20 minutes.

A digital mammogram is another option. A digital mammogram produces computer images instead of film. These images can be read on a computer screen and saved in the system. The images can be looked at from different angles, and the radiologist can enlarge and zoom in to look at any suspicious areas.

But mammograms alone cannot prove that an abnormal area is cancer. The tissue must be taken out and looked at under a microscope. This is called a biopsy. Cancer cannot be diagnosed without a biopsy.

You should also know that a mammogram is not perfect at finding breast cancer. If you have a breast lump, you should have it checked by your doctor and talk about having a biopsy, even if your mammogram is normal.

Breast ultrasound

Breast ultrasound uses sound waves to make a computer picture of the inside of the breast. This test is sometimes used to target a certain area of concern that was found on the mammogram or physical exam. Ultrasound is useful for looking at some breast changes, such as those that can be felt but not seen on a mammogram. It also helps tell the difference between fluid-filled cysts and solid masses. Sometimes it can show if a lump is really a cyst and therefore benign. If this is the case, your doctor may not have to put a needle into it to draw out fluid.

Ultrasound uses high-frequency sound waves to outline a part of the body. The sound waves are transmitted into the area of the body being studied and echoed back. These echoes are picked up by the ultrasound probe. A computer changes the sound waves into a picture that is displayed on a screen. You are not exposed to radiation during this test.

Magnetic resonance imaging

Magnetic resonance imaging (MRI) is sometimes used for screening, to look for breast cancer in women who are known to be at high risk. It may also be used for a closer look after breast cancer has been found. An MRI can show if your lymph nodes are enlarged,

which may be a sign that they contain cancer. This can be a clue to the cancer's stage even before surgery. MRI is sometimes used to look for breast tumors that did not show up on the mammograms. It is also used to help guide the biopsy needle into tumors that can't be seen on mammograms. This is known as *MRI-guided biopsy*.

Ductogram

Ductograms are sometimes used to find the cause of nipple discharge. A ductogram is also called a *galactogram*. In this test, a small amount of dye is put into one of the ducts in the nipple through a tiny plastic tube. The dye can be seen on an x-ray, which can then show if there is a mass inside the duct.

Biopsy

Even though imaging tests like the mammogram and breast ultrasound can find a suspicious area, they cannot tell whether the area is cancer. A biopsy is the only way to tell for sure if a breast change is benign or cancer.

A biopsy removes some cells from the suspicious area to look at under a microscope. This can be done using a needle or with surgery to remove part or all of the tumor. The type of biopsy depends on the size and location of the lump or area that has changed.

If your doctor thinks you don't need a biopsy, but you feel there's something wrong with your breast, follow your instincts. Don't be afraid to talk to your doctor about this or go to another doctor for a second opinion.

Second opinions

Even before you have a biopsy, you might want to get a second opinion. This way, another expert from another hospital or mammogram center will look at your mammogram. You can ask your doctor to set this up for you, or you can have the films sent to an expert you have chosen. If you have had digital mammography, the images can be sent electronically, but you may still need to send your older films to compare.

Your doctor's office staff can help you figure out what you need to do and how to do it. They should send your most recent mammogram and any older ones they have to a center that specializes in mammograms and the diagnosis of breast cancer. Or, if the facility will make copies, you can take them for a second opinion yourself. Be sure to find out ahead of time if the second facility or doctor accepts copies; some facilities read only original x-rays. You should also find out if your health insurance will pay for a second opinion. If not, you will want to know what your costs will be.

It takes great skill and experience to accurately read a mammogram, either from film or from a digital picture. Be sure your mammogram is being read by an expert.

Types of biopsy procedures

Each type of biopsy has pros and cons. The choice of which type to use depends on your situation. Some of the things your doctor will consider include how suspicious the tumor looks, how large it is, where it is in the breast, how many tumors are present, other medical problems you may have, and your personal preferences. You might want to talk to your doctor about the pros and cons of different biopsy types.

Fine needle aspiration biopsy

In fine needle aspiration biopsy (FNAB), the doctor (a pathologist, radiologist, or surgeon) uses a very thin needle attached to a syringe to withdraw (aspirate) a small amount of tissue from the suspicious area. This tissue is then looked at under a microscope. The needle used for FNAB is thinner than the ones used for blood tests.

If the area to be biopsied can be felt, the doctor locates the lump or suspicious area and guides the needle there. If the lump can't be felt, the doctor might use ultrasound to watch the needle on a screen as it moves toward and into the mass. Or the doctor may use a method called *stereotactic needle biopsy* to guide the needle. For a stereotactic needle biopsy, computers map the exact location of the mass using mammograms taken from 2 angles. This helps the doctor guide the needle to the right spot.

The doctor may or may not use a numbing medicine (called a *local anesthetic*). Because such a thin needle is used for the biopsy, getting the medicine may hurt more than the biopsy itself.

Once the needle is in place, fluid or tissue is drawn out. If the fluid is clear, the lump is most likely a benign cyst. Bloody or cloudy fluid can mean either a benign cyst or, very rarely, a cancer. If the lump is solid, small pieces of tissue are drawn out. A pathologist (a doctor who is expert in diagnosing disease from tissue samples) will look at the biopsy tissue or fluid under a microscope to find out if it is cancer.

A fine needle aspiration biopsy can sometimes miss a cancer if the needle does not get a tissue sample from the area of cancer cells. If it does not give a clear diagnosis, or your doctor is still suspicious, a second biopsy or a different type of biopsy should be done.

If you are still having menstrual periods (that is, if you are premenopausal), you most likely know that breast lumpiness can come and go each month with your menstrual cycle. But if you have a lump that doesn't go away, the doctor may want to do a FNAB to see if it is a cyst (a fluid-filled sac) or a solid growth (mass or tumor). If an aspiration is done and the lump goes away after it is drained, it usually means it was a cyst and not cancer. Again, most breast lumps are not cancer.

Core needle biopsy

A core needle biopsy (CNB) is much like an FNAB. A slightly larger, hollow needle is used to withdraw small cylinders (or cores) of tissue from the abnormal area in the breast. CNB is most often done with local anesthesia (you are awake but your breast is numbed)

in the doctor's office. The needle is put in 3 to 6 times to get the samples, or cores. This takes longer than an FNAB, but it is more likely to give a definite result because more tissue is taken to be looked at. CNB can cause some bruising, but usually does not leave scars inside or outside the breast.

The doctor doing the FNAB or CNB usually guides the needle into the abnormal area while feeling (palpating) the lump. If the abnormal area is too small to be felt, a radiologist or other doctor may use a stereotactic instrument or ultrasound to guide the needle to the target area.

Stereotactic core needle biopsy

A stereotactic core needle biopsy uses x-ray equipment and a computer to analyze the pictures (x-ray views). The computer then pinpoints exactly where in the abnormal area the needle tip needs to go. This type is often used to biopsy microcalcifications (tiny calcium deposits).

Larger core biopsies

Large core biopsies that use stereotactic methods remove even more tissue than a core biopsy.

Vacuum-assisted core biopsy

The Mammotome[®] is one type of vacuum-assisted core biopsy (VACB). For this procedure the skin is numbed and a small cut (about ¼ inch) is made. A hollow probe is put in through the cut and into the abnormal area of breast tissue. A cylinder of tissue is then pulled into the probe through a hole in its side, and a rotating knife inside the probe cuts the tissue sample from the rest of the breast.

There are 2 other types of vacuum-assisted core biopsy systems:

- ATEC (short for Automated Tissue Excision and Collection)
- MIBB (short for Minimally Invasive Breast Biopsy)

All of these methods also allow tissue to be removed through a single small opening. And all are able to remove more tissue than a standard core biopsy. No stitches are needed, and there is very little scarring. Vacuum-assisted core biopsies are done in outpatient settings.

Rotating circular "cookie-cutter" knife

The ABBI method (short for Advanced Breast Biopsy Instrument) uses a probe with a rotating circular knife and thin wire to remove a larger cylinder of abnormal tissue. ABBI is guided by x-ray (stereotactic imaging), and can sometimes be used to remove an entire mass. A few stitches may be needed afterward.

Magnetic resonance imaging (MRI) guidance

In some centers, the biopsy is guided by an MRI, which uses computers to find the tumor, plot its location, and help aim the needle or biopsy device into the tumor. This is helpful for women with a suspicious area that can only be found by MRI. One of the vacuum-assisted core biopsy systems, the ATEC, is designed so that it can be used with an MRI.

Ultrasound-guided biopsy

Ultrasound-guided biopsy uses an instrument that sends out sound waves and a computer to make pictures of the breast lump. A doctor can use this method to guide a needle into very small tumors or cysts.

Surgical (excisional) biopsy

A surgical biopsy is used to remove all or part of the lump so it can be looked at under the microscope. An *excisional biopsy* removes the entire mass or abnormal area, as well as a surrounding margin of normal-looking breast tissue. In rare cases, this type of biopsy can be done in the doctor's office, but it is more often done in the hospital's outpatient department under a local anesthesia (where you are awake, but your breast is numb). You may also be given medicine to make you drowsy.

During an excisional breast biopsy, the surgeon may use a procedure called *wire localization* if there is a small lump that is hard to find by touch, or if an area looks suspicious on the x-ray but cannot be felt. After the area is numbed with local anesthetic, a thin, hollow needle is put into the breast and x-ray views are used to guide the needle to the suspicious area. A very thin wire is put in through the center of the needle. A small hook at the end of the wire keeps it in place. The hollow needle is then removed, and the wire is left to guide the surgeon to the abnormal area.

Questions to ask before having a biopsy

Here are some questions you might want to ask your doctor before having a biopsy done:

- What type of biopsy do you recommend? Why?
- How does the size of my breast affect the procedure?
- Where will you do the biopsy?
- What exactly will you do?
- How long will it take?
- Will I be awake or asleep during the biopsy?
- Can I drive home afterward, or will I need someone to drive me?
- If the abnormal area cannot be felt, how will you find it?

- If you are using a wire to help find the abnormal area (localize), will you check its placement by ultrasound or with a mammogram?
- Can you draw pictures showing me the size of the cut and the size of the tissue you will remove?
- Will there be a hole there? Will it show afterward?
- Where will the scar be? What will it look like?
- Will there be bruising or changes in color of the skin?
- Will I be sore? If so, how long will it last?
- When can I take off the bandage?
- When can I take a shower?
- Will there be stitches? Will they dissolve or do I need to come back to the office and have them removed?
- When can I go back to work? Will I be tired?
- Will my activities be limited? Can I lift things? Care for my children?
- How soon will I know the results?
- Should I call you or will you call me with the results?
- Will you or someone else explain the biopsy results to me?

Your breast biopsy results

Right after the tissue sample is removed, it is sent to the lab, where a pathologist looks at it. (A pathologist is a medical doctor who is specially trained to look at cells under a microscope and identify diseases.)

If the biopsy result is negative

If your biopsy result comes back negative (benign), it means that no cancer was found. If you have any questions or you feel unsure about the results of the biopsy, you might want to get a second opinion or pathology review. (A pathology review is having another doctor look at your biopsy tissue.) Once you feel comfortable that you do not have cancer, be sure to:

- Have regular mammograms (See "Appendix B" for our guidelines for finding breast cancer early.)
- Continue seeing your health care professional for routine breast exams

- Be aware of any changes in your breasts, and report changes to your doctor right away
- Talk with your doctor about your risk of breast cancer

A mammogram may show a lump or other change that can't be felt on a physical exam. Physical exams may find a lump or skin change that a mammogram doesn't show. If you ever notice a change in your breasts yourself, let your doctor know right away. Breast changes do not always mean breast cancer. (See "Appendix B" for more information on finding cancer early.)

If the biopsy shows breast cancer

If the biopsy shows that the lump is cancer, the results will tell your doctor some important things about the cancer.

Is it in situ or invasive?

The biopsy report may say that the cancer is *in situ*. This means that the cancer started in a lobule (milk gland) or duct (tube that carries milk from the lobule to the nipple) and has not spread to the nearby breast tissue or to other organs in the body.

Invasive or *infiltrating* cancer means that the tumor started in a lobule or a duct and has spread into nearby breast tissue. This type may spread to the lymph nodes or to other parts of the body through the lymph system and bloodstream.

How fast is it likely to grow and spread?

Pathologists use the microscope to look at the cancer cells and see what they look like and how they are arranged. This helps them figure out the cancer's *grade*. The grade tells how slowly or quickly the cancer is likely to grow and spread.

Pathologists may also use measures called *ploidy*, *cell proliferation rate*, or *Ki-67* tests to give the medical team a better idea of how quickly or slowly the cancer is likely to grow and spread. These tests help your doctor to choose the best treatment.

Is the cancer HER2-positive?

Tumors with increased levels of the protein called *HER2/neu* are called *HER2-positive*. These cancers tend to grow and spread faster than other breast cancers.

HER2/neu testing should be done on all newly diagnosed breast cancers. HER2-positive cancers can be treated with drugs that target the HER2/neu protein.

Will it respond to hormone therapy?

Estrogen and progesterone receptors recognize and respond to the female hormones estrogen and progesterone. Some breast cancers have these receptors (*receptor-positive*),

and others do not (*receptor-negative*). Finding out if a cancer has these receptors will help your doctor decide how likely it is that you will benefit from a hormone therapy.

Questions to ask about your biopsy results

After your biopsy results are back, it is important to know if the results are final, definite results, or if another biopsy is needed. Here are some questions to ask if they are the final results:

If it is not cancer...

- Do I need any follow-up?
- When should I have my next screening mammogram?

If it is cancer...

- Is the cancer in situ or invasive?
- If the cancer is in situ, is it a type of cancer that can become invasive?
- Does the cancer seem to be growing and/or spreading slowly or quickly?
- Will the cancer respond to hormone therapy?
- Do I need more tests to learn the stage of the cancer? (The stage is how widespread the cancer is at the time it is found.)
- What kind of treatment do you recommend for me, and why? Are there other options that might work?
- When will I need to start treatment?

More information on breast cancer and its treatment can be found in our document, *Breast Cancer*.

Biopsy and surgery: Two-step or one-step procedure?

For many years, a one-step procedure was the only choice. Today, most women and their health care team prefer to schedule further surgery, if needed, after the biopsy (the two-step procedure). Many studies have shown that breast cancer is easier to bear emotionally if the biopsy and treatment are done at different times.

The one-step procedure

If your biopsy results show cancer and you need to have more surgery to remove it, the surgery is almost always done later, after the biopsy. This is called a two-step procedure.

But sometimes a one-step procedure can be done in which the biopsy and surgery are done during the same operation. If you are going to have a one-step procedure, you will want to know all of your treatment options beforehand because you must make important choices before the one-step procedure begins.

The two-step procedure

In the two-step approach, the biopsy is most often done on an outpatient basis. Local anesthesia is used (the breast is numbed), so you stay awake. Many women choose local anesthesia plus a *sedative* (medicine to make you relax) given through a vein. The sedative helps make you feel sleepy and calms any nervous or anxious feelings you may have during the procedure. The biopsy can take about an hour. You can go home an hour or so later, when the sedative wears off, but you will need someone to drive.

With the two-step procedure, if the diagnosis is breast cancer, you usually don't have to decide on treatment right away. With most breast cancers, there is no harm to your health in waiting a few weeks. This gives you time to talk about your treatment options with your doctors, family, and friends, and then decide what's best for you. (More information on treatment options is available by calling us or visiting our Web site; see the section called "Additional resources.")

Waiting for the results

Learning that you might have breast cancer can be very difficult. If you have a biopsy and have to wait for the results, the waiting can be a frightening time during which many women go through some strong emotions, including disbelief, anxiety, fear, anger, and sadness. It is important to know that it is normal for you to have these feelings. You might need help finding healthy ways to deal with the physical and emotional challenges you are facing.

Remember, too, that what works for you can be different from what works for others. Some women find comfort in talking with other people about their breast condition, while others wish to keep it very private. Some women want to be very involved in decisions, and others may wish to trust their health care team to make those decisions. The ways in which this event will affect your lifestyle and your body are unique, and the ways you cope will be unique, too.

You are not alone: Getting emotional support

You may find resources and support – including your own inner strengths – that you did not know existed.

If you are married or in a committed relationship, what you are going through will affect that relationship. Waiting for your biopsy test results is a family challenge, as well as a personal one.

Other women who have been through a breast biopsy may be your strongest allies. Talking with them can be very helpful and reassuring. You can reach out – or simply listen – to others who understand your feelings and concerns.

If you learn that your diagnosis is breast cancer, you may find it helpful to talk with someone who has already been through breast cancer. Our Reach to Recovery[®] Program, available in most communities, is one of many programs that may help you. This program can put you in touch with a woman who has been diagnosed with and treated for breast cancer.

To talk with or receive a visit from a Reach to Recovery volunteer, call your local American Cancer Society office or 1-800-227-2345. Also, "Appendix D" at the end of this document has more information on Reach to Recovery and other resources available to you and your family.

Other ways to cope

Here are some other coping strategies you may want to try:

Try to learn as much about breast cancer and your treatment as you can.

Some women find that learning as much as they can gives them a sense of control over what happens. If you want more information about breast health or breast cancer, please contact us.

Express your feelings.

Most women find that expressing their feelings can help them deal with the treatment and the changes in their lives. You might choose to talk with trusted friends or relatives, keep a private journal, or even dance, sing, paint, or draw to express yourself.

Take care of yourself.

Take time to do something you enjoy every day. Have a favorite meal, take a bubble bath, go for a walk, meditate, listen to your favorite music, read a good book, or watch a funny movie.

Exercise

If your doctor agrees, start a mild exercise program, maybe walking, yoga, swimming, or stretching. Exercise can help you feel more in control of your body and reduce fatigue.

Reach out to others.

Making new friends, whether on your own or through support groups, can help you remember that you are not alone. It also gives you more people with whom to share your

fears, hopes, and personal accomplishments. It makes the waiting not so lonely. Talk to a Reach to Recovery volunteer. Interact with one or more support groups in your community. See "Appendix D" for more ways to meet other people dealing with cancer.

Additional resources

More information from your American Cancer Society

We have selected some related information that may also be helpful to you. These materials may be ordered from our toll-free number, 1-800-227-2345.

After Diagnosis: A Guide for Patients and Families (also available in Spanish)

Breast Cancer (also available in Spanish)

Breast Cancer: Early Detection (also available in Spanish)

Breast Cancer Early Detection Guidelines: Fact Sheet

Breast Cancer Early Detection Guidelines: Frequently Asked Questions

Breast Reconstruction After Mastectomy (also available in Spanish)

Choosing a Doctor and a Hospital (also available in Spanish)

Non-cancerous Breast Conditions (also available in Spanish)

Mammograms and Other Breast Imaging Procedures

Medicines to Reduce Breast Cancer Risk (also available in Spanish)

Sexuality for the Woman With Cancer (also available in Spanish)

Talking With Your Doctor (also available in Spanish)

Understanding Chemotherapy (also available in Spanish)

Understanding Radiation Therapy (also available in Spanish)

National organizations and Web sites*

Along with the American Cancer Society, other sources of information and support include:

National Cancer Institute

Toll-free number: 1-800-4-CANCER (1-800-422-6237)

Web site: www.cancer.gov

Toll-free information line for questions about cancer, its treatment, and coping with it

Susan G. Komen for the Cure

Toll-free number: 1-877-GO KOMEN (1-877-465-6636)

Web site: www.komen.org

Web site has interactive videos and educational programs; offers information on breast health and breast cancer, as well as referrals to local support groups

Breast Cancer Network of Strength

Toll-free number: 1-800-221-2141 (English); 1-800-986-9505 (Spanish)

Web site: www.networkofstrength.org

Offers support and counseling for women with breast cancer (24-hour hotline), a match program with other breast cancer survivors, and information on local support groups

Young Survival Coalition

Toll-free number: 1-877-972-1011

Web site: www.youngsurvival.org

Dedicated to concerns of women age 40 and under with breast cancer. Offers written information and a program to connect with other young women affected by breast cancer

**Inclusion on this list does not imply endorsement by the American Cancer Society.*

No matter who you are, we can help. Contact us anytime, day or night, for cancer-related information and support. Call us at **1-800-227-2345** or visit www.cancer.org.

Appendix A: What is breast cancer?

Breast cancer is the development of abnormal cells in the breast. These cells are very different from normal, healthy cells. These cells begin to grow out of control and make more cells that grow into tumors, or growths, and can spread to other parts of the body.

Breast cancer develops over time, starting with one tiny, abnormal cell. In most cases this takes a long time, but sometimes the type of cancer grows very fast and the tumor grows and spreads quickly.

Likelihood of having breast cancer

Breast cancer is the most common cancer that women may have to face in their lifetime (other than skin cancer). It can develop at any age, but it is much more likely after age 40. The chance of having breast cancer increases as women get older. Some women – because of certain factors – may have a greater chance of developing breast cancer than other women.

These factors include:

- A personal history of breast cancer
- Inherited changes (or mutations) in breast cancer-related genes (called BRCA1 and BRCA2 genes)
- Previous radiation treatments to the chest
- Two or more close relatives with breast or ovarian cancer
- A relative (mother, sister, grandmother, or aunt) on either side of the family with breast cancer before age 50
- Male relatives with breast cancer

Women who have some of these factors should ask their doctors if they should have an MRI along with their mammograms and clinical breast exams each year. For more information, see our document called *Breast Cancer: Early Detection*.

Some factors may increase the chance of having breast cancer by only a small amount, such as:

- Beginning your menstrual periods at an early age (also called *early menarche*)
- Going through menopause at a late age
- Having no children
- Having your first pregnancy after age 30
- Gaining weight as an adult

- Excessive use of alcohol

But most breast cancers occur in women who have none of these risk factors, other than getting older. This means it's important that all women try to find breast cancer early through routine screening mammograms, regular clinical breast exams, and watching for any breast changes.

Rumors about breast cancer risk factors

People with fears about breast cancer sometimes start untrue rumors about what causes breast cancer. These rumors can be hurtful and frightening to others.

For example, some Internet rumors say that antiperspirants and underwire bras can increase a woman's risk of developing breast cancer. There is no experimental or clinical evidence to support either of these claims. Antiperspirants do not contain cancer-causing substances and do not block such substances from getting out of the body. We also know that injuries to the breast do not cause cancer, and that breast cancer is not something a woman gets or catches, like the flu.

If you hear claims about new causes of breast cancer, talk to your doctor before changing your lifestyle or personal habits. The American Cancer Society also has up-to-date information on cancer research and recent findings. You can get this information by calling 1-800-227-2345 or visiting www.cancer.org.

Appendix B: Guidelines for early detection of breast cancer

Breast cancer is most treatable when it is found early – when it is small and has not spread. There is no way to predict who will develop breast cancer and who will not. For these reasons, routine early detection tests (checking for breast cancer when there are no symptoms present) are recommended. The following are the guidelines published by the American Cancer Society to ensure early detection of breast cancer:

- All women age 40 and older should have a mammogram every year for as long as they are in good health.
- Women age 40 and older should have a clinical breast exam (breast exam by a health professional) every year. This exam should be done close to or preferably before the mammogram.
- Women ages 20 to 39 should have a clinical breast exam about every 3 years.
- Women should know how their breasts normally look and feel and report any changes to a health professional right away.
- Breast self-exam (BSE) is an option for women starting in their 20s. Women should be told about the benefits and limits of BSE.
- Some women – because of their family history, a genetic tendency, or certain other factors – should be screened with MRI in addition to mammograms. (The number of women who fall into this category is small: less than 2% of all the women in the US.) Talk with your doctor about your history and whether you should have additional tests at an earlier age.

For more information on screening, please see our document called *Breast Cancer: Early Detection*.

Breast changes

Early breast cancer is most often – but not always – painless. In its very early stages, it is too small to find by palpating (touching) the breast. This means that there may not be any symptoms present. At this stage of breast cancer growth, a screening mammogram can show the changes before symptoms appear. As the tumor grows larger, it can feel like a lump or thickness.

Breast cancer can develop anywhere in the breast. Some signs to watch for are:

- A lump or thickening of tissue anywhere in the breast
- Skin dimpling or puckering of the breast
- A nipple that is pushed in (inverted) and hasn't always been that way

- Discharge from the nipples that comes out by itself and is not clear in color, staining your clothing or sheets
- Any change in the shape, texture (raised, thickened skin, for example), or color of the skin

These are all changes that you may be able to see or feel yourself. Having these changes, though, does not mean you have breast cancer. They can appear for other reasons. Always tell a doctor or nurse right away about any changes you find. If you are interested in examining your own breasts, ask your doctor or nurse to show you how to do breast self-exam (BSE).

Any suspicious changes in the breast tissue may also be seen or felt by a health professional during a clinical breast exam (CBE). A CBE is a check-up in which the doctor or nurse touches and gently presses the breast tissue in a circular or vertical pattern, to find any lumps, thickenings, or other changes. The examiner may also look at the shape of your breasts while you are sitting up. He or she might ask you to move your arms into positions that make the breast easier to examine. Some may squeeze the nipples gently to check for discharge.

While breast exams are very important, breast cancers often develop without any signs or symptoms. That's why mammograms are important, too.

Appendix C: Mammograms: Finding hidden breast cancer

One of the best ways a woman age 40 or older can defend herself against breast cancer is to have yearly screening mammograms.

What is a mammogram?

A mammogram is a special type of x-ray that makes a picture of the inside of the breast. Mammograms use radiation, but the amount is very low. The potential harm from this small amount of radiation is very small and far outweighed by the potential benefit.

Mammograms can be done in a radiology facility, a hospital or clinic, or a doctor's office. There are 2 kinds of mammograms: screening mammograms and diagnostic mammograms.

A *screening mammogram* is an x-ray of the breast of a woman who has no breast symptoms or problems. Women over 40 should get screening mammograms every year to look for changes in their breast tissue. Because most breast cancers do not cause symptoms, a screening mammogram may be the best way for most women to find cancers early, when they are small, have not spread, and are most treatable.

A *diagnostic mammogram* is used to find breast disease in women who have symptoms or areas of change on their screening mammogram. Diagnostic mammograms help the doctor learn more about breast masses or the cause of other breast symptoms.

Screening mammograms are usually not very useful for women younger than 40. This is because breast tissue in most younger women is too dense to give a good, clear x-ray image. Women who have a family history of breast cancer, a genetic tendency, or certain other factors may need to start testing before age 40 and be screened with an MRI along with the mammogram. Talk with your doctor about your history and the screening tests and schedule that are best for you.

Mammogram results

When doctors look at mammogram results, they compare the x-rays from previous mammograms and look for differences between the breast images. Sometimes the x-ray will show tiny bits of calcium in the breast called *microcalcifications*. Most microcalcifications are harmless, but in some cases, they can be a sign of cancer or a pre-cancerous condition. The doctor looks at the shape and arrangement of the microcalcifications to decide if a biopsy is needed. Sometimes, the doctor may see an area of the breast that looks a little different but not enough to report the mammogram as abnormal. When this happens, the doctor may ask that the mammogram be repeated in about 6 months.

The mammogram may also show the presence of a mass, or suspicious-looking area of tissue. Masses are not a sure sign of cancer. The doctor will look at the size, shape, and margins (edges) of the mass to figure out the likelihood of cancer. More testing may be needed to find out if it is cancer.

Mammograms are the best way for most women to check for cancer in its early stages, but a mammogram alone cannot prove that a suspicious area is cancer. If cancer is suspected, more testing will be needed.

Remember:

- Only 2 to 4 mammograms in 1,000 lead to a diagnosis of cancer.
- About 10% of women will need to have more tests or another mammogram after the first one is taken. Don't be alarmed if this happens to you. Sometimes this happens if there is a technical problem with the x-ray film, or if the film was hard to read.
- Only 8% to 10% of the women who need repeat mammograms will need a biopsy, and 80% of those biopsies will not be cancer.
- Breast cancer can be cured, especially if it's caught early enough.

Appendix D: American Cancer Society support services for people facing cancer

The American Cancer Society is here for you -- before, during, and after a diagnosis of cancer. We help people by giving them up-to-date cancer information, programs, and referrals. Check your local phone book for an American Cancer Society office near you or call us anytime, day or night, at 1-800-227-2345 to learn more about these programs and what we can do to help you get well and stay well.

Reach To Recovery[®]

If you have breast cancer, you may want to talk to someone who knows what you're feeling – someone who has "been there." The American Cancer Society can help through our free Reach To Recovery program. We can match you with a volunteer who will talk with you about coping with your breast cancer diagnosis and treatment. Every volunteer is trained and is a breast cancer survivor. They know what it is like to hear the words "You have breast cancer."

I Can Cope[®]

This is a free educational program for adults with cancer and their families. Doctors, nurses, social workers, and other experts teach classes on different topics, such as cancer treatments, dealing with side effects, eating healthy, sharing concerns, finding resources, and more. I Can Cope classes are also offered online at <http://cancer.org/onlineclasses>.

Look Good...Feel Better[®]

Some cancer treatments can change the way you look. At a Look Good...Feel Better session, you can learn ways to help with side effects like hair loss and skin changes. There are also programs for men and teens. This free program is offered jointly by the American Cancer Society, the Personal Care Products Council Foundation, and the Professional Beauty Association | National Cosmetology Association. For more information, call 1-800-395-LOOK (1-800-395-5665) or your local American Cancer Society office.

"tlc" magalog

The "tlc" magalog is the American Cancer Society's catalog and magazine for women. It offers helpful articles and a line of products made for women fighting cancer. Products include wigs, hairpieces, breast forms, bras, hats, turbans, swimwear, and accessories.

You can order by phone at 1-800-850-9445 or online at www.tlccatalog.org. All proceeds from product sales go back into the American Cancer Society's programs and services for patients and survivors.

Cancer Survivors NetworkSM

The Cancer Survivors Network is a free online community created by and for people with cancer and their families. This online community is a welcoming, safe place for people to find hope and inspiration from others who have "been there." Services include discussion boards, chat rooms, and personal Web space to tell your story, blog, post images, exchange private messages with members, and much more. Check it out at <http://csn.cancer.org>.

Road To Recovery

Every day, thousands of cancer patients need a ride to treatment, but some may not have a way to get there. If finding a ride is a problem for you, we may be able to help. Our Road To Recovery program provides free rides to and from treatment for people with cancer who do not have a ride or are unable to drive themselves. Volunteer drivers donate their time and the use of their cars so that patients can get the lifesaving treatments they need.

Last Medical Review: 4/14/2011

Last Revised: 4/14/2011

2011 Copyright American Cancer Society

For additional assistance please contact your American Cancer Society
1 · 800 · ACS-2345 or www.cancer.org