



Breast Surgery

[We are strong. We are Edith.]



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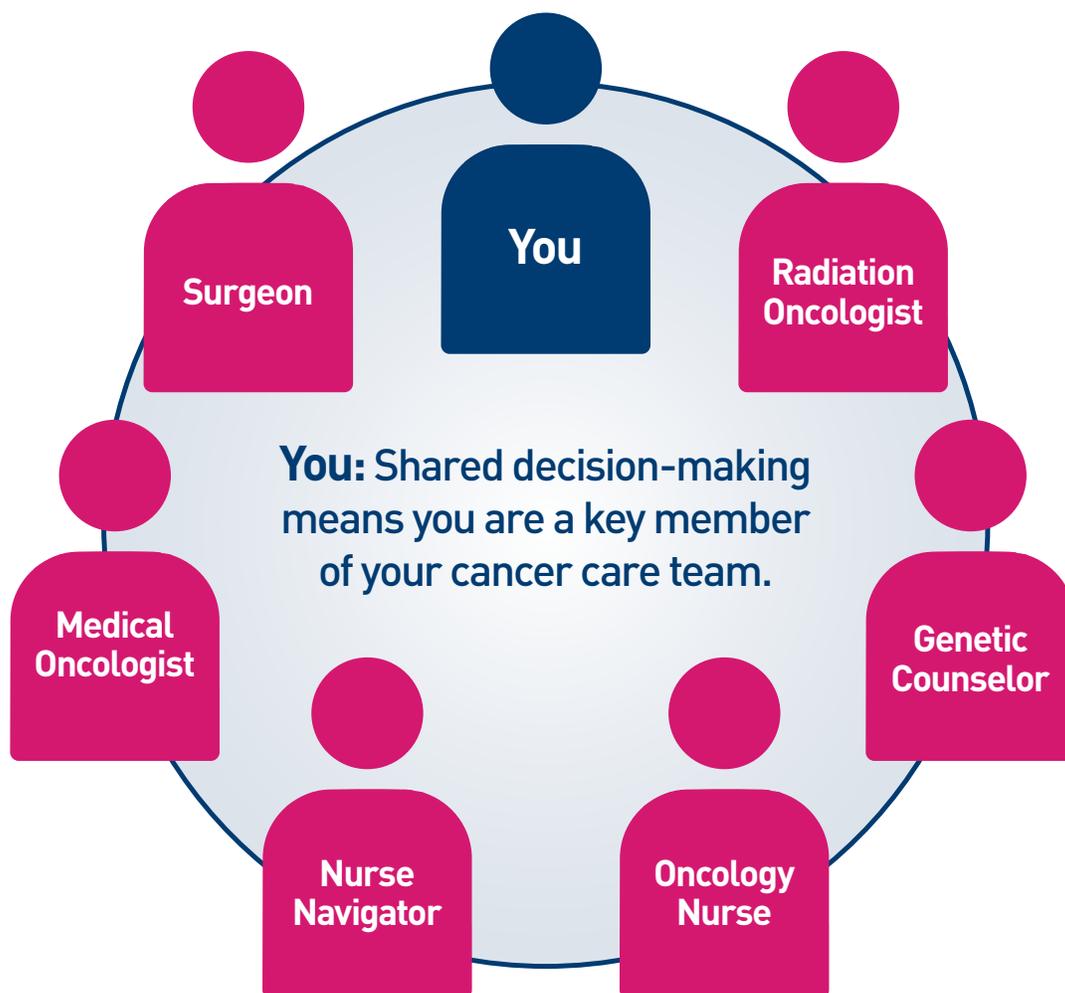
Introduction

Thank you for choosing the doctors, nurses, and staff of Edith Sanford Breast Center for your care. We know this can be a difficult and stressful time.

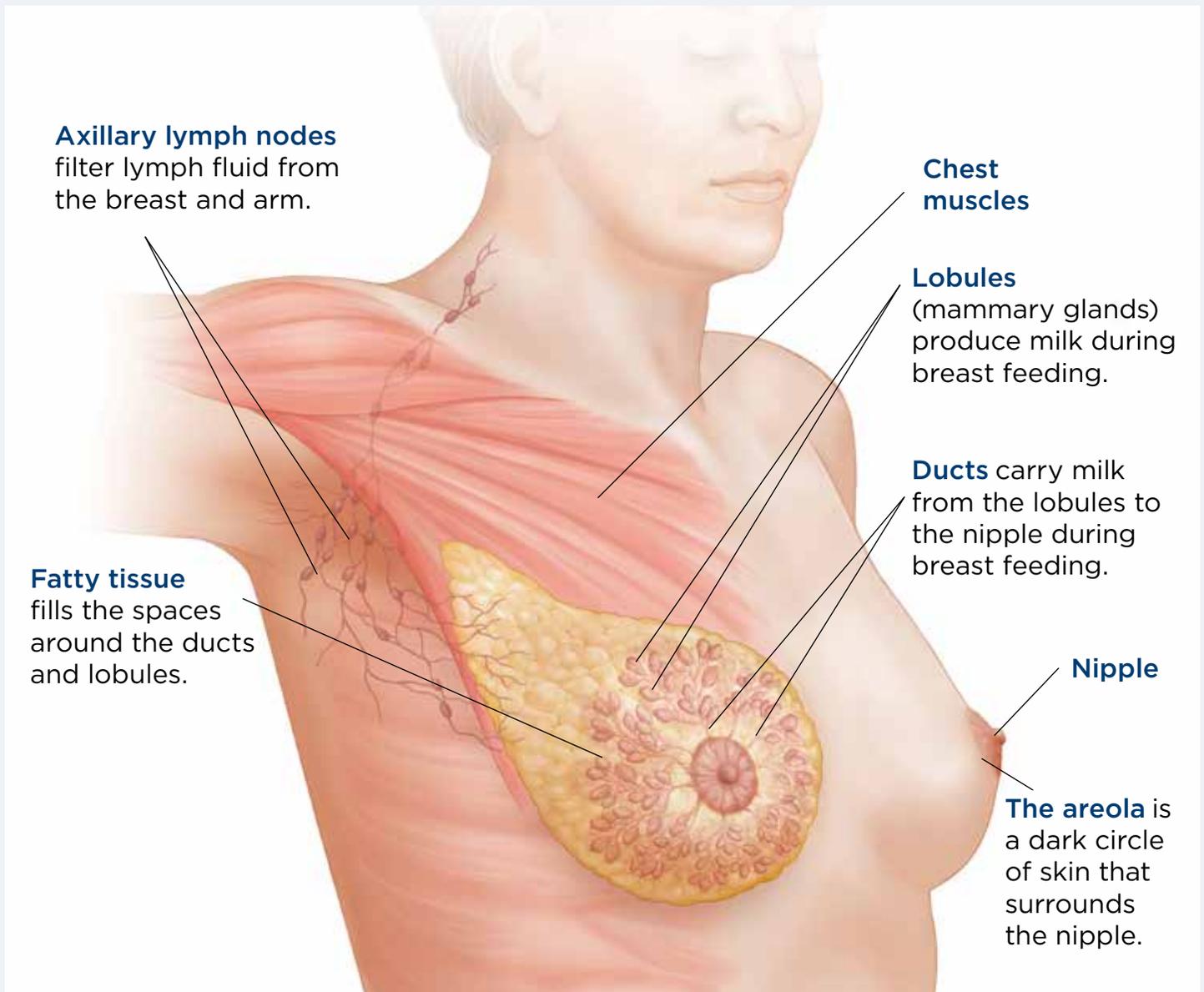
Edith Sanford Breast Centers offer you the best in medical diagnosis, education, treatment and support in a warm and caring environment.

The goal of this booklet is to help you learn about different breast surgery options that may be offered to you. Every woman is different. Every cancer is different. Your surgeon and health care team will help you make the best decisions for you and your situation.

We take a team approach to breast cancer treatment. The members of your cancer team will vary based on the treatment choices that work best for you.



Breast Anatomy



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To better understand breast changes, it helps to know what the breasts and lymphatic system are made of.

What are breasts made of?

Breasts are made of connective tissue, glandular tissue, and fatty tissue.

Each breast has lobes, lobules, ducts, an areola, a nipple, and lymph vessels.

- **Lobes** are sections of glandular tissue. Lobes have smaller sections called lobules that end in tiny bulbs. These bulbs can make milk.
- **Ducts** are thin tubes that connect the lobes and lobules. Milk flows from the lobules through the ducts to the nipple.
- **The nipple** is the small raised area at the tip of the breast. Milk flows through the nipple. The areola is the area of darker-colored skin around the nipple.

What is the lymphatic system made of?

The lymphatic system, part of your body's defense against infection and disease, contains lymph vessels and lymph nodes.

- **Lymph vessels:**
 - Thin tubes that carry a fluid called lymph and white blood cells
 - Lead to small organs called lymph nodes
- **Lymph nodes:**
 - Small, bean-shaped organs clustered near your breast, under your arm, above your collarbone, in your chest, and in other parts of your body
 - Connected to one another by the lymph vessels
 - Filter substances in lymph fluid to help fight infection and disease
 - Store disease-fighting white blood cells called lymphocytes

Surgery choices for women with breast cancer



// I didn't know where to start. So, I learned about each type of surgery and thought about what was important to me. I also asked my family and friends what they thought. I finally decided that mastectomy was the way to go. //

Once you are diagnosed, treatment will usually not begin right away. First, you will:

- Meet with a breast cancer surgeon and members of the breast cancer team
- Learn the facts about your surgery choices
- Think about what is important to you

As a woman with breast cancer, you will talk with your surgeon about the types of breast surgery available. Often, your choices include:

- **Lumpectomy** – taking out the cancer and leaving most of the breast
- **Mastectomy** – removing the whole breast
- **Mastectomy with reconstruction** – removing the whole breast and then creating a breast shape using an implant or tissue from another part of the body

Learning all you can will help you make a choice you can feel good about.

Talk with your surgeon

Talk with a breast cancer surgeon about the best surgery options for you. Find out:

- What happens during surgery
- The types of problems that sometimes occur
- Any treatment you might need after surgery

Ask questions and learn as much as you can. You may also wish to talk with family members, friends, or others who have had breast cancer surgery.

If you think you might have a mastectomy, this is also a good time to learn about breast reconstruction. Think about meeting with a reconstructive plastic surgeon to learn about this surgery and if it seems like a good option for you.

Learn about your surgery choices

Lumpectomy followed by radiation

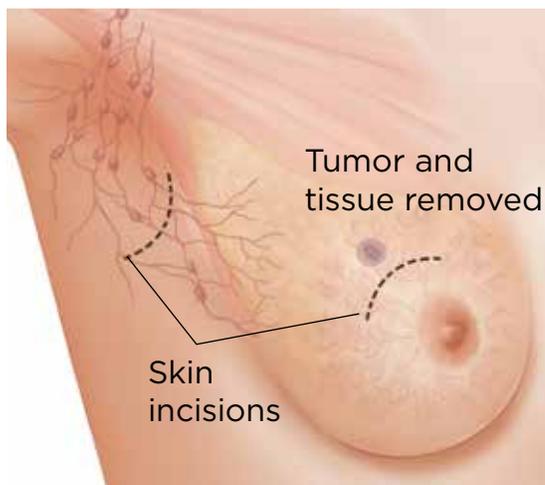
Lumpectomy means the surgeon removes only the cancer and some normal tissue around it. The surgeon may also remove one or more lymph nodes from under your arm.

Other words for lumpectomy include:

- Breast-sparing surgery
- Partial mastectomy
- Breast-conserving surgery
- Segmental mastectomy

Your surgeon will make an incision near the tumor. The tumor and the surrounding area of normal tissue will be removed. A second incision may also be made under your arm to remove some of the nearby lymph nodes. These are checked to see if the cancer has spread to them.

After lumpectomy, most women also receive radiation therapy. The main goal of this treatment is to keep cancer from coming back in the same breast. Some women will also need chemotherapy, hormone therapy, and/or targeted therapy.



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“ At first, I was so overwhelmed that I wanted someone to tell me what to do. But, once I took some time to learn about my choices, I decided that lumpectomy followed by radiation therapy was the best treatment for me. ”

Mastectomy

With a mastectomy, the surgeon removes the whole breast that contains the cancer. There are 2 main types of mastectomy. They are:

Total (simple) mastectomy

The surgeon removes your whole breast. The surgeon also takes out 1 or more of the axillary lymph nodes.

Modified radical mastectomy

The surgeon removes your whole breast, many of the axillary lymph nodes, and the lining over your chest muscles.

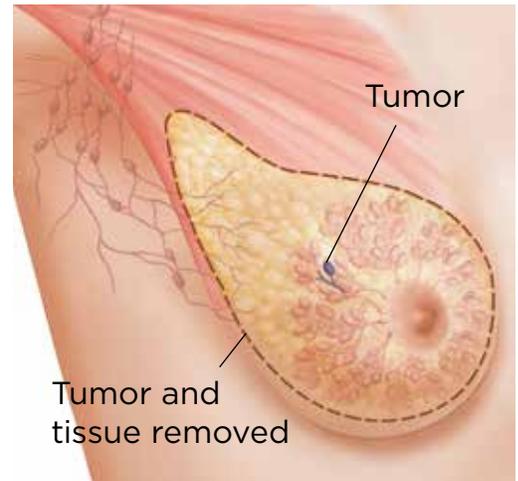
Skin-sparing is a technique that may be able to be used if reconstructive surgery is going to be done immediately. This is not always an option, but it can make the process of breast reconstruction easier and reduce scarring. The surgeon preserves as much of the breast skin as possible.

- First, the skin of the nipple, areola (the dark area around your nipple), and original biopsy scar are removed creating a small opening.
- Then the breast tissue is removed through the small opening.
- This leaves the breast skin mostly intact to form a pouch for the implant.

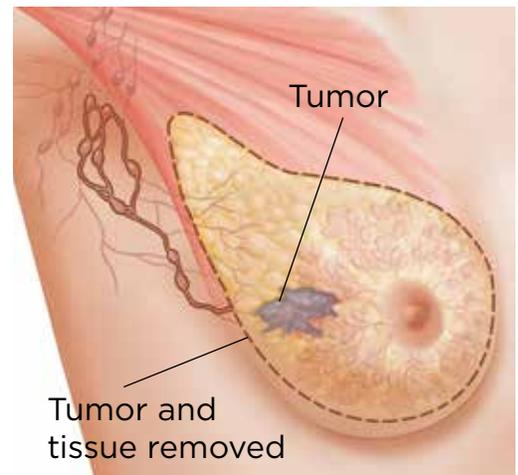
Nipple-sparing keeps the nipple, areola (the dark area around your nipple), and as much of the breast skin as possible. The goal is that, after reconstructive surgery, the breast will have a more natural appearance because the nipple does not need to be created.

Some women will also need radiation therapy, chemotherapy, hormone therapy, and/or targeted therapy.

If you have a mastectomy, you may choose to wear a prosthesis (breast-like form) in your bra or have breast reconstruction surgery.



Total (simple) mastectomy
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Modified radical mastectomy
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Breast reconstruction surgery

You can have breast reconstruction surgery at the same time as the mastectomy or any time after surgery. This type of surgery is done by a plastic surgeon with special training in reconstructive surgery. The surgeon uses an implant or tissue from another part of your body to create a breast-like shape that replaces the breast that was removed. If a nipple-sparing procedure was not done, the surgeon may also make the form of a nipple and add a tattoo that looks like the areola. There are 2 main types of breast reconstruction surgery:

Breast implant

A breast implant may be placed at the same time as the mastectomy (direct implant). Even with a direct implant a second surgery called fat grafting may be needed to shape the breast. Another option for reconstruction may include tissue expansion. This may be done in different ways:

- A balloon expander is placed under the chest muscle. Over weeks or months, saline (salt water) will be added to the expander to stretch the chest muscle and the skin on top of it.
- A balloon expander is placed under the skin but on top of the muscle and secured in place. Then air is used to inflate the expander rather than saline.



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Inflating the balloon makes a pocket for the implant.

Once the pocket is the correct size, the surgeon will remove the expander and place an implant (filled with saline or silicone gel) into the pocket. This creates a new breast-like shape. Although it looks like a breast, you will not have the same feeling in it because nerves were cut during your mastectomy.



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Breast implants do not last a lifetime. If you choose to have an implant, chances are you will need more surgery later on to remove or replace it. Implants can cause problems such as breast hardness, pain, and infection. An implant may also break, move, or shift. These problems can happen soon after surgery or years later.



“ I decided to have a mastectomy, followed by breast reconstruction. There were many things to learn and think about before I made this decision. This choice may not be right for everyone, but it was right for me. ”

Using tissue to reconstruct the breast

In tissue reconstruction, a piece of your own tissue containing skin, fat, blood vessels, and sometimes muscle is taken from elsewhere in your body and used to rebuild the breast. This piece of tissue is called a flap.

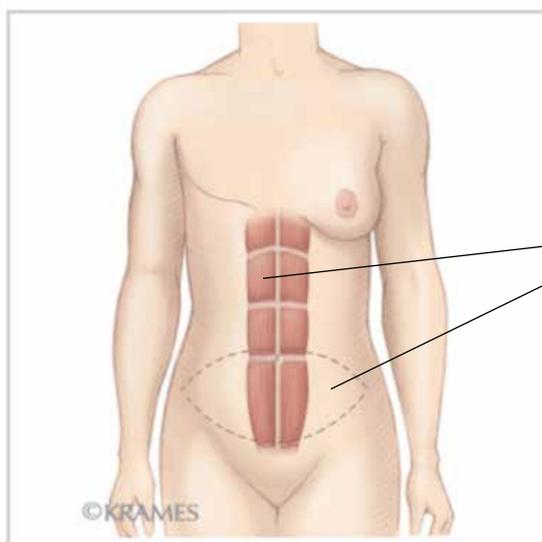
Different places of the body can provide flaps for breast reconstruction. Flaps used for breast reconstruction most often come from the belly or back. However, they can also be taken from the thigh or butt.

Depending on their source, flaps can be attached (sometimes called pedicled) or free.

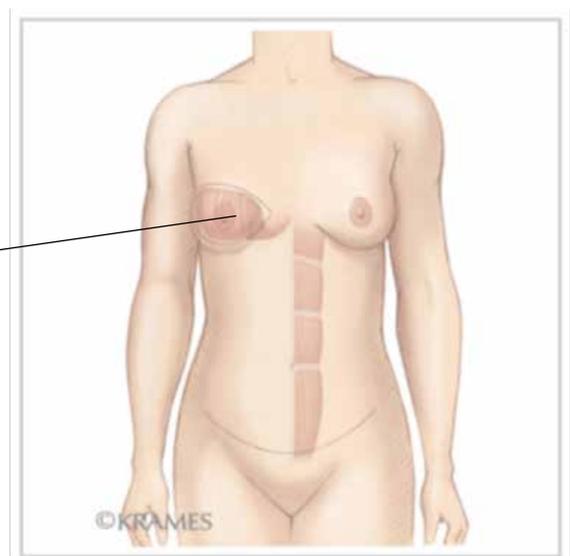
- **With an attached flap**, the tissue and blood vessels are moved together through the inside of the body to the breast area. Because the blood supply to the tissue used for reconstruction is left intact, blood vessels do not need to be reconnected once the tissue is moved.
- **With free flaps**, the tissue is cut free from its blood supply. It must be attached to new blood vessels in the breast area, using a technique called microsurgery. This gives the reconstructed breast a blood supply.

Belly and back flaps include:

- **DIEP flap:** Tissue comes from the belly and contains only skin, blood vessels, and fat, without cutting the underlying muscle. This type of flap is a free flap.
- **SIEA flap** (also called SIEP flap): Tissue comes from the belly as in a DIEP flap but includes a different set of blood vessels. It also does not involve cutting of the belly muscle and is a free flap. This type of flap is not an option for many women because the necessary blood vessels are not adequate or do not exist.
- **TRAM flap:** Tissue comes from the lower belly as in a DIEP flap but includes muscle. It can be either attached or free.



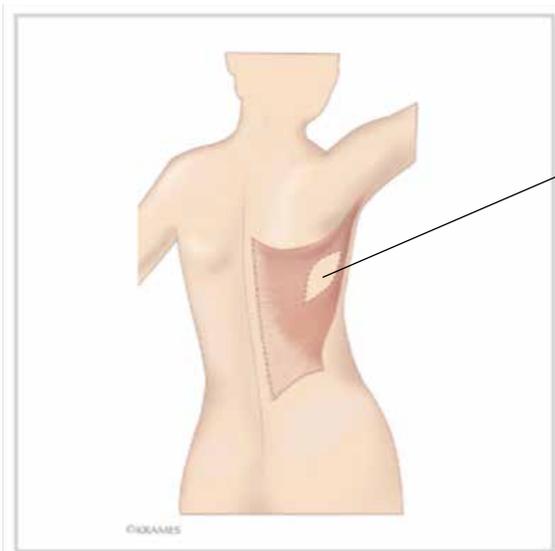
TRAM FLAP
Belly muscles
and fat are
moved to the
breast area



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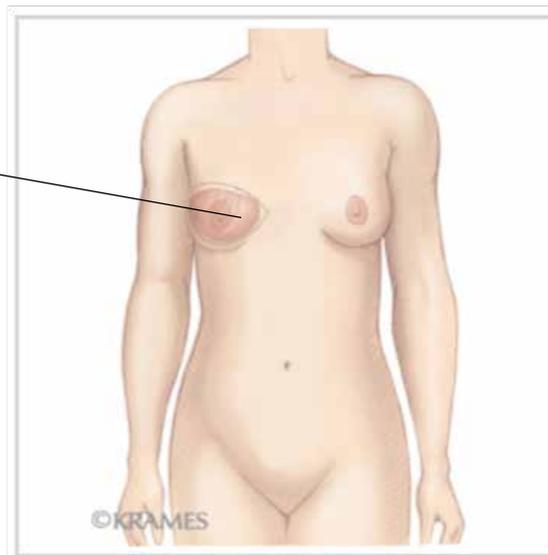
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- **Latissimus dorsi (LD) flap:** Tissue comes from the middle and side of the back. This type of flap is attached when used for breast reconstruction. (LD flaps can be used for other types of reconstruction as well.)



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LD FLAP
 Back muscles
 and fat could
 be used and
 moved to the
 breast area



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Other flap options

Flaps taken from the thigh or butt are used for women who have had earlier major belly surgery or who do not have enough belly tissue to reconstruct a breast. These types of flaps are free flaps. With these flaps an implant is often used as well to provide enough breast volume.

- **IGAP flap:** Tissue comes from the butt and contains skin, blood vessels, and fat.
- **SGAP flap:** Tissue comes from the butt as in an IGAP flap, but includes a different set of blood vessels and contains skin, blood vessels, and fat.
- **PAP flap:** Tissue, without muscle, that comes from the upper inner thigh.
- **TUG flap:** Tissue, including muscle, that comes from the upper inner thigh.

In some cases, an implant and tissue reconstruction are used together. For example, tissue may be used to cover an implant when there is not enough skin and muscle left after mastectomy to allow for expansion and use of an implant.

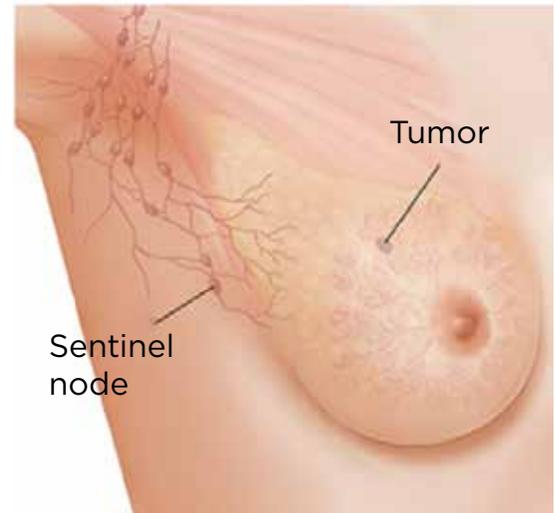
Sentinel lymph node biopsy and lymphedema

No matter what type of surgery you have, if your cancer has spread to the surrounding tissue you will likely have one or more lymph nodes removed from under your arm. Lymph nodes may also be removed if abnormal cells are found in the lining of the breast milk duct. Cancer cells can spread to lymph nodes and other parts of the body through the lymph vessels.

Sentinel lymph node biopsy

The surgeon removes a few lymph nodes for testing.

- First, the surgeon injects a dye, a radioactive tracer, or both into the breast near the tumor. This helps the surgeon see which lymph nodes the lymph fluid from that area of the breast flows to first.
- Then, the node or nodes that contain the dye and/or radioactive tracer are removed to see if they contain cancer.
- If they do not contain cancer, it is not likely that the other nodes under the arm have cancer. This means that the surgeon may not need to remove any other lymph nodes.



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Fewer lymph nodes are removed with sentinel lymph node biopsy than with standard lymph node surgery. Having fewer lymph nodes removed helps lower the chances that you will develop lymphedema and other problems caused by damage to lymph vessels and lymph nodes.

Lymphedema is swelling caused by a build-up of lymph fluid in the fatty tissues under the skin. Removing lymph nodes and vessels during surgery makes it harder for lymph fluid in the chest, breast, and arm to flow back to the trunk of the body. If the remaining lymph vessels cannot drain enough fluid from these areas, the lymph fluid builds up and causes swelling. You may have this type of swelling in the hand, arm, chest, or back on the side of your body where lymph nodes were removed during surgery. If you have many lymph nodes removed or have radiation therapy for breast cancer, you have a higher risk of developing lymphedema.

Some important facts to know about lymphedema are:

- It can show up days or years after surgery.
- It can show up months or years after cancer treatment is over.
- Swelling will most likely get worse over time if it is not treated. This swelling can affect your ability to move freely and can affect how your arm feels.
- There are ways to reduce your risk of developing lymphedema.
- Early treatment is the key to preventing lymphedema from getting worse.

Before surgery, your care team will talk with you about lymphedema. They will teach you the early signs and the best ways to try to prevent it.

Compare your options

Every breast cancer is different. Your surgeon will talk with you about the best surgical options for you. Depending on your cancer, all options may not be available to you.

Before surgery

	Lumpectomy	Mastectomy	Mastectomy with reconstruction
Is this surgery right for me?	<p>You and your surgeon may decide lumpectomy is the best choice for you if:</p> <ul style="list-style-type: none"> • You want to conserve your breast tissue. • You want a faster recovery time. <p>A lumpectomy is usually followed by several weeks of radiation therapy.</p>	<p>You and your surgeon may decide a mastectomy is the best choice for you if:</p> <ul style="list-style-type: none"> • You have small breasts and a large area of cancer. • You have cancer in more than one part of your breast. • The cancer is under the nipple. • You are not able to have radiation therapy. • You have genes linked to breast cancer like BRCA1 or BRCA2. 	<p>If you have a mastectomy, you might also want to have breast reconstruction surgery.</p> <p>You can choose to have reconstructive surgery at the same time as your mastectomy or wait and have it later if your plastic surgeon feels that is okay.</p> <p>You may want to visit a plastic surgeon to learn about reconstruction options.</p>
Will insurance pay for my surgery?	<p>Every plan is different. Check with your insurance company to find out how much it pays for breast cancer surgery, reconstructive surgery, or other needed treatments.</p>		

Recovering from surgery

	Lumpectomy	Mastectomy	Mastectomy with reconstruction
Will I have pain after surgery?	<p>Before surgery talk with your doctor or nurse about ways to manage pain after surgery.</p> <ul style="list-style-type: none"> • Expect to have some pain after surgery. More pain can be expected with a mastectomy or mastectomy with reconstruction than with a lumpectomy. • Tell your care team if your pain is not well managed. 		
How long before I can return to normal activities?	<p>Your surgeon will talk with you about how much time you need for recovery.</p> <p>You may be able to return to most of your usual activities soon after surgery.</p>	<p>It may take several weeks after surgery before you feel well enough to do your normal activities.</p> <p>Your surgeon will discuss the recovery time that is right for you.</p>	<p>Your recovery will depend on the type of reconstruction you have done.</p> <p>It can take 6 to 8 weeks or longer to fully recover from breast reconstruction.</p> <p>Your breast surgeon and/or plastic surgeon will discuss your expected recovery time with you.</p>
What other problems might I have?	<p>All breast surgeries have some risks:</p> <ul style="list-style-type: none"> • Bleeding • Infection • Delayed healing • You have a greater chance of developing lymphedema if you had lymph nodes removed or damaged from radiation therapy. 		

Recovering from surgery

	Lumpectomy	Mastectomy	Mastectomy with reconstruction
What other problems might I have?	<p>You may:</p> <ul style="list-style-type: none"> • Feel very tired • Have temporary skin changes from radiation therapy 	<p>If you have large breasts and do not have reconstructive surgery, you may:</p> <ul style="list-style-type: none"> • Feel out of balance • Have neck and shoulder pain from the imbalance 	<p>You may not like how your breast looks.</p> <p>If you have an implant:</p> <ul style="list-style-type: none"> • Your breast may harden and can become painful • You will likely need more surgery if your implant breaks or leaks <p>If you have flap surgery, you may:</p> <ul style="list-style-type: none"> • Lose strength in the part of your body where a muscle was removed
What other types of treatment will I need?	<p>No matter which type of surgery you choose, you may need other types of treatment, such as:</p> <ul style="list-style-type: none"> • Radiation therapy • Hormone therapy • Chemotherapy • Targeted therapy 		

Life after surgery

	Lumpectomy	Mastectomy	Mastectomy with reconstruction
<p>What will my breast look like after surgery?</p>	<p>Your breast will usually look a lot like it did before surgery.</p> <p>If your tumor is large, your breast may look different or smaller.</p> <p>You will have a small incision where the surgeon cut to remove the cancer. The length of the incision will depend on how large an area the surgeon needed to remove.</p>	<p>Your breast will be removed.</p> <p>You will have a long incision on the side of your chest where the breast was removed.</p> <p>You may have drainage tubes connected to a small bulb.</p>	<p>Your breast may not look or feel like it did before surgery. It may not look or feel like your other breast.</p> <p>If reconstruction is done immediately, your own nipple and areola may be used, giving the breast a more natural look.</p> <p>You will have incisions where the surgeon stitched skin together.</p> <p>You will have drainage tubes connected to a small bulb.</p> <p>If you have reconstruction using tissue from another part of your body, you will have a thin incision around your breast as well as the area where the surgeon removed the muscle, fat, and skin to make the new breast.</p>
	<p>To get a better idea of what to expect, ask your surgeon if you can see before and after pictures of other women who have had breast surgery.</p> <p>As your incisions heal, they will leave scars. Remember, the scars tend to fade over time.</p> <p>Any scar can pucker or indent over time, especially after radiation therapy.</p>		

Life after surgery

	Lumpectomy	Mastectomy	Mastectomy with reconstruction
Will my breast have feeling?	Yes. You should still have feeling in your breast, nipple, and areola (the dark area around your nipple).	After surgery, the skin around where the surgeon cut and the area under your arm may or may not have feeling. Feeling may improve over 1 to 2 years. The skin where your breast was may feel tight.	No. The area around your breast will not have feeling.
Will I have phantom sensations?	You may have a “water balloon” feeling in your breast. The space left in your breast by the lumpectomy fills with fluid. As your body heals, it will absorb this fluid and replace it with tissue.	You may notice feelings and sensations in the breast that has been removed. These are called phantom sensations. The brain continues to send signals to the nerves that were cut and removed in surgery. You may notice pain, itching, pressure, burning, throbbing, or feelings of “pins and needles.” If there is strong pain, talk to your doctor.	

Life after surgery

	Lumpectomy	Mastectomy	Mastectomy with reconstruction
Will I need more surgery?	You may need more surgery to remove lymph nodes from under your arm.		
	A doctor will look at the breast lump or tissue to see that all the cancer has been removed. If the cancer has grown too close to the edge of the tissue sample, you may need more surgery.	<p>If you have problems such as infection after your mastectomy, you may need more surgery.</p> <p>A doctor will look at the breast tissue to see that all the cancer has been removed. If the cancer has grown too close to the edge of the tissue sample, you may need more surgery.</p>	<p>The number of surgeries you need will depend on the type of reconstruction and if you choose to have a nipple and areola added.</p> <p>Some women may decide to have surgery on the opposite breast to help it match the size and shape of the new breast.</p> <p>If you have an implant, you are likely to need surgery many years later to remove or replace it.</p>
Will the type of surgery I have affect how long I live?	No. Research shows that women with breast cancer who have a lumpectomy followed by radiation therapy have the same survival rate as those who have a mastectomy. This does not change if you also have reconstructive surgery.		
What are the chances that my cancer will return in the same area?	Whether your cancer comes back in the same area depends on many things. Talk to your doctor about the chances of your cancer returning.		
	Some women who have a lumpectomy along with radiation therapy get cancer in the same breast. They may need another lumpectomy or a mastectomy.	Few women who have a mastectomy will get cancer on the same side of their chest.	Your chances are the same as mastectomy, since breast reconstruction does not affect the chances of the cancer returning.

Sexuality and breast surgery

Having breast surgery can affect how you feel about your body. It can affect your intimate relationships. Sexual health is a key part of your quality of life at any age. It includes:

- The way you feel about yourself
- Your zest for living
- Your self-image
- Your relationship with others

After surgery, the first step will be looking at your scar. You may find it easier to look in a mirror rather than looking down at your chest.

When you are ready, you can show your scar to your partner. You may choose to have your partner go with you to a follow-up visit at the clinic to see the scar for the first time. Your doctor or nurse can talk with you and your partner about how the scar will fade and the bruising or swelling will go down.

Sexuality is different for everyone. After breast surgery, especially if you have more treatment for breast cancer, enjoyment of sexual activities may be changed. You may have:

- Fatigue (feeling tired)
- Loss of desire
- Change in feeling sexual excitement and pleasure because your nipple is gone or your breast feels different when touched
- Trouble reaching orgasm
- Vaginal dryness

Your partner may be unsure of how to show affection or be supportive; whether you want to be touched or not, or even how or when you want to be touched. Talking openly and honestly about your feelings together will help you both.

Sexual health is a very private and personal matter. You may feel uneasy talking about it. Your nurse or doctor can give you ideas to help. They can make referrals to specialists to help you with your sexual health.

Think about what is important to you



“ I thought about how each surgery choice would affect my life, and that helped me figure out which one was best for me. ”

After you have talked with a breast cancer surgeon and learned the facts, you may also want to talk with your spouse or partner, family, friends, or other women who have had breast cancer surgery.

Then, think about what is important to you. Thinking about these questions and talking them over with others might help.

Surgery choices

- If I have a lumpectomy, am I willing and able to have radiation therapy?
 - Talk to your doctor about what is available in your area. Your doctor will recommend the best option for you.
- If I have a mastectomy, do I also want breast reconstruction surgery?
- If I have breast reconstruction surgery, do I want it at the same time as my mastectomy?
- What treatment does my insurance cover? What do I have to pay for?

Life after surgery

- How important is it to me how my breast looks after surgery?
- How important is it to me how my breast feels after surgery?
- If I have a mastectomy and do not have reconstruction, will my insurance cover prosthesis and special bras?
- Where can I find a breast prosthesis and special bras?

Learning more

- Do I want a second opinion?
- Is there someone else I should talk with about my surgery choices?
- What else do I want to learn or do before I make my choice about breast surgery?

Other ways to treat breast cancer

Radiation therapy

Radiation therapy (also called radiotherapy) is a cancer treatment that uses high doses of radiation to kill cancer cells and shrink tumors.

How is radiation therapy given?

Radiation therapy can be external beam or internal. External beam uses a machine outside your body that aims radiation at the cancer cells. Internal radiation therapy involves placing radiation inside your body, in or near the cancer. Sometimes people get both forms of radiation therapy.

Who gets radiation therapy?

More than half of people with cancer have radiation therapy. Sometimes, radiation therapy is the only kind of cancer treatment people have.

What does radiation therapy do to cancer cells?

Given in high doses, radiation kills or slows the growth of cancer cells. Radiation therapy is used to:

- **Treat cancer.** Radiation can be used to cure cancer, to prevent it from returning, or to stop or slow its growth.
- **Ease cancer symptoms (also called palliative care).** When a cure is not possible, radiation may be used to treat pain and other problems caused by the cancer tumor.
- **Prevent problems.** A growing tumor can cause problems such as blindness or loss of bowel and bladder control.

How long does radiation therapy take to work?

Radiation therapy does not kill cancer cells right away. It takes days or weeks of treatment before cancer cells start to die. Then, cancer cells keep dying for weeks or months after radiation therapy ends.

What does radiation therapy do to healthy cells?

Radiation not only kills or slows the growth of cancer cells, it can also affect nearby healthy cells. The healthy cells almost always recover after treatment is over. But people may have side effects that are severe or do not get better. Other side effects may show up months or years after radiation therapy is over. These are called late side effects.

Doctors try to protect healthy cells during treatment by:

- **Using as low a dose of radiation as possible.** The radiation dose is balanced between being high enough to kill cancer cells, yet low enough to limit damage to healthy cells.
- **Spreading out treatment over time.** You may get radiation therapy once a day, or in smaller doses twice a day for several weeks. Spreading out the radiation dose allows normal cells to recover while cancer cells die.

- **Aiming radiation at a certain part of your body.** Some types of radiation therapy allow your doctor to aim high doses of radiation at your cancer while reducing radiation to nearby healthy tissue. A computer is used to deliver an exact radiation dose to a cancer tumor or to specific areas within the tumor.

Chemotherapy

Chemotherapy, also called chemo, (kee-moe) is a type of cancer treatment that uses drugs to destroy the cancer cells.

How does chemo work?

Chemo works by stopping or slowing the growth of cancer cells, which grow and divide quickly. But it can also harm healthy cells that divide quickly, such as those that line your mouth and intestines or cause your hair to grow. Damage to healthy cells may cause side effects. Often, side effects get better or go away after chemo is over.

What does chemo do?

Depending on your type of cancer and how advanced it is, chemo can:

- **Cure cancer.** When chemo destroys cancer cells to the point that your doctor can no longer find them in your body and they will not grow back.
- **Control cancer.** When chemo keeps cancer from spreading, slows its growth, or destroys cancer cells that have spread to other parts of your body.
- **Ease cancer symptoms (also called palliative care).** When chemo shrinks tumors that are causing pain or pressure.

How is chemo used?

Sometimes, chemo is used as the only cancer treatment. But more often, you will get chemo along with surgery, radiation therapy, or biological therapy. Chemo can:

- Make a tumor smaller before surgery or radiation therapy. This is called neo-adjuvant chemo.
- Destroy cancer cells that may remain after surgery or radiation therapy. This is called adjuvant chemo.
- Help radiation therapy and biological therapy work better.
- Destroy cancer cells that have come back (recurrent cancer) or spread to other parts of your body (metastatic cancer).

Side effects of chemo

Chemo affects people in different ways. Doctors and nurses cannot know for certain how you will feel during chemo. Some people do not feel well after chemo. Side effects are problems caused by cancer treatment. Some common side effects from chemo are:

- Fatigue – feeling worn out, weak, or tired
- Nausea and vomiting – stomach upset and throwing up
- Decreased blood cell counts – low number of red blood cells (anemia), low number of white blood cells, or low number of platelets
- Hair loss
- Mouth sores
- Pain

What causes side effects?

Chemo is designed to kill fast-growing cancer cells. But it can also affect healthy cells that grow quickly. These include cells that line your mouth and intestines, cells in your bone marrow that make blood cells, and cells that make your hair grow. Chemo causes side effects when it harms these healthy cells.

How long do side effects last?

How long side effects last depends on your health and the kind of chemo you get. Most side effects go away after chemo is over. But sometimes it can take months or even years for the side effects to go away.

Sometimes, chemo causes long-term side effects that do not go away. These may include damage to your heart, lungs, nerves, kidneys, or reproductive organs. Some types of chemo may cause a second cancer years later. Ask your doctor or nurse about your chance of having long-term side effects.

What can be done about side effects?

Doctors have many ways to prevent or treat chemo side effects and help you heal after each treatment session. Talk with your doctor or nurse about which ones to expect and what to do about them. Let your doctor or nurse know about any changes you notice—they may be signs of a side effect.

Hormone therapy

Hormone therapy is used to treat cancer. It can lessen the chance that cancer will return. It can also stop or slow the growth of cancer.

Types of hormone therapy

Hormone therapy falls into two broad groups:

- Those that block the body's ability to produce hormones
- Those that interfere with how hormones behave in the body

How hormone therapy is used with other cancer treatments

Hormone therapy is most often used along with other cancer treatments. The kinds of treatment that you need depend on the type of cancer, if it has spread and how far, if it uses hormones to grow, and if you have other health problems.

When used with other treatments, hormone therapy can:

- Make a tumor smaller before surgery or radiation therapy. This is called neo-adjuvant therapy.
- Lower the risk that cancer will come back after the main treatment. This is called adjuvant therapy.
- Destroy cancer cells that have returned or spread to other parts of your body.

Hormone therapy can cause side effects

Because hormone therapy blocks your body's ability to produce hormones or interferes with how hormones behave, it can cause unwanted side effects. The side effects you have will depend on the type of hormone therapy you receive and how your body responds to it. People respond differently to the same treatment, so not everyone gets the same side effects.

Some common side effects for women who receive hormone therapy for breast cancer include:

- Hot flashes
- Vaginal dryness
- Mood changes
- Fatigue
- Loss of interest in sex
- Nausea
- Changes in your periods if you have not yet reached menopause

How hormone therapy may affect you

Hormone therapy affects people in different ways. How you feel depends on how advanced the cancer is, the type of hormone therapy you are getting, and the dose of the hormone medicine. Your doctors and nurses cannot know for certain how you will feel during hormone therapy.

After hormone therapy, you will have regular checkups. Checkups usually include an exam of the neck, underarm, chest, and breast areas. You will have regular mammograms, though you probably will not need a mammogram of a reconstructed breast. Your doctor may also order other imaging or lab tests.

Resources

Breast cancer

National Cancer Institute

Offers research-based information for patients and their families, health professionals, cancer researchers, advocates, and the public.

- Call: NCI's Cancer Information Service at (800) 4-CANCER or (800) 422-6237
- Visit: www.cancer.gov or www.cancer.gov/espanol
- Chat: www.cancer.gov/livehelp
- Email: cancergovstaff@mail.nih.gov

Cancer Prevention and Treatment Fund

This charity of the National Center for Health Research uses objective, research-based information to encourage new, more effective programs and policies for the prevention and treatment of cancer in adults and children.

- Call: (202) 223-4000
- Visit: www.stopcancerfund.org
- Email: info@stopcancerfund.org

Office on Women's Health

National Women's Health Information Center

The federal government's source for women's health information.

- Call: (800) 994-9662
- Visit: www.womenshealth.gov

Agency for Healthcare Research and Quality

Provides publications and online information for patients and families to help them make informed, evidence-based choices about their health care.

- Call: (301) 427-1104
- Visit: www.ahrq.gov and www.effectivehealthcare.ahrq.gov

American Cancer Society

Dedicated to helping persons who face cancer. Supports research, patient services, early detection, treatment, and education.

- Call: (800) 227-2345
- Visit: www.cancer.org

Lymphedema

American Cancer Society – Lymphedema

Has a page dedicated to helping persons with cancer who develop lymphedema.

- Call: (800) 227-2345
- Visit: <https://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/lymphedema.html>

National Lymphedema Network

Nonprofit organization that provides education and guidance to lymphedema patients, health care professionals, and the general public by providing information about how to prevent and manage lymphedema.

- Call: (800) 541-3259
- Visit: www.lymphnet.org
- Email: nln@lymphnet.org

Breast reconstruction surgery and implants

National Library of Medicine’s Medline Plus®

The National Institutes of Health’s website for patients and their families and friends. Produced by the National Library of Medicine, it brings you information about diseases, conditions, and wellness issues in language you can understand. MedlinePlus offers free, reliable, up-to-date health information, anytime and anywhere.

- Visit: www.nlm.nih.gov/medlineplus/breastreconstruction.html

U.S. Food and Drug Administration (FDA)

FDA’s mission is to make sure the products they approve are safe and effective, and that includes breast implants. It is a federal agency within the U.S. Department of Health and Human Services.

- Visit: <http://www.fda.gov/medicaldevices/productsandmedical-procedures/implantsandprosthetics/breastimplants/default.htm>

For more resources, see National Organizations That Offer Cancer-Related Services at www.cancer.gov. You may also call (800) 4-CANCER or (800) 422-6237 for more help.

Getting ready for surgery

Sanford Health has created a booklet called **Getting Ready for Surgery**. This booklet will answer some of your questions about having surgery at Sanford.

- How do I get ready for surgery?
- What will the day of surgery be like?
- How will my pain be managed?
- How can I recover well?

In that booklet, you will also find:

- A list of questions that will be answered during a phone call from or visit to a surgery center. Write down any special instructions in the space provided.
- A checklist of the steps needed to help you get ready for surgery.

More specific information about breast surgery follows.

What will I need to care for myself at home?

Surgical bra

Many hospitals will provide you with a surgical bra to wear during your recovery. Follow your care team's instructions for when and how long to wear a surgical bra after surgery. It is best to avoid an underwire bra. The bra will:

- Hold the dressings in place
- Give support to the area
- Prevent or reduce swelling
- Reduce pain
- Have a pocket to support the drains or fabric to attach the drains to without showing on the outside of your clothing

Shopping for prostheses

You may have some bruising and swelling for up to 4 to 6 weeks after surgery. When you are completely healed, you may want to have a prosthetic bra fitted for you. Please wait until the bruising and swelling have passed before buying a breast prosthesis or prosthetic bra.

Ask your care team where to buy prosthetic supplies in your area. The cost of a breast prosthesis and/or prosthetic bra is often covered by insurance and Medicare with a prescription from your surgeon.

Recovery instructions

Please see the **Getting Ready for Surgery** booklet for information about preventing constipation and managing pain.

Incision care

- Follow your surgeon's instructions about when to remove your dressings.
- Wash the incision every day after the dressing is off. Gentle washing in the shower using soap and water is the best way to keep the area clean.
- Leave on any tapes (Steri-strips) that may be covering the incision. They will loosen and fall off over the next couple of weeks.
- You may have staples holding your incision closed but most sutures will be inside your skin and will dissolve in time. Your surgeon will tell you if you need to visit the clinic to have sutures or staples removed.

Bathing

- After your dressing is removed you can shower every day.
- Do not take a tub bath or use a swimming pool or hot tub until your drains are removed and your incision is healed.
- If you have had reconstructive surgery, talk with your surgeon before showering.

Activity

- Slowly return to your normal activities over the next 6 weeks.
- Follow your surgeon's instructions about how much weight you can lift.
- Do not overuse your arm on the surgical side. It is okay to do the exercises that you are taught after surgery.
- Do not put your arm in a sling.
- You may drive when you are not taking any opioid (narcotic) pain medicine and when you can move your arm enough to drive a vehicle.

Swelling after surgery

Swelling of the arm and chest on the side of surgery is normal right after surgery. It will slowly disappear over the next few weeks. This swelling is not lymphedema. It is part of the normal healing process. If you have radiation therapy after surgery, it may prolong the swelling in your arm or chest.

To help decrease the swelling, exercise your affected arm by opening and closing your hand 15 to 25 times. Repeat this 3 to 4 times a day.

Seroma

A seroma is a collection of fluid under the arm or under the incision. It can appear 5 to 10 days after surgery. A small seroma is normal. It is likely to go away by itself in a few weeks. Surgical drains may be placed to help prevent a seroma. If you have a large seroma, your surgeon may drain it.



Reduce your risk for lymphedema

Lymphedema is a life-long condition that can develop any time after lymph nodes are removed. Finding and treating lymphedema early can make a big difference in your life. Treatment can:

- Reduce or relieve symptoms
- Lower your risk of infections and complications

Making these tips part of your regular habits can lower your risk of having lymphedema.

Use the affected arm carefully

- Use your affected arm like you normally do when combing your hair, bathing, dressing, and eating.
- Regain motion in your arm with gentle movements and exercises shown in this book.
- Use caution with movements like scrubbing, pushing, and carrying.
- Carry purses and heavy packages with the arm on your non-affected side, or use both arms.

Develop healthy habits

- Maintain a healthy weight.
- Slowly build-up how long and how hard you do any activity or exercise.
- Check the at-risk area during and after activity for change in size, shape, texture, soreness, heaviness, or firmness.

What to wear

- Wear a well-fitted bra with straps that do not dig into your shoulders.
- Do not wear tight sleeves, elastic cuffs, bracelets, wristwatches, or rings on your affected arm or hand.

Protect your arm and skin

- Keep your skin clean and dry.
- Use lotion daily to keep it soft.
- Wear gloves when you garden, use harsh chemicals, or handle garbage.
- Wash, treat, and cover even the smallest cut.
- Use insect repellent to help prevent bug bites.
- Use a clean razor on clean skin if you shave under your arms.
- Do not pick at, bite, or cut the skin around your fingernails. Use a cuticle stick to push back your cuticles.
- Prevent sunburns and burns from cooking.
- Limit injections in the arm on the affected side when possible.

Other tips

- Avoid temperature extremes like hot tubs and saunas until you have healed.
- When traveling, take time to move your arm regularly.
- If you develop lymphedema, you may need to wear a compression wrap or sleeve and glove when traveling by air. Discuss any upcoming travel with your therapist.

Signs of lymphedema

These signs may come on slowly or quickly if you have an infection or injury to the arm.

- Swelling in your breast, chest, shoulder, arm, or hand
- Part of your body feeling full or heavy
- Skin changing texture, feeling tight or hard, or looking red
- New aching, tingling, or other discomfort in the area
- Less movement or flexibility in nearby joints, such as your shoulder, hand, or wrist
- Trouble fitting your arm into jacket or shirt sleeves
- Your bra not fitting as well as it used to
- Your ring, watch, and/or bracelet feeling tight, and you have not gained weight

Treatment of lymphedema

If you develop lymphedema, your doctor may ask you to see a trained lymphedema therapist.

Lymphedema treatment has 5 main parts:

- **Manual lymphatic drainage (MLD)** is a technique used to help stimulate the lymph vessels to drain the lymph fluid.
- **Compression** helps prevent fluid buildup in the tissue. Elastic garments and/or stretch bandages can be used.
- **Skin care** can help prevent infections.
- **Exercise** can help to stimulate the lymph vessels. As your muscles contract they squeeze the lymph vessels and help with the flow of lymph fluid. Exercise also helps prevent weight gain. Exercising in water can be helpful. Since water is heavier than air, water acts as compression on the limb.
- **Education** on how to prevent lymphedema from getting worse and to help develop a lymphedema management plan that is right for you.

Exercises after breast surgery

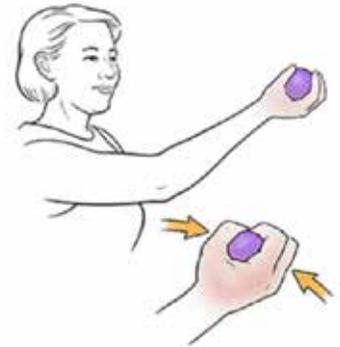
As you recover from breast surgery, your care team will tell you when it is safe to begin exercising. You will be told what kind and how much exercise you should do. Your goal will be to regain normal range of motion and use of your arm.

For your safety, do these exercises only as directed by your surgeon or therapist.

Mark the exercises that you can do safely.

— Ball squeeze

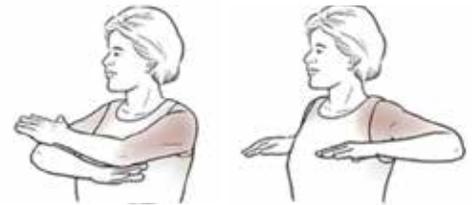
- While standing, sitting, or lying down, hold a rubber ball in your hand on the operated side.
- Keep your arm slightly bent, with your palm toward the ceiling. Lift your hand higher than your heart. Squeeze and relax the ball.
- Repeat 10 times.



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— Arm cross

- Stand with elbows bent and raised to shoulder level. Cross one arm on top of the other arm. Touch your elbows with your fingers.
- Push your elbows backward, squeezing your shoulder blades together.
- Repeat 10 times.



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— Broom stretch

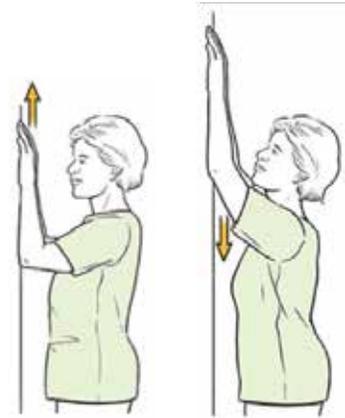
- Place the hand on your operated side over the end of a stick (a broom or cane will work). Grasp farther down the stick with your other hand, palm down.
- Gently but firmly, push the end of the stick as high as you comfortably can. Hold this position for 15 seconds.
- Return to starting position.
- Repeat 10 times.



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— Wall Climb

- Stand and face a wall, with your toes 4 to 6 inches from it. As you improve, stand closer to the wall.
- Place your forearms against the wall, hands at eye level.
- Walk your hands up the wall, keeping palms parallel. Stop if you feel pulling or pain.
- Hold the stretch for 15 to 20 seconds. Move your hands back down the wall.
- Repeat 10 times.



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— Chicken wing

- With elbows straight, clasp your fingers in front of you.
- Raise your arms slowly over your head.
- Keeping your fingers clasped, put your hands behind your neck.
- Pull your elbows in until they touch at chin level. (Unclasp your fingers if you need to.)
- Repeat 10 times.



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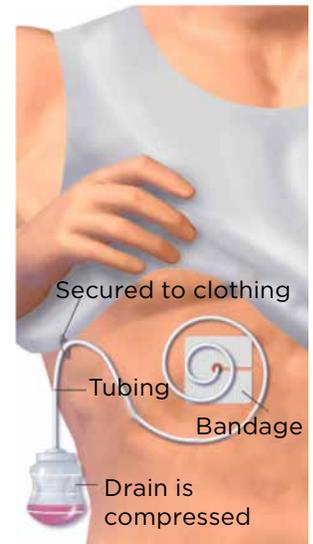
Surgical drains

After surgery, you may have 1 or 2 surgical drains. The drains collect blood and body fluid that build up after surgery. This can prevent swelling and reduce the risk of infection. Your doctor will remove the drains when they are no longer needed.

- At first, there may be a lot of drainage, often blood-tinged. The amount of drainage will slowly decrease over the coming days and become clear yellow. The drains are usually in place 1 to 3 weeks after surgery.

Home care of the drain

- Do not sleep on the same side as the tube.
- Secure the tube and bulb inside your clothing with a safety pin. This helps keep the tube from being pulled out. A special bra may have a pocket for the bulb.
- Empty your drain as you are instructed by your care team.



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Your surgeon will give you specific instructions about your drain.



1. Wash and dry your hands before emptying the drain.



2. “Milk” or “strip” the tubing.

This will help clear the tubing and keep the drainage flowing.

Pinch the tubing close to where it comes out of your body. This will steady the tubing and prevent tugging on the tubing and your skin.



3. With the thumb and finger of your other hand, pinch the tubing and squeeze down the length of the tube.

Start near your body and end near the bulb. Do this several times to push any clots down toward the drainage bulb.

You may want to use hand sanitizer or an alcohol wipe to make it easier to slide your fingers down the tubing.

Let go with the hand near the bulb first, then with the hand near your body.

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4. Lift the plug to open the drain.



5. Drain the fluid into a measuring cup.



6. Clean the plug with rubbing alcohol. Then squeeze the air out of the bulb.



7. While you are squeezing the bulb, put the plug back into the bulb.

The bulb should stay compressed after the plug is in place so the suction will work properly. As it fills with fluid, the bulb will slowly inflate.



8. Record the amount of fluid each time you empty the drain.

Include the date and time it was emptied. Share this information with your doctor on your next visit.



9. Flush the drainage down the toilet.



10. Wash your hands.

Daily drainage record

Bring this record to your next visit.

Date/Day	Drain 1		Drain 2	
	Time	Amount	Time	Amount
	Total		Total	

Date/Day	Drain 1		Drain 2	
	Time	Amount	Time	Amount
	Total		Total	

Date/Day	Drain 1		Drain 2	
	Time	Amount	Time	Amount
	Total		Total	

Date/Day	Drain 1		Drain 2	
	Time	Amount	Time	Amount
	Total		Total	

Date/Day	Drain 1		Drain 2	
	Time	Amount	Time	Amount
	Total		Total	

Date/Day	Drain 1		Drain 2	
	Time	Amount	Time	Amount
	Total		Total	

Date/Day	Drain 1		Drain 2	
	Time	Amount	Time	Amount
	Total		Total	

Date/Day	Drain 1		Drain 2	
	Time	Amount	Time	Amount
	Total		Total	

	Drain 1		Drain 2	
Date/Day	Time	Amount	Time	Amount
	Total		Total	

	Drain 1		Drain 2	
Date/Day	Time	Amount	Time	Amount
	Total		Total	

	Drain 1		Drain 2	
Date/Day	Time	Amount	Time	Amount
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	Drain 1		Drain 2	
Date/Day	Time	Amount	Time	Amount
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	Drain 1		Drain 2	
Date/Day	Time	Amount	Time	Amount
	Total		Total	

	Drain 1		Drain 2	
Date/Day	Time	Amount	Time	Amount
	Total		Total	

	Drain 1		Drain 2	
Date/Day	Time	Amount	Time	Amount
	Total		Total	

	Drain 1		Drain 2	
Date/Day	Time	Amount	Time	Amount
	Total		Total	

When to call your doctor

Call your doctor right away if you have any of the following:

- Fever of 100.4 degrees Fahrenheit (38 degrees Celsius) or higher
- Cough, pain in the chest or calf, or shortness of breath
- Increased pain, warmth, swelling, or redness near the surgical site
- Drainage from the incision
- Bleeding that soaks the bandage
- Swelling in your hand, arm, or chest that gets worse or does not get better after surgery

Know what problems to watch for and when you need to call your healthcare provider. Also, be sure you know how to get help after office hours and on weekends and holiday.

