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# Breast Reconstruction Surgery

## Deciding Whether To Have Breast Reconstruction

Many women choose to have reconstruction surgery, but it might not be right for everyone. Learn more about the pros and cons of breast reconstruction, as well as other options.

- [Should I Get Breast Reconstruction Surgery?](#)
- [Breast Reconstruction Alternatives](#)

## Breast Reconstruction Options

There are many different options and types of breast reconstruction procedures. Some are done (or started) at the same time as mastectomy, while others are done later. Learn more about your options.

- [Breast Reconstruction Options](#)

## Know What To Expect

If you're planning to have breast reconstruction surgery, it's important to be prepared. Find out what you should ask your surgeon, and what to expect before and after your surgery.

- [Questions to Ask Your Surgeon About Breast Reconstruction](#)
  - [Preparing for Breast Reconstruction Surgery](#)
  - [What to Expect After Breast Reconstruction Surgery](#)
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# Should I Get Breast Reconstruction Surgery?

A woman who has surgery to treat breast cancer might choose to have additional surgery to rebuild the shape and look of her breast. This is called breast reconstruction surgery. If you are thinking about having reconstructive surgery, it is best to talk about it with your surgeon and a plastic surgeon experienced in breast reconstruction **before** you have surgery to remove the tumor or breast. This lets the surgical teams plan the best treatment for you, even if you decide to wait and have reconstructive surgery later.

## Help and support from someone who's been there

No matter which options you choose, it's important to know that there is advice and support out there to help you cope with the changes you're going through. Speaking with your doctor or other members of your health care team is often a good starting point. If you would like to talk with someone who has had your type of surgery, ask about our [1Reach to Recovery®program](#)<sup>2</sup>. Reach To Recovery volunteers are breast cancer survivors trained to support others facing breast cancer, as well as those who are thinking about having breast reconstruction. They can give you suggestions, reading material, and advice. Ask your doctor or nurse to refer you to a volunteer in your area, or call us at 1-800-227-2345.

## Benefits of breast reconstruction

A woman might choose to have breast reconstruction for many reasons:

- To make her chest look balanced when she is wearing a bra or swimsuit
- To permanently regain her breast shape
- So she won't have to use a breast form that fits inside the bra (an external prosthesis)
- To be happier with her body and how she feels about herself

Breast reconstruction often leaves scars, but they usually fade over time. Newer techniques have also reduced the amount of scarring. When you're wearing a bra, your breasts should be alike enough in size and shape to let you feel comfortable about how you look in most types of clothes.

After a mastectomy, breast reconstruction 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 was used as part of the reconstruction, those areas will also look different after surgery. Talk with your surgeon about scars and changes in shape or contour. Ask where they will be, and how they will look and feel after they heal.

## Some important things to think about

- You might have a choice between having breast reconstruction at the same time as the [mastectomy](#)<sup>3</sup> (immediate reconstruction) or at a later time (delayed reconstruction).
- Some women don't want to have to make decisions about reconstruction while being treated for their breast cancer. If this is the case, you might choose to wait until after your breast cancer surgery to decide about reconstruction.
- You might not want to have any more surgery than is absolutely needed.
- Not all reconstructive surgery is a total success, and the result might not look like you'd hoped.
- The cancer surgery and reconstruction surgery will leave scars on your breast and any areas where tissue was moved to create the new breast mound, such as the buttocks, tummy, or shoulder areas .
- A rebuilt breast will not feel the same as the natural breast. The sites tissue was taken from to rebuild the breast might also lose some sensation. Over time, the skin might become more sensitive, but it won't feel the same as it did before the surgery.
- You might have extra concerns if you tend to bleed or scar more than most people.
- Breast skin or flaps might not survive after reconstructive surgery. This tissue death is called **necrosis**. If it happens, healing is delayed and more surgery is often needed to fix the problem.
- Healing could be affected by previous surgery, chemotherapy, or radiation therapy. It can also be affected by smoking, diabetes, some medicines, and other factors.
- Surgeons might suggest you wait to have reconstruction, especially if you smoke or have other health problems. It's best to quit smoking at least 2 months before reconstructive surgery to allow for better healing. You might not be able to have reconstruction at all if you are obese, too thin, or have blood circulation problems.
- The surgeon might suggest surgery to reshape your other breast to match the reconstructed breast. This could include reducing or enlarging its size, or even surgically lifting the breast.
- If it's known at the time of diagnosis that a woman will need radiation as part of her treatment, the types of immediate reconstruction surgery she can have might be

limited. Certain types of reconstruction done before radiation can cause problems and lower the chances the rebuilt breast will look and feel as natural as possible, after the radiation is given. You should discuss the best options for you with your surgeon before surgery.

- Knowing your reconstruction options before surgery can help you have more realistic expectations for the outcomes.

## Can breast reconstruction hide cancer or make it 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 finding the cancer or treating it.

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

## Risks of breast reconstruction

Common potential side effects and risks of reconstruction surgery can be found in [What to Expect After Breast Reconstruction Surgery](#).

Certain types of breast implants can be linked to a rare kind of cancer, known as *anaplastic large cell lymphoma (ALCL)*. It is sometimes referred to as breast implant-associated anaplastic large cell lymphoma (BIA-ALCL). This lymphoma happens around 8 to 10 years after the implant was placed and more often if the implants have textured (rough) surfaces rather than smooth surfaces. If ALCL does show up after an implant, it can show as a lump, a collection of fluid near the implant, pain, swelling or asymmetry (uneven breasts). It usually responds well to treatment.

## Hyperlinks

1. <https://www.cancer.org/treatment/support-programs-and-services/reach-to-recovery.html>
2. [www.cancer.org/treatment/support-programs-and-services/reach-to-recovery.html](http://www.cancer.org/treatment/support-programs-and-services/reach-to-recovery.html)
3. [www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-cancer/mastectomy.html](http://www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-cancer/mastectomy.html)

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# Breast Reconstruction Alternatives

## What if I choose not to get breast reconstruction?

Some women who have had a [mastectomy](#)<sup>1</sup> as part of their breast cancer treatment decide not to have any type of breast reconstruction.

They might decide they don't want to have any more surgeries than they need to treat the cancer, or that they want to be able to get back to their normal activities as soon as possible. Some women are just more comfortable with how they look and feel after the surgery to remove their cancer. Cost might also be an issue, especially for women who don't have insurance coverage. If you change your mind later, reconstruction is usually still an option. But keep in mind that it may be easier to get the result you want if you make the decision before you have your mastectomy.

For other women, breast reconstruction might be difficult, or even not possible, because of other health issues they have. For example, you might not be able to have reconstruction if you are obese, too thin, or have blood circulation problems.

Women who don't have breast reconstruction after surgery have two main options:

- Using a breast form or prosthesis (inside the bra or attached to the body to wear under their clothes)
- Going flat (not wearing a breast form)

## Using a breast form or prosthesis

A **breast form** is a prosthesis (artificial body part) worn either inside a bra or attached to the body to simulate the appearance and feel of a natural breast. Wearing a breast form is an option for women who have decided not to get reconstructive surgery but want to keep the same look under their clothes. If you haven't decided about reconstruction, or are having reconstruction later, you might decide to use a breast form temporarily.

Most breast forms are made from materials that mimic the movement, feel, and weight of natural breast tissue. A properly weighted form provides the balance your body needs for correct posture and anchors your bra, keeping it from riding up. At first, these forms may feel too heavy, but in time they should feel natural.

If you are planning to use a breast form, your doctor will tell you when you have healed enough to be fitted for a permanent breast form or prosthesis.

### **Choosing the right bra for your breast form**

The right bra for you may very well be the one you have always worn. It may or may not need adjustments. If there is tenderness during healing, a bra extender can help by increasing the circumference of the bra so that it does not bind the chest too tightly. Heavy-breasted women can relieve pressure on shoulder straps by slipping a bra shoulder pad under one or both straps.

If you decide to wear your breast form in a pocket in your bra, you can have your regular bra adapted. There are also special mastectomy bras with the pockets already sewn in. If the breast form causes any kind of skin irritation, use a bra with a pocket. If your bra has underwires, you may be able to wear it, but be sure to clear this with your doctor.

If you want to wear your prosthesis under sleepwear but would like something more comfortable than a regular bra, look for a soft bra, sometimes called a **leisure** or **night bra**. These are in most department stores.

### **Finding and paying for breast prostheses**

Prices for breast forms vary considerably. High price doesn't necessarily mean that the product is the best for you. Take time to shop for a good fit, comfort, and an attractive, natural appearance in the bra and under clothing. Your clothes should fit the way they did before surgery.

Insurance coverage of breast prostheses can vary. Be sure to contact your health insurance provider to find out what will be covered and how you must submit claims. Also, ask your doctor to write prescriptions for your prosthesis and for any special mastectomy bras. When purchasing bras or breast forms, mark the bills and any checks you write "surgical." [Medicare](#)<sup>2</sup> and [Medicaid](#)<sup>3</sup> can be used to pay for some of these expenses if you are eligible. The cost of breast forms and bras with pockets might be tax deductible, and also the cost if you have a bra altered. [Keep careful records](#)<sup>4</sup> of all related expenses.

Some insurance companies will not cover both a breast prosthesis and reconstructive surgery. That can mean that if you submit a claim for a prosthesis or bra to your insurance company, in some cases the company **will not** cover reconstruction, should you choose this procedure in the future. Make sure you get all the facts before submitting any insurance claims.

## Going flat

Some women, who do not have reconstruction surgery, decide not to wear a breast form, either.

For most women, there aren't likely to be any added health issues from going flat, especially if both breasts were removed. But if you've only had one breast removed, you might notice issues with balance, posture, or back pain, especially if you've always had large breasts. This is one reason some women prefer to wear a breast form – to balance out the weight on their chest. Talk to your doctor about your options if you think this might be an issue for you.

Some women might use a breast form when out but not when at home. This might be because they find breast forms uncomfortable or too expensive, or just because they're comfortable with how they look and feel without a breast form and don't feel the need to wear one.

If the idea of going flat appeals to you but you're worried about what others might think, try going without a breast form in different situations, such as at home, out with friends, or while out running errands. You might find that most people won't notice a difference. If you find you still feel self-conscious, you can always go back to wearing a breast form.

If you decide to go flat, you might want to consider wearing clothing that might help you feel more comfortable with your appearance. Try wearing tops that are not tight fitting and that have busy patterns, or layer sweaters or jackets over close-fitting tops. Scarves and shawls can also cover all or part of your chest.

Some women might like the idea of going flat but are uncomfortable about not having nipples. Some companies now make nipple prosthetics, which are made of silicone or other materials and look and feel like real nipples. They can be attached to the chest and then taken off when you choose.

## Hyperlinks

1. [www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-](http://www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-)

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2. [www.cancer.org/treatment/finding-and-paying-for-treatment/understanding-health-insurance/health-insurance-options/medicare.html](http://www.cancer.org/treatment/finding-and-paying-for-treatment/understanding-health-insurance/health-insurance-options/medicare.html)
  3. [www.cancer.org/treatment/finding-and-paying-for-treatment/understanding-health-insurance/health-insurance-options/if-you-cant-get-health-insurance-at-work.html](http://www.cancer.org/treatment/finding-and-paying-for-treatment/understanding-health-insurance/health-insurance-options/if-you-cant-get-health-insurance-at-work.html)
  4. [www.cancer.org/treatment/finding-and-paying-for-treatment/understanding-health-insurance/managing-your-health-insurance/keeping-health-insurance-records-when-someone-has-cancer.html](http://www.cancer.org/treatment/finding-and-paying-for-treatment/understanding-health-insurance/managing-your-health-insurance/keeping-health-insurance-records-when-someone-has-cancer.html)

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## Breast Reconstruction Options

Women who have had surgery to treat breast cancer can choose from several types of breast reconstruction. When deciding what type is best for you, you and your doctors should discuss factors including your health and your personal preferences. Take the time to learn about what options are available to you and consider talking to others who have had that procedure before you make a decision.

### Choosing which type of breast reconstruction to have

If you've decided to have breast reconstruction, you'll still have many things to think about as you and your doctors talk about what type of reconstruction might be best for you. Some of the factors you and your doctors will need to think about when considering your options include:

- Your overall health (including issues that might affect your healing, such as smoking or certain health conditions)
- The size and location of your breast cancer
- Your breast size
- The extent of your breast cancer surgery
- Whether you will need treatments other than surgery for your cancer
- The amount of tissue available (for example, very thin women may not have enough extra tummy tissue to use this area for breast reconstruction)
- Whether you want reconstructive surgery on one or both breasts
- Your desire to match the look of the other breast
- Your insurance coverage and related costs for the unaffected breast
- How quickly you want to be able to recover from surgery
- Your willingness to have potentially more than one surgery as part of the reconstruction
- How different types of reconstructive surgery might affect other parts of your body

Your surgeon will review your medical history and overall health, and will explain which reconstructive options might be best for you based on your age, health, body type, lifestyle, goals, and other factors. Talk with your surgeon openly about your preferences. Be sure to voice any concerns and priorities you have for the reconstruction, and find a surgeon you feel comfortable with. Your surgeon should explain the limits, risks, and benefits of each option.

## **Types of breast reconstruction procedures**

There are several types of reconstructive surgery available, and sometimes the process means more than one operation. Give yourself plenty of time to make the best decision for you. You should make your decision about breast reconstruction only after you are fully informed.

Two main types of operations can be done to reconstruct the shape of your breast or breasts:

- Using silicone or saline breast inserts (known as [breast implants](#))

- Using your own body tissues (known as [tissue flap procedures](#))

Sometimes the implant and flap procedures are used in combination to reconstruct a breast.

In addition, [nipple/areola tattooing](#) and [fat grafting](#) can be done to help make the reconstructed breast look more like the original breast. The reconstructed nipple and areola do not have any sensation.

## Reconstruction after lumpectomy or partial mastectomy

Most women who have breast conservation surgery (lumpectomy or partial mastectomy) do not need breast reconstruction. However, some women might end up having a breast deformity as a result of the cancer surgery; for example, if a woman has a large tumor in a small breast. These women may be candidates for different types of breast reconstruction (such as smaller implants or fat grafting) to reshape the breast. This type of surgery has outcomes similar to lumpectomy or partial mastectomy without reconstruction.

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# Breast Reconstruction Using Implants

Using a breast implant is one option for reconstructing the shape of your breast after surgery to remove the cancer. Several types of implants can be used. This type of breast reconstruction can be done at the same time as the cancer surgery. Or it can be started when you have your cancer surgery and then completed later. You should understand the benefits and risks of implants for breast reconstruction and discuss them with your doctor.

## What types of implants are used for breast reconstruction?

Several different types of breast implants can be used to rebuild the breast. Implants are made of a flexible silicone outer shell, which can contain:

- **Saline:** These implants are filled with sterile (germ-free) salt water. These types of implants have been in use the longest.
- **Silicone gel:** Gel implants tend to feel a bit more like natural breast tissue. **Cohesive gel implants** are a newer, thicker type of silicone implant. The thickest ones are sometimes called “gummy bear” implants. They are more accurately called form-stable implants, meaning that they keep their shape even if the shell is cut or broken. They are firmer than regular implants and might be less likely to rupture (break), although this is still possible.

There are different shapes and sizes of saline and silicone implants and they can have either smooth or textured (rough) surfaces. Any type of implant might need to be replaced at some point if it leaks or ruptures. Concerns have been raised in the past about possible health issues from ruptured silicone-filled implants. But most recent studies show that silicone implants do not increase the risk of health problems, and they have been approved by the US Food and Drug Administration for use since 2006.

Other types of implants that have different shells and are filled with different materials are being studied, but are only available if you are participating in a clinical trial.

## How are implant procedures done?

You might have a choice between having breast reconstruction at the same time as the surgery to treat the cancer (immediate reconstruction) or later (delayed reconstruction).

**Immediate breast reconstruction (also called direct-to-implant reconstruction)** is done, or at least started, at the same time as surgery to treat the cancer. The implant is put in at the same time as the mastectomy is done. After the surgeon removes the breast tissue, a plastic surgeon puts in a breast implant. The implant is usually put under the muscle on your chest. A special type of graft (made from skin) or an absorbable mesh is sometimes used to hold the implant in place, much like a hammock or sling.

The benefit of immediate reconstruction is that breast skin is often preserved, which can produce better-looking results. Women also do not have to go without the shape of a breast.

While the first step in reconstruction is often the major one, many steps are often needed later to get the final shape or appearance. If you're 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 rebuilding is started later, after the cancer surgery is done. For this type of reconstruction, a short-term tissue expander is put in during the mastectomy to help prepare for reconstructive surgery later. The expander is a balloon-like sac that starts off flat and is slowly expanded to the desired size to allow the skin to stretch. Once 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 can be left in place as the final implant.)

This method allows time for other cancer treatment options. If radiation therapy is needed, the expander can be filled during other treatments (such as chemotherapy), but the final placement of the implant is put off until radiation treatment is complete. If radiation is not part of the treatment plan, the surgeon can start filling the tissue expander after surgery.

Two types of expanders are available:

- In one type, the surgeon injects a salt-water solution through a tiny valve under the skin at regular intervals ( every 1, 2, or 3 weeks) to fill the expander over several months.
- In the other type, known as AeroForm®, the expander contains compressed carbon dioxide gas. The patient uses a remote control to release small amounts of the gas into the expander several times a day over 2 to 3 weeks.

You might choose to delay breast reconstruction if:

- **You don't want to think about reconstruction while coping with the cancer treatment.** If this is the case, you might choose to wait until after your breast cancer surgery to decide about reconstruction.
- **You have other health problems.** Your surgeon may suggest you wait for one reason or another, especially if you smoke or have other health problems. It's best to quit smoking at least 2 months before reconstructive surgery to allow for better healing.
- **You need radiation therapy.** Many doctors recommend that women not have immediate reconstruction if they will need radiation treatments after surgery. Radiation can cause problems after surgery such as delayed healing and scarring, and can lower the chances of success. Flap reconstruction surgeries (using other body tissues to create the new breast) are often delayed until after radiation

Your surgical team will discuss the best reconstruction options for you taking into account your medical history, body shape, cancer treatment and personal goals.

### **Tissue support when implants are used**

Tissue support is sometimes needed for breast reconstruction, especially when implants are used. This tissue can provide added coverage over the implant, hold the implant in place, or position the muscle where it needs to be.

One way to do this is to use a woman's own body tissues as part of a flap procedure. Tissue from another part of the body, such as the tummy or back, is used to create a kind of pocket to hold the implant in place or to provide added skin coverage over the implant. See [Breast Reconstruction Using Your Own Tissues \(Flap Procedures\)](#) for more information.

Some products use donated human skin to support implants or transplanted tissues. These are known as *acellular dermal matrix* products because they have had the human cells removed. This reduces any risk that they carry diseases or that the body will reject them. They are used to extend and support natural tissues and help them grow and heal.

Doctors can also use animal skin (usually from a pig) with the cells removed (an acellular matrix such as Strattice™ or Permacol™), and other methods for internal support.

The acellular matrix products are newer in breast reconstruction. Studies that look at outcomes are still being done, but they have been promising overall. This type of tissue

is not used by every plastic surgeon, but it is becoming more widely available. Talk with your doctor about whether these materials will be used in your reconstruction and about their benefits and risks.

## Things to think about before getting implants

Most women will do well with implants. But there are some important factors to keep in mind if you are thinking about having implants to reconstruct the breast and/or to make the other breast match the reconstructed one:

- 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 within 10 years.
- You might have problems with breast implants. They can break (rupture) or cause infection or pain. Scar tissue may form around the implant (called 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. Most of these problems can be fixed with surgery, but others might not be reversible.
- MRIs may be needed every few years to make sure silicone gel implants have not broken. Your health insurance may not cover this.
- Routine [mammograms](#)<sup>1</sup> to check your remaining breast for cancer could be harder if you have a breast implant there – you may need more x-rays of the breast, and the compression may be more uncomfortable.
- An implant in the remaining breast could affect your ability to breastfeed, either by reducing the amount of milk or stopping your body from making milk.

## Hyperlinks

1. [www.cancer.org/cancer/breast-cancer/screening-tests-and-early-detection/mammograms.html](http://www.cancer.org/cancer/breast-cancer/screening-tests-and-early-detection/mammograms.html)
2. <mailto:permissionrequest@cancer.org>

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Last Medical Review: July 1, 2017 Last Revised: September 12, 2017

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## Breast Reconstruction Using Your Own Tissues (Flap Procedures)

A tissue flap procedure (also known as **autologous tissue reconstruction**) is one way to rebuild the shape of your breast after surgery to remove the cancer. As with any surgery, you should learn as much as possible about the benefits and risks, and discuss them with your doctor, before having the surgery.

These procedures use tissue from other parts of your body, such as your tummy, back, thighs, or buttocks to rebuild the breast shape. Tissue flaps generally look more natural and behave more like natural breast tissue than [breast implants](#). For instance, they may enlarge or shrink as you gain or lose weight. And while breast implants sometimes need to be replaced (if the implant ruptures, for example), this is not a concern with tissue flaps. Tissue flaps are often used by themselves to reconstruct the breast, but some tissue flap procedures can be used with a breast implant.

Tissue flap procedures can also have some potential downsides that need to be considered:

- In general, flaps require more surgery and a longer recovery than breast implant procedures.
- Flap operations leave 2 surgical sites and scars – one where the tissue was taken from (the **donor site**) and one on the reconstructed breast. The scars fade over time, but never go away completely.

- Some women can have donor site problems such as abdominal hernias and muscle damage or weakness.
- Because healthy blood vessels are needed for the tissue's blood supply, flap procedures may not be the best option for smokers, and for women who have uncontrolled diabetes, vascular disease (poor circulation), or connective tissue diseases.

## Types of tissue flap procedures

The most common types of tissue flap procedures are:

- **TRAM (transverse rectus abdominis muscle) flap**, which uses tissue from the abdomen (tummy)
- **DIEP (deep inferior epigastric perforator) flap**, which uses tissue from the abdomen (tummy)
- **Latissimus dorsi flap**, which uses tissue from the upper back
- **GAP (gluteal artery perforator) flaps** (also known as a **gluteal free flaps**), which uses tissue from the buttocks
- **TUG (transverse upper gracilis) flaps**, which - uses tissue from the inner thigh

### TRAM flap

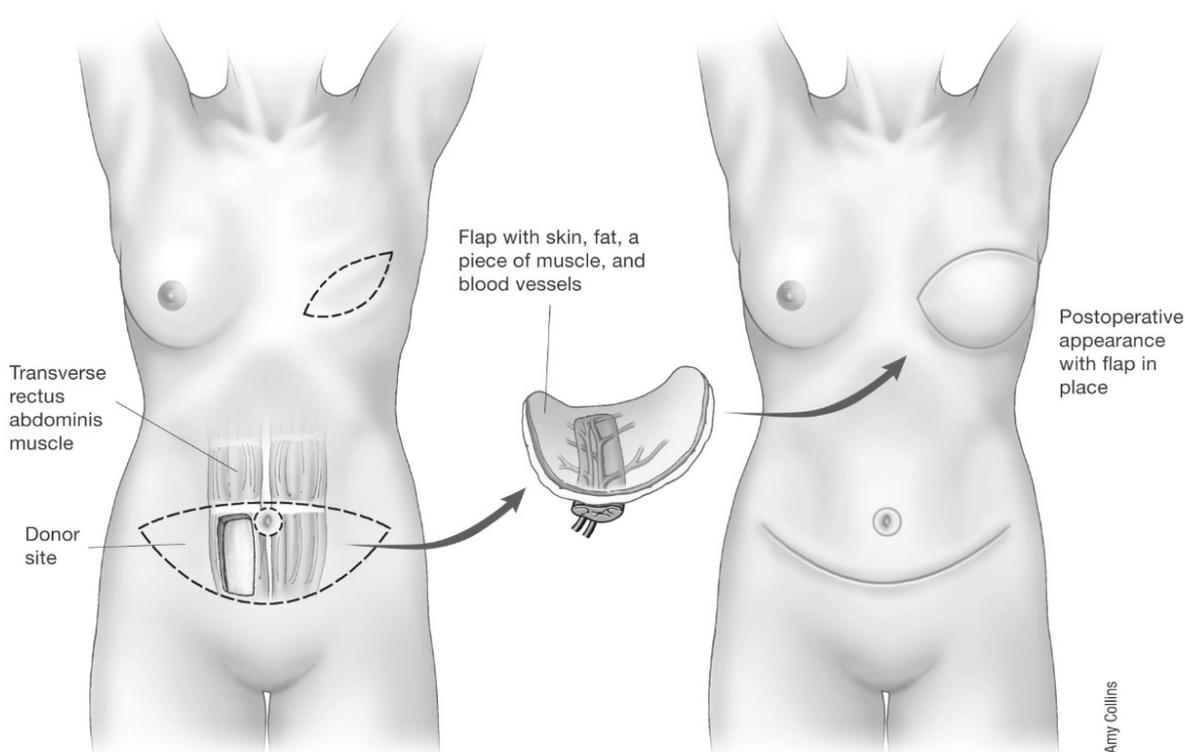
The **TRAM flap** procedure uses tissue and muscle from the tummy. Sometimes an implant is used with this type of flap, but some women have enough tissue in this area to shape the breast so that an implant isn't needed. The skin, fat, blood vessels, and at least one abdominal muscle are moved from the belly to the chest. The TRAM flap procedure can tighten the lower belly, resulting in a "tummy tuck," but it can also decrease the strength in your belly muscles. A TRAM flap may not be possible in women who are very thin or who have had abdominal tissue removed before.

There are different types of TRAM flaps:

- A **pedicle TRAM flap** leaves the flap attached to its original blood supply and tunnels it under the skin to the chest. It usually requires removing most if not all of the rectus abdominis muscle on that side, which means an increased risk of bulging and/or hernia on one side of the abdomen. This can also mean your abdominal (belly) muscles may not be as strong as before the surgery.

- A **free TRAM flap** moves tissue (and usually less muscle) from the same part of the lower abdomen, but the flap is completely removed and moved up to the chest. The blood vessels (arteries and veins) must then be reattached. This requires the use of a microscope (*microsurgery*) to connect the tiny vessels, and the surgery takes longer than a pedicle TRAM flap. The blood supply to the flap is usually better than with pedicle flaps, there is less risk of losing abdominal muscle strength, and the donor site (abdomen) often looks better. The main risk is that sometimes the blood vessels get clogged and the flap doesn't work.

### Transverse rectus abdominis muscle or TRAM flap

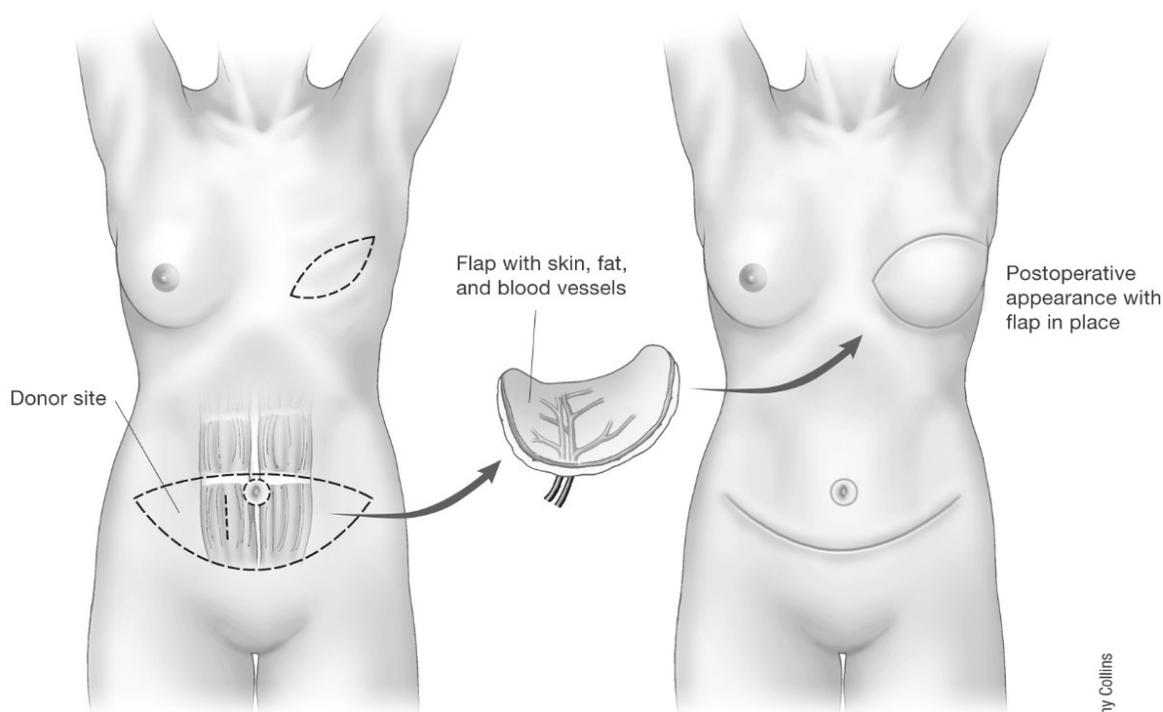


The illustration above depicts a free flap, in which the tissue is cut free from its original location and reattached in the chest area.

### DIEP flap

The **DIEP (deep inferior epigastric perforator) flap** uses fat and skin from the same area as the TRAM flap but does not use the muscle to form the breast shape. This method uses a free flap, meaning that the tissue is completely cut free from the tummy

and then moved to the chest. As in the free TRAM surgery, a microscope is needed to connect the tiny blood vessels. There's less risk of a bulge or hernia because no muscle is taken. A related procedure, known as a **SIEA (superficial inferior epigastric artery) flap**, uses basically the same tissues but different blood vessels.

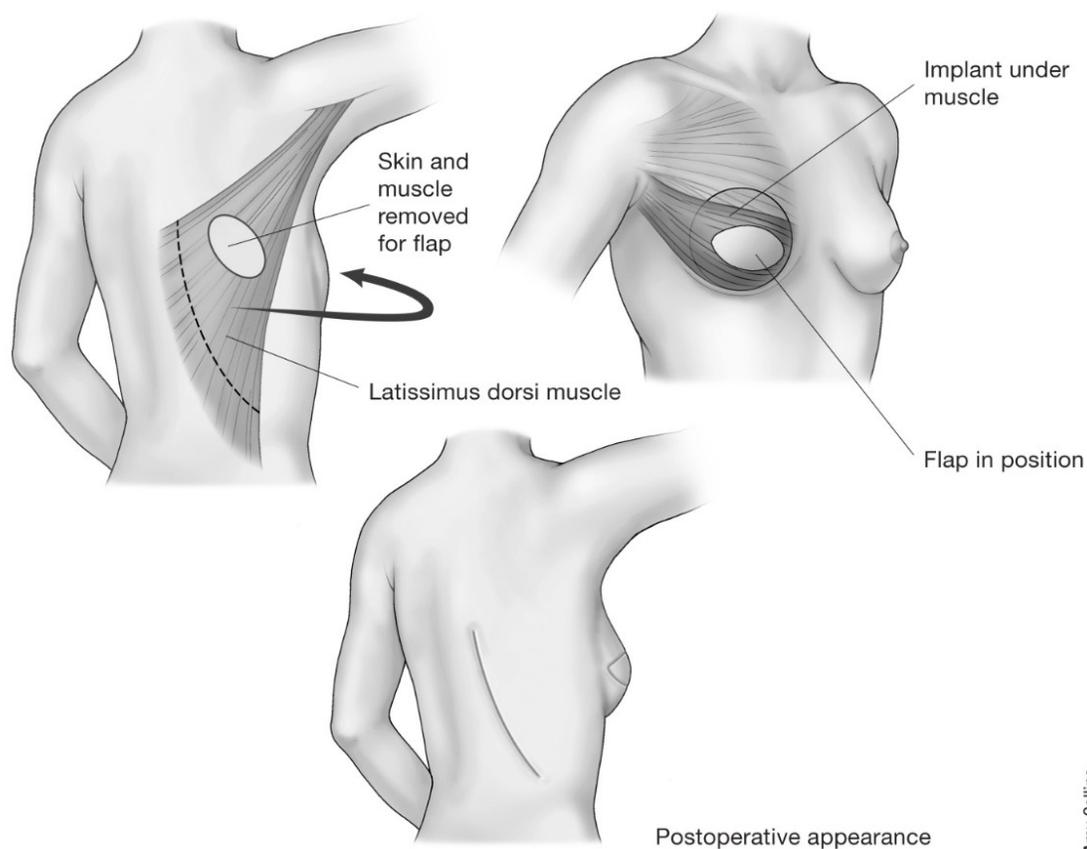


**Deep inferior epigastric artery perforator or DIEP flap**

© Sam and Amy Collins

### **Latissimus dorsi flap**

The **latissimus dorsi flap** is often used along with a breast implant. For this procedure, the surgeon tunnels muscle, fat, skin, and blood vessels from your upper back, under the skin to the front of the chest. This provides added coverage over an implant and makes a more natural-looking breast than just an implant alone. This type of reconstruction can sometimes be used without an implant. . Rarely, some women can have weakness in their back, shoulder, or arm after this surgery.



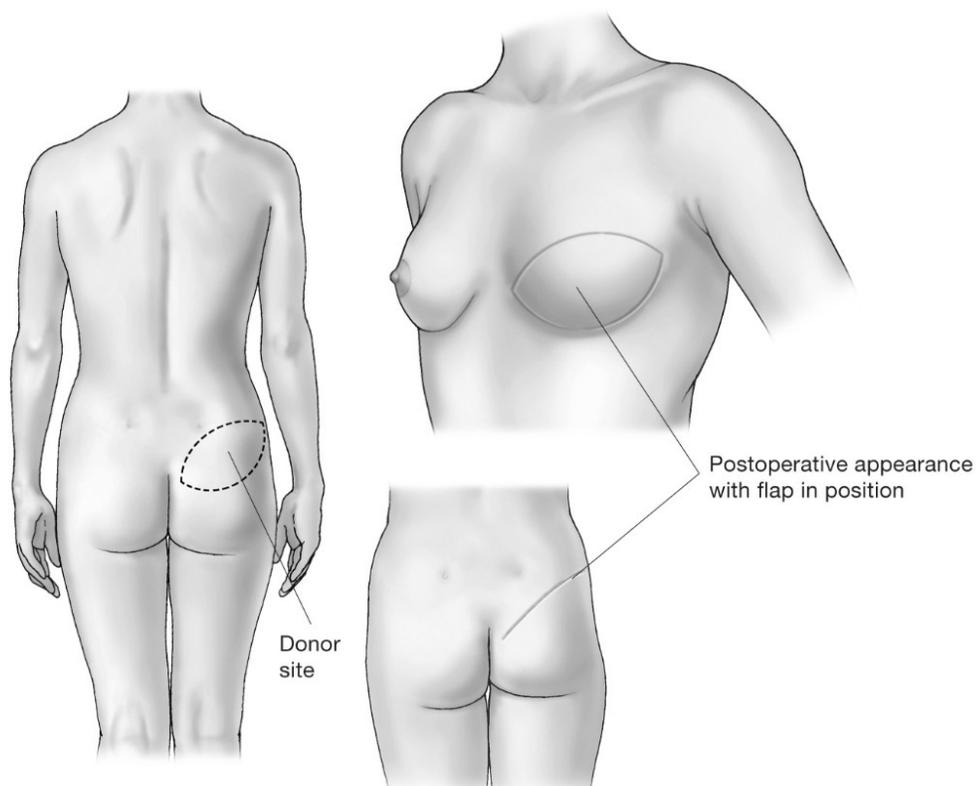
© Sam and Amy Collins

### Latissimus dorsi muscle or LAT flap

#### Gluteal free flap (GAP flap)

The **gluteal free flap** or **GAP flap** is a type of reconstruction surgery that uses tissue from the buttocks to create the breast shape. The gluteal free flap might be an option for women who cannot or do not wish to use the tummy sites due to thinness, previous incisions, failed tummy flap, or other reasons, but it's not offered at all surgical centers. The method is much like the free TRAM flap mentioned above, except no muscle is taken. The skin, fat, and blood vessels are cut out of the buttocks and then moved to the chest.

### Gluteal free flap or GAP flap

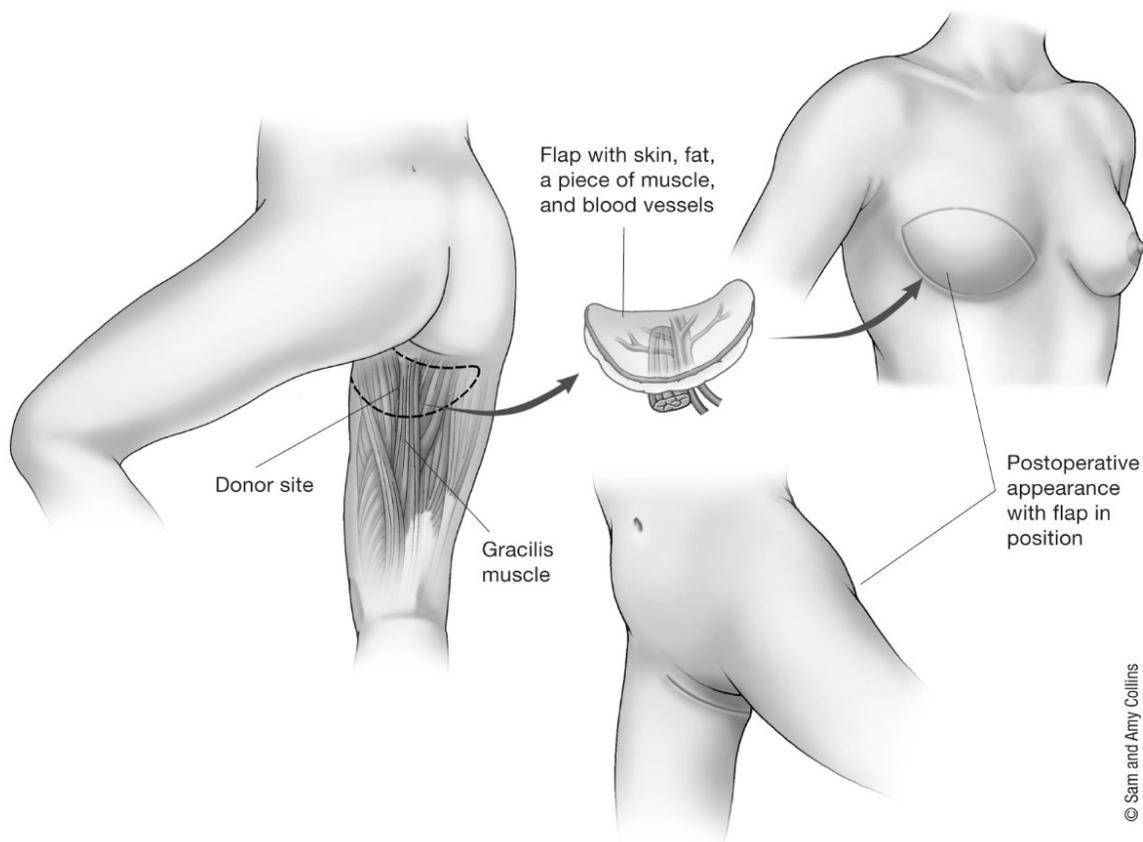


### Inner thigh or TUG flap

A newer option for women 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**, and it's only available in some medical centers. The skin, muscle, and blood vessels are cut out and moved to the chest, and the tiny blood vessels are connected 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. If you have larger breasts, you might need a breast implant as well. Sometimes the location of the donor site causes healing problems, but they tend to be minor and easily treated.

### Transverse upper gracilis or TUG flap



### Fat grafting

A newer technique can take a person's fat from one part of the body (buttocks, thighs, or abdomen) and transfer it to the reconstructed breast to help fix any shape abnormalities that may be seen after the initial breast reconstruction surgery is done. The fat is obtained by liposuction, cleaned and then dissolved so it can be injected easily into the areas it is needed. This procedure has been found to be safe as far as cancer recurrence in patients who have had mastectomies.

# Reconstructing the Nipple and Areola After Breast Surgery

When treating breast cancer with a mastectomy, the nipple is typically removed along with the rest of the breast. (Some women might be able to have a nipple-sparing mastectomy, where the nipple is left in place. This is discussed in more detail on our page about [mastectomy](#)<sup>1</sup>.)

If you're having breast reconstruction after your mastectomy, you can decide if you want to have the nipple and the dark area around the nipple (areola) reconstructed through surgery or tattooing, or both.

## Nipple and areola reconstruction

Nipple and areola reconstructions are usually the final phase of breast reconstruction. This is a separate surgery done to make the reconstructed breast look more like the original breast. It can be done as an outpatient procedure. It's usually done about 3 to 4 months after surgery after the new breast has had time to heal.

Ideally, nipple and areola reconstruction tries to match the position, size, shape, texture, color, and projection of the new nipple to the natural one (or to the other one, if both nipples are being reconstructed). Tissue used to rebuild the nipple and areola comes from the newly created breast or, less often, from another part of your body (such as the inner thigh). In some cases, doctors build up the areola and nipple area with donor skin that's had the cells removed. If a woman wants to match the color of the nipple and areola of the other breast, tattooing may be done a few months after the surgery.

Some women opt to have just the tattoo, without nipple and areola reconstruction. A skilled plastic surgeon or other professional may be able to use pigment in shades that make the flat tattoo look 3-dimensional.

## Nipple prosthetics

Another option for women who might not want further surgery or tattooing are nipple prosthetics, which are made of silicone or other materials and look and feel like real nipples. They can be attached to the chest and then taken off when you choose.

## Hyperlinks

1. [www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-cancer/mastectomy.html](http://www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-cancer/mastectomy.html)
2. <mailto:permissionrequest@cancer.org>

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## Questions to Ask Your Surgeon About Breast Reconstruction

If you've had surgery to treat your breast cancer and are considering breast reconstruction, it's important to know as much as you can about what to expect. Your breast surgeon can help you find a plastic surgeon who should be able to explain all of your choices and answer your questions. Here are some questions to ask to help get you started. Be sure you get all of your questions answered, so that you can make the best decisions for you about breast reconstruction.

### Finding the right plastic surgeon for your breast reconstruction

If you decide to have breast reconstruction, you'll need to find an experienced board-certified plastic surgeon. Your breast surgeon can suggest doctors for you.

To find a board certified plastic surgeon in your area, or to find out if your surgeon is board certified, contact the [American Society of Plastic Surgeons](#)<sup>1</sup> (ASPS).

### Getting a second opinion

It's common to get a [second opinion](#)<sup>2</sup> before having surgery. Don't rush to get reconstruction surgery, or even [mastectomy](#)<sup>3</sup>, before you know all of your options. It's more important for you to make the right decisions based on complete information than to act quickly.

### Questions to ask about breast reconstruction

It's very important to 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. You might want to take notes or bring a partner or friend with you to the doctor to help remember what was said and to help ask other questions.

Here are some questions to get you started. Write down other questions as you think of them. The answers to these questions may help you make your decisions.

- Can I have breast reconstruction?
- When can I have reconstruction done?
- What are the pros and cons of doing it at the same time as my cancer surgery (immediate reconstruction) versus waiting (delayed reconstruction)?
- Will reconstruction interfere with chemotherapy?
- Will reconstruction interfere with radiation therapy?
- What types of reconstruction could I have?
- What are the pros and cons with each option?
- What type of reconstruction do you think would be best for me? Why?
- What's the average cost of each type? Will my insurance cover them?
- How long would it take me to recover from each type?
- How many of these procedures have you (plastic surgeon) done?
- What [results](#) can I expect?
- Will the reconstructed breast match my other breast?
- Should I consider surgery on the other breast as well to help them match?
- Could I have the nipple reconstructed if I choose to? How would this be done?
- How will my reconstructed breast(s) feel to the touch?
- Will I have any feeling in my reconstructed breast(s)?
- What possible problems should I know about?
- If using a tissue flap, will there be pain, scars, or other changes in the parts of my body where the tissue is taken from?
- If I get a breast implant, how long will it 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](#)<sup>4</sup>?
- Can you show me pictures of typical results?
- Can I talk with other women who have had the same surgery?

## Hyperlinks

1. <https://find.plasticsurgery.org/>
2. [www.cancer.org/treatment/finding-and-paying-for-treatment/choosing-your-treatment-team/seeking-a-second-opinion.html](http://www.cancer.org/treatment/finding-and-paying-for-treatment/choosing-your-treatment-team/seeking-a-second-opinion.html)

3. [www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-cancer/mastectomy.html](http://www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-cancer/mastectomy.html)
4. [www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html](http://www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html)

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# Preparing for Breast Reconstruction Surgery

Your surgeon can help you know what to expect from your breast reconstruction surgery and be as prepared as possible. You should have realistic expectations of how your body will look and feel after surgery, and understand the benefits and risks of the type of reconstruction you are having. Ask questions and follow your surgeon's instructions carefully. Some questions that may help you include:

- What should I do to get ready for surgery?
- How much discomfort or pain will I feel after surgery?
- How long will I be in the hospital?
- Will I need blood transfusions?
- How long will it take me to recover?
- What will I need to do at home to care for my incisions (surgical scars)?
- Will I have a drain (tube that lets fluid out of the wound) when I go home?
- How much help will I need at home to take care of my drain and wound?
- Will I be taught exercises to do after surgery? When can I start them?
- How much activity can I do at home?
- What do I do if [my arm swells](#)<sup>1</sup>?
- When will I be able to go back to normal activities such as driving and working?

## Knowing what to expect

As you prepare for breast reconstruction surgery, ask your surgeon what to expect. Breast reconstruction 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.

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

- The drugs (anesthesia) that will be used to make you sleep and not feel pain during the surgery

- Where the surgery will be done
- How long the surgery will take
- Possible complications of surgery
- What to expect after surgery
- The plan for follow-up
- Costs

## Understanding your surgery costs

Health insurance policies often cover most or all of the cost of reconstruction after a [mastectomy](#)<sup>2</sup>, but this might not always be the case if you have reconstruction after [breast-conserving surgery](#)<sup>3</sup> (lumpectomy). Check your policy to make sure you are covered, and find out what portion of the bill you'll be expected to pay. Also, see if there are any limits on what types of reconstruction are covered.

Before surgery, make sure your insurance company will not deny breast reconstruction costs (for mastectomy or lumpectomy). 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. In the past, 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.

## Getting ready for surgery

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

- [Help with quitting smoking](#)<sup>4</sup> if you're a smoker
- Instructions to take or avoid certain vitamins, medicines, and dietary or herbal supplements for a period of time before your surgery
- Instructions on eating and drinking before surgery

Plan to have someone take you home after your surgery or your stay in the hospital. You may also need them to stay and help you out for a few days or longer.

## Where your surgery will be done

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

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

## What anesthesia will be 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 numbed. A sedative drug may also be used to make you feel relaxed but awake. You might feel some discomfort.

## Be aware of the possible risks

Certain risks go along with any type of surgery, and breast reconstruction may pose certain unique problems for some women. Your surgeon will go over the possible risks of reconstruction surgery with you. Be sure to ask questions if there's anything you're not sure about. For more on the possible risks after surgery, see [What to Expect After Breast Reconstruction Surgery](#).

## Hyperlinks

1. [www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/lymphedema.html](http://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/lymphedema.html)
2. [www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-cancer/mastectomy.html](http://www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-cancer/mastectomy.html)
3. [www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-cancer/breast-conserving-surgery-lumpectomy.html](http://www.cancer.org/cancer/breast-cancer/treatment/surgery-for-breast-cancer/breast-conserving-surgery-lumpectomy.html)
4. [www.cancer.org/healthy/stay-away-from-tobacco.html](http://www.cancer.org/healthy/stay-away-from-tobacco.html)

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## What to Expect After Breast Reconstruction Surgery

It's important to have an idea of what to expect after surgery to rebuild your breast, including the possible risks and side effects. The time it takes you to recover from surgery will depend on the type of reconstruction you have. Most women begin to feel better in a couple of weeks and can return to usual activities in a couple of months. Talk to your doctor about what you can expect. Be sure you understand how to take care of your surgery sites and how to follow up with your breast care, including regular [mammograms](#)<sup>1</sup> and when they are needed depending on the surgery you have had.

## Possible risks during and after reconstruction surgery

Any type of surgery has risks, and breast reconstruction may pose certain unique problems for some women. Even though many of these are not common, it's important to have an idea of the possible risks and side effects.

Some of the risks during or soon after surgery include:

- Problems with the anesthesia
- Bleeding
- Blood clots
- Fluid build-up in the breast or the donor site (for a tissue flap), with swelling and pain
- [Infection](#)<sup>2</sup> at the surgery site(s)
- Wound healing problems
- Extreme tiredness ([fatigue](#)<sup>3</sup>)

Problems that can occur later on include:

- Tissue death (necrosis) of all or part of a tissue flap, skin, or fat
- Loss of or changes in nipple and breast sensation
- Problems at the donor site, such as loss of muscle strength
- The need for more surgery to fix problems that come up
- Changes in the arm on the same side as the reconstructed breast
- Problems with a breast implant, such as movement, leakage, rupture, or scar tissue formation (capsular contracture)
- Uneven breasts

### Risks of infection

Infection can happen with any surgery, most often in the first couple of weeks after surgery. If an implant has been placed, it might 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**. A scar (or

capsule) can form around the soft implant. As it tightens, it can start to squeeze the implant, making the breast feel hard. Capsular contracture can be treated. Sometimes surgery can remove the scar tissue, or the implant can be removed or replaced.

### **Additional risks for smokers**

Using tobacco narrows blood vessels 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. This can be hard to do, so ask your doctor for help.

### **Recovering after reconstruction surgery**

You're likely to feel tired and sore for a week or 2 after implant surgery, or longer after a flap procedure (which will leave you with 2 surgical wounds). Your doctor will give you medicines to help control pain and other discomfort.

Depending on the type of surgery you have, you will most likely be able to go home from the hospital within a few days. You may be discharged with one or more drains in place. A drain is a small tube that's put in the wound to remove extra fluid from the surgery site while it heals. In most cases, fluid drains into a little hollow ball that you'll learn how to empty before you leave the hospital. The doctor will decide when the drains can be safely removed depending on how much fluid is collecting each day. 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, ask someone on your cancer care team.

### **Getting back to normal**

Most women can start to get back to normal activities within about 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 fully and scars to fade, but the

scars never go away completely.

- Ask when you can go back to wearing regular bras. Talk with your surgeon about the type of bra to wear – sometimes it will depend on the type of surgery you had. After you heal, underwires and lace might feel uncomfortable if they press on scars or rub your skin.
- 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 basic rule, you'll want to avoid overhead lifting, strenuous sports, and some sexual activities for 4 to 6 weeks after reconstruction. Check with your surgeon for specific guidance.
- Women who have reconstruction months or years after a mastectomy may go through a period of emotional adjustment once they've had 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 might also help you sort out anxiety and other distressing feelings.
- Silicone gel implants can open up or leak inside the breast without causing symptoms. Surgeons usually recommend getting regular magnetic resonance imaging (MRI) of implants to make sure they aren't leaking. (This isn't needed with saline implants.) You'll likely have your first MRI 1 to 3 years after your implant surgery and every 2 years from then on, although it may vary by implant. Your insurance might not cover this. Be sure to 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 leaking from the breast, armpit, or flap donor site, or if you have other symptoms that concern you.

## **Talk to your doctors about the need for mammograms**

Women who have had a mastectomy to treat breast cancer generally do not need routine screening mammograms on the side that was affected by cancer (although they still need them on the other breast). There isn't enough tissue remaining after a mastectomy to do a mammogram. Cancer can come back in the skin or chest wall on that side, but if this happens it's more likely to be found on a physical exam.

It's possible for women with reconstructed breasts to get mammograms, but experts agree that women who have breast reconstruction after a mastectomy don't need

routine mammograms. Still, if an area of concern is found during a physical exam, a diagnostic mammogram may be done. ([Ultrasound](#)<sup>4</sup> or [MRI](#)<sup>5</sup> may also be used to look at the area closely.)

If you have a breast implant and you need a mammogram, be sure to get it 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. Be sure your technologist knows about your implant before starting the mammogram.

If you're not sure what type of mastectomy you had or whether you need to get mammograms, ask your doctor.

## Hyperlinks

1. [www.cancer.org/cancer/breast-cancer/screening-tests-and-early-detection/mammograms.html](http://www.cancer.org/cancer/breast-cancer/screening-tests-and-early-detection/mammograms.html)
2. [www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/infections/infections-in-people-with-cancer.html](http://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/infections/infections-in-people-with-cancer.html)
3. [www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fatigue.html](http://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fatigue.html)
4. [www.cancer.org/cancer/breast-cancer/screening-tests-and-early-detection/breast-ultrasound.html](http://www.cancer.org/cancer/breast-cancer/screening-tests-and-early-detection/breast-ultrasound.html)
5. [www.cancer.org/cancer/breast-cancer/screening-tests-and-early-detection/breast-mri-scans.html](http://www.cancer.org/cancer/breast-cancer/screening-tests-and-early-detection/breast-mri-scans.html)

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**Written by**

The American Cancer Society medical and editorial content team  
([www.cancer.org/cancer/acs-medical-content-and-news-staff.html](http://www.cancer.org/cancer/acs-medical-content-and-news-staff.html))

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