



Breast Reconstruction After Mastectomy

What is breast reconstruction?

Breast reconstruction is a type of surgery for women who have had a breast removed (*mastectomy*). The surgery rebuilds the breast mound so that it is about the same size and shape as it was before. The nipple and the darker area around the nipple (*areola*) can also be added. Most women who have had a mastectomy can have reconstruction. Women who have had only the part of the breast around the cancer removed (*lumpectomy*) may not need reconstruction. Breast reconstruction is done by a plastic surgeon.

Here are some facts to help you better understand the process and the words used when talking about breast reconstruction. The words you may hear doctors use are also explained in the glossary at the end of this information.

The choice to have breast reconstruction is yours to make. We hope this information will help you make your decision. Try to learn as much as you can before you decide what to do. No one source of information can give you every fact or give you all the answers. You and those close to you should talk to your health care team about any questions and concerns you have about this type of surgery.

New choices in breast cancer surgery and reconstruction

Each year more than 292,000 American women face breast cancer. Today, the emotional and physical results are very different from what they were in the past. Much more is now known about breast cancer and its treatment. New kinds of treatment as well as improved reconstructive surgery mean that women who have breast cancer today have better choices.

Today, more women with breast cancer choose surgery that removes only part of the breast tissue. This may be called *breast conservation surgery*, *lumpectomy*, or *segmental*

mastectomy. But some women have a mastectomy, which means the entire breast is removed. Many women who have a mastectomy choose reconstructive surgery to rebuild the shape and look of the breast.

If you are thinking about having reconstructive surgery, it is a good idea to talk about it with your surgeon and a plastic surgeon experienced in breast reconstruction **before** your mastectomy. This lets the surgical teams plan the treatment that is best for you, even if you want to wait and have reconstructive surgery later.

Why have breast reconstruction?

Women choose breast reconstruction for many reasons:

- To make their chest look balanced when they are wearing a bra or swimsuit
- To permanently regain their breast shape
- So they don't have to use a form that fits inside the bra (an *external prosthesis*)

You will be able to see the difference between the reconstructed breast and the remaining breast when you are nude. But when you are wearing a bra, the breasts should be alike enough in size and shape that you will feel comfortable about how you look in most types of clothes.

Your body image and self-esteem may improve after your reconstruction surgery, but this is not always the case. Breast reconstruction does not fix things you were unhappy about before your surgery. Also, some women are not happy with how the reconstructed breast looks and feels after surgery. You and those close to you must know the facts about what to expect from reconstruction.

There are often many options to think about as you and your doctors talk about what is best for you. The reconstruction process often means one or more operations. Talk about the benefits and risks of reconstruction with your doctors **before** the surgery is planned. Give yourself plenty of time to make the best decision for you. You should decide about breast reconstruction only after you are fully informed.

Immediate or delayed breast reconstruction

Immediate breast reconstruction is done, or at least started, at the same time as the mastectomy. An advantage to this is that the chest tissues are not damaged by radiation therapy or scarring. This often means that the final result looks better. Also, immediate reconstruction means less surgery.

After the first surgery, there still may be a number of steps that are needed to complete the immediate reconstruction process. If you are planning to have immediate reconstruction, be sure to ask what will need to be done afterward and how long it will take.

Delayed breast reconstruction means that the rebuilding is started later. This may be a better choice for some women who need radiation to the chest area after the mastectomy. Radiation therapy given after breast reconstruction surgery can cause problems.

Decisions about reconstructive surgery also depend on many personal factors such as:

- Your overall health
- The stage of your breast cancer
- The size of your natural breast
- The amount of tissue available (for example, very thin women may not have enough extra body tissue to make flap grafts)
- Whether you want reconstructive surgery on both breasts
- Your insurance coverage for the unaffected breast and related costs
- The type of procedure you are thinking about
- The size of implant or reconstructed breast
- Your desire to match the look of the other breast

Other important things to think about

- Some women do not want to think about reconstruction while coping with a diagnosis of cancer. If this is the case, you may choose to wait until after your breast cancer surgery to decide about reconstruction.
- You may not want to have any more surgery than needed.
- Scarring is a natural outcome of any surgery, but cell death (called *necrosis*) of the breast skin, the flap, or transplanted fat can happen. Immediate reconstruction may be more likely to result in necrosis. If this happens, more surgery is needed to fix the problem and can deform the new breast shape.
- Not all surgery is a total success, and you may not like the way it looks.
- You may be concerned if you tend to bleed or scar.
- Healing may be affected by previous surgery, chemotherapy, radiation, smoking, alcohol use, diabetes, some medicines, and other factors.
- Would you prefer to have reconstruction before or after you complete your cancer treatment?
- Breast reconstruction restores the shape, but not feeling, in the breast. With time, the skin on the reconstructed breast can become more sensitive, but it will not feel the same as it did before your mastectomy.

- Surgeons may suggest you wait for one reason or another, especially if you smoke or have other health problems. Many surgeons say that you must quit smoking at least 2 months before reconstructive surgery to allow for better healing. You may not be able to have reconstruction at all if you are obese, too thin, or have blood circulation problems.
- The surgeon may offer surgery to reshape the remaining breast to match the reconstructed breast. This could include reducing or enlarging the size of the breast, or even surgically lifting the breast.
- Knowing your reconstruction options before surgery can help you prepare for a mastectomy with a more realistic outlook for the future.

Types of breast reconstruction

Several types of operations can be done to reconstruct your breast. You can have a newly shaped breast with the use of a breast implant, your own tissue flap, or a combination of the two. (A tissue flap is a section of your own skin, fat, and in some cases muscle which is moved from your tummy, back, or other area of your body to the chest area.)

Implant procedures

Types of implants

The most common implant is a *saline-filled implant*. It is a silicone shell filled with salt water (sterile saline).

Silicone gel-filled implants are another option for breast reconstruction. They are not used as often as they were in the past because of concerns that silicone leakage might cause immune system diseases. But most of the recent studies show that silicone implants do not increase the risk of immune system problems. The FDA approved silicone implants again in 2006. Some newer types of silicone implants use a thicker gel, called *cohesive gel*. Some of these gels are thick enough that they may not leak much even if the implant ruptures. The thickest of these are sometimes called “gummy bear” implants, but in the United States they are only available through clinical trials.

Also, *alternative breast implants* that have different shells and are filled with different materials are being studied, but you can only get them in clinical trials.

Types of surgery

One-stage immediate breast reconstruction may be done at the same time as mastectomy. After the general surgeon removes the breast tissue, a plastic surgeon places a breast implant. The implant may be put in the space created when the breast tissue was removed or behind the chest muscles to form the breast contour.

Two-stage reconstruction or *two-stage delayed reconstruction* is the type most often done if implants are used. It’s easier than the immediate operation if your skin and chest wall

tissues are tight and flat. An implanted *tissue expander*, which is like a balloon, is put under the skin and chest muscle. Through a tiny valve under the skin, the surgeon injects a salt-water solution at regular intervals to fill the expander over time (about 4 to 6 months). After the skin over the breast area has stretched enough, a second surgery is done to remove the expander and put in the permanent implant. Some expanders are left in place as the final implant.

The *two-stage reconstruction* is sometimes called *delayed-immediate reconstruction* because it allows options. If the surgical biopsies show that radiation is needed, the next steps may be delayed until after radiation treatment is complete. If radiation is not needed, the surgeon can start right away with the tissue expander and second surgery.

Considerations about implants

There are some important factors for you to keep in mind if you are thinking about having implants to restore the breast and/or to make the other breast match the restored one:

- Implants often do not last a lifetime. You may need more surgery to remove and/or replace your implant later. In fact, up to half of implants used for breast reconstruction have to be removed, modified, or replaced in the first 10 years.
- You can have problems with breast implants. They can break (rupture) or cause infection or pain. Scar tissue may form around the implant (capsular contracture), which can make the breast harden or change shape, so that it no longer looks or feels like it did just after surgery.
- Routine mammograms to screen for breast cancer on the remaining breast will be more difficult if you have a breast implant there -- you'll need more X-ray shots of the breast, and the compression may be more uncomfortable.
- Breast implants in the remaining breast may affect your ability to breast feed, either by reducing the amount of milk or stopping your body from making milk.

Tissue flap procedures

These procedures use tissue from your tummy, back, thighs, or buttocks to rebuild the breast. The 2 most common types of tissue flap procedures are the *TRAM flap* (or *transverse rectus abdominis muscle flap*), which uses tissue from the lower tummy area, and the *latissimus dorsi flap*, which uses tissue from the upper back. Other tissue flap surgeries described below are more specialized, and may not be available everywhere.

These operations leave 2 surgical sites and scars -- one where the tissue was taken and one on the reconstructed breast. The scars fade over time, but they will never go away completely. There can be donor site problems such as abdominal hernias and muscle damage or weakness. There can also be differences in the size and shape of the breasts. Because healthy blood vessels are needed for the tissue's blood supply, flap procedures are not usually offered to women with diabetes, connective tissue or vascular disease, or to smokers.

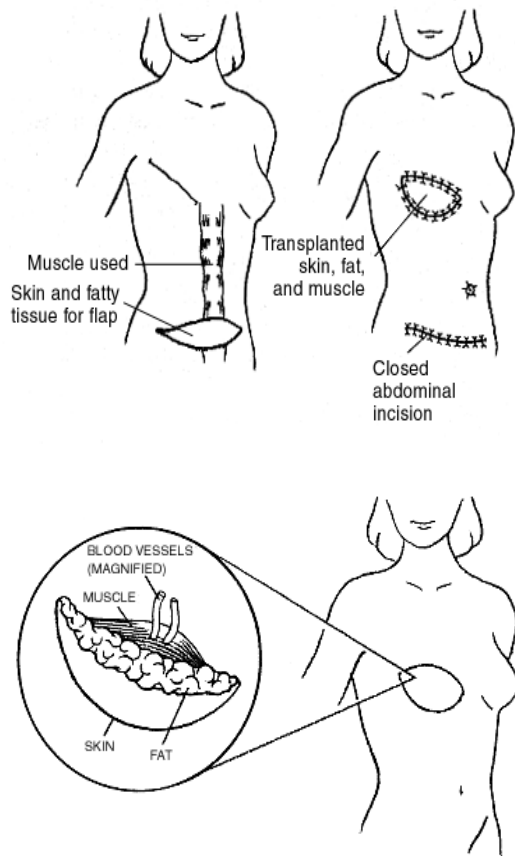
In general, flap procedures behave more like the rest of your body tissue. For instance, they may enlarge or shrink as you gain or lose weight. There is also no worry about replacement or rupture.

TRAM (transverse rectus abdominis muscle) flap

The TRAM flap procedure uses tissue and muscle from the tummy (the lower abdominal wall). The tissue from this area alone is often enough to shape the breast, so that an implant may not be needed. The skin, fat, blood vessels, and at least one abdominal muscle are moved from the belly (abdomen) to the chest. The TRAM flap can decrease the strength in your belly, and may not be possible in women who have had abdominal tissue removed in previous surgeries. The procedure also results in a tightening of the lower belly, or a "tummy tuck."

There are 2 types of TRAM flaps:

- A *pedicle flap* leaves the flap attached to its original blood supply and tunnels it under the skin to the breast area. This can leave an area of fullness where the tissue is tunneled through.
- In a *free flap*, the surgeon cuts the flap of skin, fat, blood vessels, and muscle for the implant free from its original location and then attaches it to blood vessels in the chest. This requires the use of a microscope (*microsurgery*) to connect the tiny vessels and takes longer than a pedicle flap. The free flap is not done as often as the pedicle flap, but some doctors think that it can result in a more natural shape.

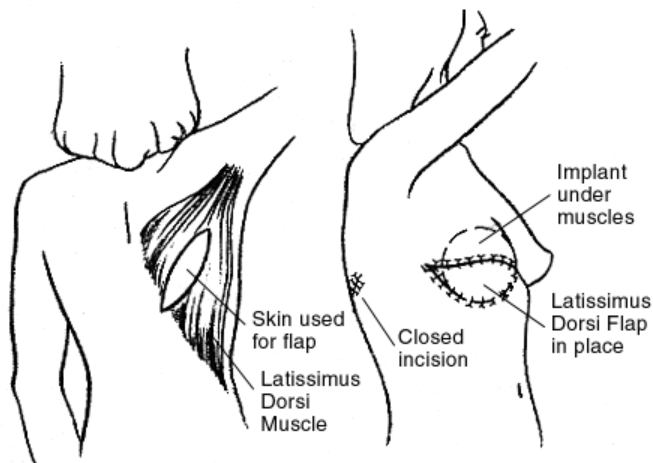


TRAM flap incisions
breast shape

The tissue used to rebuild the

Latissimus dorsi flap

The latissimus dorsi flap moves muscle and skin from your upper back when extra tissue is needed. The flap is made up of skin, fat, muscle, and blood vessels. It is tunneled under the skin to the front of the chest. This creates a pocket for an implant, which can be used for added fullness to the reconstructed breast. Though it is not common, some women may have weakness in their back, shoulder, or arm after this surgery.



Latissimus dorsi flap

DIEP (deep inferior epigastric artery perforator) flap

A newer type of flap procedure, the *DIEP flap*, uses fat and skin from the same area as in the TRAM flap but does not use the muscle to form the breast mound. This results in less skin and fat in the lower belly (abdomen), or a "tummy tuck." This method uses a free flap, meaning that the tissue is completely cut free from the tummy and then moved to the chest area. This requires the use of a microscope (microsurgery) to connect the tiny vessels. The procedure takes longer than the TRAM pedicle flap discussed above, but leaves less muscle weakness and causes fewer hernias.



Donor tissue site for DIEP flap



After DIEP flap

Gluteal free flap

The *gluteal free flap* or *GAP* (*gluteal artery perforator*) flap is newer type of surgery that uses tissue from the buttocks, including the gluteal muscle, to create the breast shape. It is an option for women who cannot or do not wish to use the tummy sites due to thinness, incisions, failed tummy flap, or other reasons. The method is much like the free TRAM flap mentioned above. The skin, fat, blood vessels, and muscle are cut out of the buttocks and then moved to the chest area. A microscope (microsurgery) is needed to connect the tiny vessels.

Inner thigh or TUG flap

A newer option for those who can't or don't want to use TRAM or DIEP flaps is a surgery that uses muscle and fatty tissue from along the bottom fold of the buttock extending to the inner thigh. This is called the *transverse upper gracilis flap* or *TUG flap*. Because the skin, muscle, blood vessels are cut out and moved to the chest, a microscope is used to connect the tiny blood vessels to their new blood supply. Women with thin thighs don't have much tissue here, so the best candidates for this type of surgery are women whose inner thighs touch and who need a smaller or medium sized breast. Sometimes there are healing problems due to the location of the donor site but they tend to be minor and easily treated.

New methods of tissue support

These operations move sections of tissue to new places, or add fairly heavy implants, and some tissues need support to keep them in place as they heal. Doctors can use synthetic mesh, animal grafts, and other methods for this.

More recently, some doctors are using products made of donated human skin (such as AlloDerm[®] and DermaMatrix[®]). These products are regulated by the U.S. Food and Drug Administration (FDA) as human tissues used for transplant. But they have had the human cells removed (are acellular), which reduces any risk that they carry diseases or the body will reject them. They are used to extend and support natural tissues and help them grow and heal. In breast reconstruction they may be used with expanders and implants. They have also been used in nipple reconstruction.

These products are fairly new in breast reconstruction. Studies that look at outcomes are still in progress, but have been promising overall. There may be a higher risk of implants having to be removed after surgery when human skin is used. Some studies also suggest a higher rate of infection, fluid collecting in the surgical area, and possibly of tissue flap death (the tissue that covers the implant dies and must be removed). This skin tissue is not used by every plastic surgeon, but is becoming more widely available.

Nipple and areola reconstruction

You can decide if you want to have your nipple and the dark area around the nipple (areola) reconstructed. Nipple and areola reconstructions are optional and usually the final phase of breast reconstruction. This is a separate surgery that is done to make the reconstructed breast look more like the original breast. It can be done as an outpatient after drugs are used to make the area numb (under *local anesthesia*). It is usually done after the new breast has had time to heal (about 3 to 4 months after surgery).

The ideal nipple and areola reconstruction requires that the position, size, shape, texture, color, and projection of the new nipple match the natural one. Tissue used to rebuild the nipple and areola also is taken from your body, such as from the newly created breast, opposite nipple, ear, eyelid, groin, upper inner thigh, or buttocks. A tattoo may be used to match the color of the nipple of the other breast and to create the areola.

Nipple-sparing procedures

In a procedure called *nipple-sparing mastectomy* or *areola-sparing mastectomy*, the nipple and/or areola are left in place while the breast tissue under them is removed. Women who have a small early stage cancer near the outer part of the breast, with no signs of cancer in the skin or near the nipple, may be able to have nipple-sparing surgery. (Cancers that are larger or nearby are more likely to have cancer cells hidden in the nipple, which means a higher risk the cancer will come back.) Some doctors give the nipple tissue a dose of radiation during or after the surgery to try and reduce the risk of the cancer coming back. In areola-sparing mastectomy, the nipple itself, including its ducts, may be removed while the circle of tissue around it is kept.

There are still some problems with nipple-sparing operations. Afterward, the nipple does not have a good blood supply, so sometimes it can wither away or become deformed. Because the nerves are also cut, there is little or no feeling left in the nipple. In some cases, the nipple may look out of place later, mostly in women with larger breasts. Doctors are working to try and improve the safety and outcomes of nipple-sparing surgeries.

Saving the nipple from the breast that has been removed to use it later (called nipple saving or nipple banking) is no longer favored by most surgeons. The tissue can be injured by the way it is stored or preserved, and there have been other problems with this surgery. A few researchers are still trying different ways to make this work, but the methods are not ready for general use.

Choosing your plastic surgeon

Once you decide to have breast reconstruction, you will need to find a board-certified plastic surgeon with experience in breast reconstruction. Your breast surgeon can suggest doctors for you.

To find out if a surgeon is board certified, contact the American Society of Plastic Surgeons (ASPS). This organization has a Plastic Surgery Information Service that provides a list of ASPS members in a caller's area who are certified by the American Board of Plastic Surgery. You can find contact information in the "To learn more" section toward the end of this document.

Questions to ask your plastic surgeon

It is very important that you get all of your questions answered by your plastic surgeon before having breast reconstruction. If you don't understand something, ask your surgeon about it. Here is a list of questions to get you started. Write down other questions as you think of them.

You may want to take notes or record your talks with your surgeons. Some people bring their partner or a friend with them to the doctor to help remember what was said and to help ask other questions. The answers to these questions may help you make your decisions.

- Can I have breast reconstruction?
- When can I have reconstruction done?
- What types of reconstruction could I have?
- What is the average cost of each type? Will my insurance cover them?
- What type of reconstruction do you think would be best for me? Why?
- How many of these procedures have you (plastic surgeon) done?

- What results can I expect?
- Will the reconstructed breast match my other breast?
- How will my reconstructed breast feel to the touch?
- Will I have any feeling in my reconstructed breast?
- What possible problems should I know about?
- Will there be pain, scars, or other changes in parts of my body from which tissue is taken (if using a tissue flap)?
- How much discomfort or pain will I feel?
- How long will I be in the hospital?
- Will I need blood transfusions? If so, can I donate my own blood?
- How long it take for me to recover?
- What will I need to do at home to care for my incisions (surgical wounds)?
- Will I have a drain (tube that lets fluid out) when I go home?
- How much help will I need at home to take care of my drain and wound?
- When can I start my exercises?
- How much activity can I do at home?
- What do I do if my arm swells (this is called lymphedema)?
- When will I be able to go back to normal activity such as driving and working?
- Can I talk with other women who have had the same surgery?
- Will reconstruction interfere with chemotherapy?
- Will reconstruction interfere with radiation therapy?
- How long will the implant last?
- What kinds of changes to the breast can I expect over time?
- How will aging affect the reconstructed breast?
- What happens if I gain or lose weight?
- Are there any new reconstruction options that I should know about, including clinical trials?

It is common to get a second opinion before having surgery. Breast reconstruction and even mastectomy are not emergencies. It is more important for you to make the right

decisions based on complete information than to act quickly before you know all your options.

Before surgery

Planning your surgery

You can start talking about reconstruction as soon as you know you have breast cancer. You will want your breast surgeon and your plastic surgeon to work together to come up with the best possible plan for reconstruction.

After reviewing your medical history and overall health, your surgeon will explain which reconstructive options are best for you based on your age, health, body type, lifestyle, and goals. Talk with your surgeon openly about what you expect. Your surgeon should be frank with you when explaining the limits, risks, and benefits of each option.

Breast reconstruction after a mastectomy can make you feel better about how you look and renew your self-confidence. But keep in mind that the reconstructed breast will not be a perfect match or substitute for your natural breast. If tissue from your tummy, shoulder, or buttocks will be used, those areas will also look different after surgery. Talk with your surgeon about surgical scars and changes in shape or contour. Ask where they will be, and how they will look and feel after they heal.

If you would like to talk with someone who has had your type of surgery, ask about our Reach to Recovery program. The Reach to Recovery volunteers are trained to support people facing breast cancer, as well as those who have surgery, chemotherapy, radiation therapy, and who are thinking about breast reconstruction. Ask your doctor or nurse to refer you to a volunteer in your area, or call us at 1-800-227-2345.

Your surgeon (or other doctors involved) should also explain the details of your surgery, including:

- The drugs (anesthesia) that will be used to make you sleep through the surgery
- Where the surgery will be done
- What to expect after surgery
- The plan for follow-up
- Costs

Health insurance policies often cover most or all of the cost of reconstruction after a mastectomy. Check your policy to make sure you are covered. Also, see if there are any limits on what types of reconstruction are covered.

Make sure your insurance company will not deny breast reconstruction costs. Your surgeon may be able to help you with this if your insurance plan wants to deny coverage, so be sure to ask. It may take some time and effort, because health plans have denied

coverage for certain reconstruction procedures despite federal laws that require coverage in most cases. They often reverse such decisions on appeal. For more information on this and other insurance issues, see our information in the documents *Women's Health and Cancer Rights Act*, and *Health Insurance and Financial Assistance for the Patient With Cancer*.

Getting ready for surgery

Your breast surgeon and your plastic surgeon should give you clear instructions on how to prepare for surgery. These will likely include:

- Help with quitting smoking
- Instructions to take or avoid certain vitamins, medicines and supplements for a period of time before your surgery
- Guidelines on eating and drinking before surgery

Plan to have someone drive you home after your surgery or your time in the hospital. You will likely also need them to stay and help you out for a few days.

Where your surgery will be done

Breast reconstruction often involves more than one operation. The first stage creates the breast mound. This may be done at the same time as the mastectomy or later on. It is usually done in a hospital.

Follow-up procedures, such as creating the nipple and areola, may also be done in the hospital or in an outpatient facility. This decision depends on how much surgery is needed and what your surgeon prefers, so you will need to ask about this.

What kinds of anesthesia are used?

The first stage of reconstruction is almost always done using general anesthesia. This means you'll be given drugs to make you sleep and not feel pain during the surgery.

Follow-up procedures may only need local anesthesia. This means that only the area the doctor is working on will be made numb. A drug called a sedative may also be used to make you sleepy. You'll be relaxed but awake, and you may feel some discomfort.

Possible risks

Almost any woman who must have her breast removed because of cancer can have reconstructive surgery. Certain risks go along with any surgery, and reconstruction may have certain unique problems for some people.

Some risks of reconstruction surgery are:

- Bleeding

- Fluid build-up in the breast or the donor site, with swelling and pain
- Growth of scar tissue
- Infection
- Tissue death (necrosis) of all or part of the flap, skin, or fat
- Problems at the donor site (this can happen right away and later on)
- Loss of or changes in nipple and breast sensation
- Extreme tiredness (fatigue)
- The need for more surgery to fix problems that come up
- Changes in the affected arm
- Problems with the drugs (anesthesia)

Risks of smoking

Using tobacco causes the blood vessels to tighten (constrict) and reduces the supply of nutrients and oxygen to tissues. As with any surgery, smoking can delay healing. This can cause more noticeable scars and a longer recovery time. Sometimes these problems are bad enough that a second operation is needed to fix them. You may be asked to quit smoking a few weeks or months before surgery to reduce these risks.

Risks of infection

Infection can happen with any surgery, usually in the first 2 weeks after surgery. If an implant has been used, it may have to be removed until the infection clears. A new implant can be put in later. If you have a tissue flap, surgery may be needed to clean the wound.

Risks of capsular contracture

The most common problem with breast implants is capsular contracture. This happens when the scar (or capsule) around the implant tightens and starts to squeeze the soft implant. It can make the breast feel very hard. Capsular contracture can be treated. Sometimes surgery can remove the scar tissue, or the implant may be removed or replaced.

After breast reconstruction surgery

What to expect

You are likely to feel tired and sore for a week or 2 after implants, and longer after flap procedures. Your doctor can give you medicines to control pain and other discomfort.

Depending on the type of surgery, you should go home from the hospital in 1 to 6 days. You may be discharged with one or more drains in place. A drain is a small tube that is left in place to remove extra fluid from the surgery site while it heals. In most cases, it drains into a little hollow ball that you will learn to empty before you leave the hospital. Follow your doctor's instructions on wound and drain care. Also be sure to ask what kind of support garments you should wear. If you have any concerns or questions, call your doctor.

Getting back to normal

You should be up and around in 6 to 8 weeks. If implants are used without flaps, your recovery time may be shorter. Some things to keep in mind:

- Reconstruction does not restore normal feeling to your breast, but some feeling may return over a period of years.
- It may take up to about 8 weeks for bruising and swelling to go away. Try to be patient as you wait to see the final result.
- It may take as long as 1 to 2 years for tissues to heal and scars to fade, but the scars never totally go away.
- Ask when you can go back to wearing regular bras. Underwires and lace may not be comfortable.
- Follow your surgeon's advice on when to begin stretching exercises and normal activities, because it's different with different types of reconstruction. As a rule, you'll want to avoid any overhead lifting, strenuous sports, and some sexual activity for 4 to 6 weeks after reconstruction. Check with your surgeon for specific guidance.
- Women who have reconstruction months or years after a mastectomy go through a period of emotional adjustment once they have their breast reconstructed. Just as it takes time to get used to the loss of a breast, it takes time to start thinking of the reconstructed breast as your own. Talking with other women who have had breast reconstruction might be helpful. Talking with a mental health professional may also help you sort out anxiety and other distressing feelings.
- Silicone gel implants may open up or leak inside the body without causing symptoms. Some surgeons will recommend that regular MRIs of the implant be done to make sure it isn't leaking. This is not required with saline implants. You will likely have your first MRI about 1 year after your implant surgery and every 2 years from then

on. Your insurance may not cover this. Talk to your doctor about long-term follow-up.

- Call your doctor right away if you notice any new skin changes, swelling, lumps, pain, or fluid from the breast, armpit, or flap donor site, or if you have other symptoms that concern you.

For more information on coping after cancer, see our documents *After Diagnosis: A Guide for Patients and Families* and *Sexuality for the Woman With Cancer*. They are available on our Web site, www.cancer.org, or you can have them sent to you by calling 1-800-227-2345.

Can breast reconstruction hide cancer, or cause it to come back?

Studies show that reconstruction does not make breast cancer come back. If the cancer does come back, reconstructed breasts should not cause problems with chemotherapy or radiation treatment.

If you are thinking about breast reconstruction, either with an implant or flap, you need to know that reconstruction rarely, if ever, hides a return of breast cancer. You should not consider this a big risk when deciding to have breast reconstruction after mastectomy.

As of early 2011, the US Food and Drug Administration (FDA) shared concerns that breast implants may be linked to a few cases of a rare kind of cancer, known as *ALK1-negative anaplastic large cell lymphoma (ALCL)*. This concern is mainly based on some case reports and a single observational study. Other studies so far have not shown any significant link. ALCL has been noted between 1 and 23 years after implants, and usually responds well to treatment. More careful studies are needed to find out what link, if any, there is between this rare cancer and breast implants.

Talk to your doctors about mammograms

It is important to have regular mammograms on your other breast at a facility with technologists and radiologists experienced in taking and reading mammograms. If your reconstruction involves an implant, be sure to get your mammograms done at a facility with technologists trained in moving the implant to get the best possible images of the rest of the breast. Pictures can sometimes be impaired by implants, more so by silicone than saline-filled. Be sure your technologist knows about your implants before starting the mammogram.

Mammograms can be done with tissue flap breast reconstructions although they are generally not needed after a full mastectomy. But reconstructed breasts can look fatty, and surgical clips and scars may show up on the mammogram. Still, breast changes or abnormalities can be seen. Talk to your plastic surgeon and oncologist about this.

Breast self-examinations

After breast reconstruction, you may choose to keep doing breast self-examination (BSE). Check both the remaining breast and the reconstructed breast at the same time. This will help you learn what is normal for you so that you can find any changes in the future. The reconstructed breast will feel different. The remaining breast may change, too, even if no surgery was done there. Your doctor or nurse can help you understand what is normal so that you can notice and report any changes as quickly as possible. To learn how to do breast self-examination, ask your doctor or nurse, call us, or go to our Web site to see our document, *Breast Cancer: Early Detection*.

Our Reach to Recovery program

Reach to Recovery is an American Cancer Society volunteer visitation program. Breast cancer survivors are trained to respond to you and your family's concerns when you face the diagnosis, treatment, and effects of breast cancer.

In many locations, trained Reach to Recovery volunteer visitors who have had breast reconstruction can visit with you if you are thinking about this type of surgery. These visits are always free of charge.

To request a Reach to Recovery visit, ask your doctor or nurse for a referral, call us, or use the "Contact Us" button at www.cancer.org.

Glossary

Anaplastic large cell lymphoma or ALCL: a rare type of non-Hodgkin lymphoma that may be slightly more common in women who have gotten breast implants. ALCL is not cancer of the breast tissue, but develops in the scar capsule next to the implant.

Anesthesia: the loss of feeling or sensation caused by drugs or gases. General anesthesia causes loss of consciousness (it puts you into a deep sleep). Local or regional anesthesia numbs only a certain area. Some operations use both.

Areola: the darker area around the nipple.

Breast conservation surgery: surgery to remove a breast cancer and a small area of normal tissue around the cancer without removing any other part of the breast. The lymph nodes under the arm may be removed, and radiation therapy is often given after the surgery. This method is also called *lumpectomy*, *segmental excision*, *limited breast surgery*, or *partial* or *segmental mastectomy*.

Breast implant: a sac used to increase breast size or restore the shape of a breast after mastectomy or partial mastectomy. The sac is filled with sterile salt water (saline) or silicone gel.

Breast reconstruction: surgery that rebuilds the breast contour or shape after mastectomy. A breast implant or the woman's own tissue is used. If desired, the nipple

and areola may also be recreated. Reconstruction can be done at the time of mastectomy or any time later.

Capsular contracture: scar tissue that forms around the implant and squeezes it. There are 4 grades of contracture (Grades I - IV) that range from normal and soft to hard, painful, and distorted.

Clinical trials: studies of new treatments in patients. They are only done when there is reason to believe that the treatment being studied may be of value to patients.

Delayed-immediate reconstruction: see *two-stage reconstruction*

Delayed reconstruction: reconstructive surgery that is done later, not at the time of the mastectomy

DIEP (deep inferior epigastric artery perforator) flap: a type of flap procedure that uses fat and skin from the same area as in the TRAM flap, but does not use the muscle to form the breast mound.

Free flap: in this kind of surgery the tissue for reconstruction is moved entirely from another area of the body and the blood and nerve supplies are surgically reattached with special microscopes.

Gluteal free flap or GAP flap: a type of flap procedure that uses tissue and gluteal muscle from the buttocks to create the breast shape. This is a free-flap procedure and requires microsurgery.

General anesthesia: drugs or gases that put you into a deep sleep.

Immediate reconstruction: see *one-stage immediate breast reconstruction*

Latissimus dorsi flap: this procedure tunnels muscle, fat, and skin from the upper back to the chest to create a breast mound.

Local anesthesia: using drugs to numb only the part of the body undergoing a procedure or surgery so that a patient is more comfortable; the patient generally stays awake.

Lumpectomy: surgery that removes only the breast lump and a rim (margin) of normal tissue around it.

Mastectomy: surgical removal of the part or all of the breast, and sometimes other tissue. See also *segmental mastectomy*.

Microsurgery or microvascular surgery: a procedure that uses microscopes and fine surgical instruments to reattach blood vessels and nerves to tissues that have been taken from another area.

Necrosis: cell and tissue death from lack of blood supply to the tissue.

Nipple-sparing mastectomy: procedure that allows the nipple, areola, and much of the breast skin to be preserved during mastectomy to make reconstruction easier. It is mostly used in patients with small, early-stage breast cancer that is not near the nipple area. A

one-time dose of radiation is sometimes used on the nipple tissue to reduce the risk of hidden cancer cells.

One-stage immediate breast reconstruction (also called *immediate reconstruction*): reconstructive surgery that is done at the same time as the mastectomy.

Pedicle flap: tissue that is surgically removed, but the blood vessels remain attached and are tunneled from the original site to the area where the tissue is to be attached.

Prosthesis: man-made body part to substitute for one that has been removed, such as an external breast form to fill out a bra cup.

Saline-filled implant: has a silicone shell and is filled with sterile salt water (saline).

Segmental mastectomy (also called *partial mastectomy* or *quadrantectomy*): surgery that removes more breast tissue than a lumpectomy (up to one-quarter of the breast).

Silicone gel-filled implants: breast implants filled with a man-made material called silicone. Because of its flexibility, strength, and texture, it feels much like the natural breast. Silicone gel breast implants are now available for women who have had breast cancer surgery, but they will need additional follow-up to watch for possible leak (rupture) of the implant.

Tissue expander: implanted balloons under the skin and pectoral muscle that are used to keep living tissues under tension. This causes new cells to form and stretches the tissue. The surgeon puts the expander beneath the skin, and over weeks or months, injects a saline solution to slowly expand the overlying skin to make space for an implant.

Tissue flap reconstruction: tissue for reconstruction that is surgically removed from another area of the body. It can be a pedicle (left attached to its base and then tunneled) or free flap (cut free from its base and transplanted to the chest).

Transverse rectus abdominis muscle (TRAM) flap: a procedure that uses tissue and muscle from the lower tummy wall to reconstruct a breast mound. It can be a pedicle (left attached to its base and then tunneled) or free flap (cut free from its base and transplanted to the chest).

Transverse upper gracilis (TUG) flap or **inner thigh flap:** surgery that uses muscle and fatty tissue from along the bottom fold of the buttock extending to the inner thigh to rebuild the breast shape. This is a free-flap procedure and requires microscopic surgery.

Two-stage reconstruction or two-stage delayed reconstruction: a two-step procedure that is done if your skin and chest wall tissues are tight and flat. A tissue expander is placed beneath the skin and chest muscle. It is like a balloon that is slowly filled with saline over time. It is surgically replaced with an implant when it expands to full size. This is sometimes called a *delayed-immediate reconstruction*, because the expander can be placed when the mastectomy is done, but filling it can be delayed until radiation or other treatment is completed.

To learn more

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 Dictionary (also available in Spanish)

Breast Cancer: Early Detection (also available in Spanish)

Breast Cancer Prostheses and Hair Loss Accessories List

Exercises After Breast Surgery (also available in Spanish)

How to Perform a Breast Self Exam

Lymphedema: What Every Woman With Breast Cancer Should Know (also available in Spanish)

Mammograms and Other Breast Imaging Procedures

Reach To Recovery

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

Women's Health and Cancer Rights Act

Health Insurance and Financial Assistance for the Patient With Cancer

Books

The following books are also available from the American Cancer Society. Call us to ask about costs or to place your order.

Breast Cancer Clear & Simple

I Can Survive!

Lymphedema: Understanding and Managing Lymphedema After Cancer Treatment

What Helped Me Get Through: Cancer Survivors Share Wisdom and Hope

What to Eat During Cancer Treatment

National organizations and Web sites*

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

American Society of Plastic Surgeons (ASPS)

Web site: www.plasticsurgery.org

For information about breast reconstruction, tips on getting ready for surgery, and referrals to a board certified plastic surgeon.

Breast Cancer Network of Strength

Toll-free number: 1-800-221-2141

Spanish toll-free number: 1-800-986-9505

Web site: www.networkofstrength.org

Offers peer support, as well as breast health and clinical trials information

Food and Drug Administration Consumer Information Line

Toll-free number: 1-888-463-6332 (1-888-INFO-FDA)

Web site: www.fda.gov or www.fda.gov/cdrh/breastimplants/

Information on breast implants

National Cancer Institute

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

TTY: 1-800-332-8615

Web site: www.cancer.gov or www.clinicaltrials.gov

Up-to-date cancer and clinical trials information, as well as free support to quit smoking (at the tobacco line, 1-877-448-7848, or the direct Web site www.smokefree.gov)

SHARE: Self-Help for Women with Breast or Ovarian Cancer

Toll-free number: 1-866-891-2392

Web site: www.sharecancersupport.org

Offers support and information for breast or ovarian cancer survivors

**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 information and support. Call us at **1-800-227-2345** or visit www.cancer.org.

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Last Medical Review: 3/15/2012

Last Revised: 3/15/2012

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