UW Medicine
UNIVERSITY OF WASHINGTON MEDICAL CENTER

Breast Reconstruction Surgery

Options after a mastectomy

This handout explains the most common procedures that are used at University of Washington Medical Center (UWMC) to reconstruct a breast after mastectomy.

At the Center for Reconstructive Surgery, our goal is to help your body regain as much form and function as possible.

Scan this QR code with your phone camera to access a digital copy of this handout.

Your clinic visits will be at the UWMC Center for Reconstructive Surgery 3rd floor surgery pavilion.

Center for Reconstructive Surgery | Box 356165
1959 N.E. Pacific St., Seattle, WA 98195 | 206.598.1217

About Breast Reconstruction

Some patients choose breast reconstruction for a variety of reasons, and some patients prefer to have a flat aesthetic closure, instead of breast reconstruction. This handout outlines some of the options available to you. Please discuss your options and choices with your surgeon.

You will first meet with your breast surgeon to determine if a mastectomy is recommended. The next consultation will be with a plastic surgeon to outline options for reconstruction. Reconstruction can take place at the time of mastectomy or later.

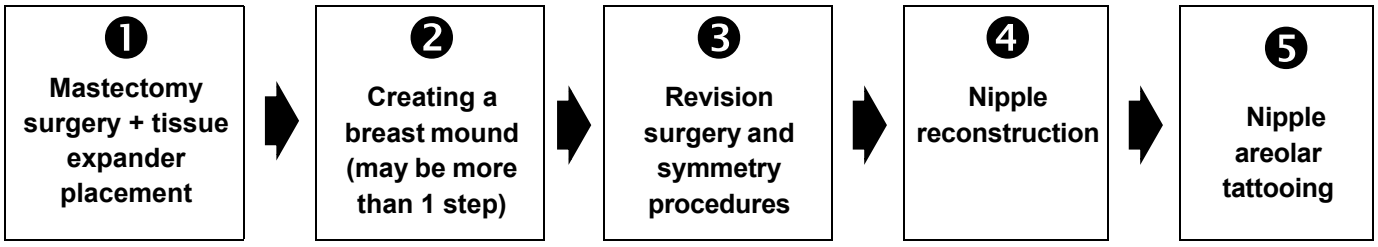
The timeline and type of breast reconstruction may depend on:

- Whether you had chemotherapy, radiation, or other breast cancer treatments
- Your breast size and shape, and whether you have a history of breast surgeries
- Other health conditions such as:
  - Obesity, with a body mass index (BMI) greater than 35
  - Diabetes
  - Heart disease and other *co-morbidities* (medical conditions)

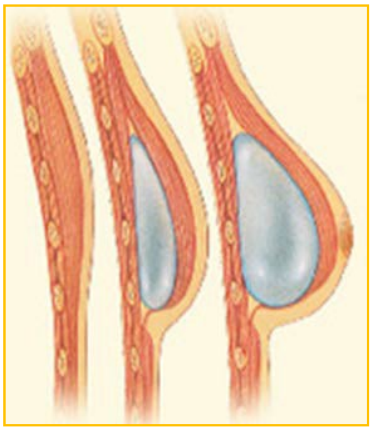
Talk with your provider about which type of breast reconstruction is right for you. Your surgeons will help create a care plan that meets your needs.

Reconstructive Surgery Process

Breast reconstruction involves many steps with a minimum of 3 months between each portion. The whole process often takes about 1 year or more.



Center for Reconstructive Surgery | Box 356165
1959 N.E. Pacific St., Seattle, WA 98195 | 206.598.1217



A tissue expander stretches the skin and muscle to create a pocket for the permanent breast implant.

Step 1: Mastectomy and Tissue Expander Placement

The first step toward your breast reconstruction typically happens at the time of your mastectomy. If mastectomy and tissue expander placement cannot happen at the same surgery, the tissue expander can be put in place 2 weeks or more after your mastectomy. After you consult with your plastic surgeon, the timing of the tissue expander placement will be decided.

Tissue expanders are placed in the breast pocket either above or below your pectoral muscle. Tissue expanders are firm, implanted devices your provider will gradually fill with saline over time. The purpose is to stretch tissue to prepare for the next phase of reconstruction. The tissue expander is not indicative of the shape or feel of your final reconstruction.

Expansion Process

Expansion of these devices begins about 3 weeks after the expander is placed. You will visit the clinic every 1 to 3 weeks for expansion for 4 to 5 visits. At these visits, your provider will use a needle to inject saline through a metal port in the expander. Over time, the breast pocket will stretch until it reaches your desired breast size.

Step 2: Creating a Breast Mound

The second step in breast reconstruction is surgery to create a breast mound. Your surgeon may use a permanent implant or your own tissues from another place on your body, or both. If your treatment involves chemotherapy, surgery is timed at least 1 month after completion of treatment. If your treatment involves radiation, surgery is timed at least 6 months after radiation is finished.

During your Step 2 surgery, you may have:

- Permanent implant *(see page 5)*
- *Autologous tissue transplantation* (a procedure where your own tissue is used to replace damaged tissue)
    - *DIEP* (deep inferior epigastric perforator) flap *(see page 6)*
    - Latissimus dorsi flap *(see page 8)*
    - *TUG* (transverse upper gracilis) flap *(see page 10)*
    - Other options discussed with your surgeon may be available

Center for Reconstructive Surgery | Box 356165
1959 N.E. Pacific St., Seattle, WA 98195 | 206.598.1217

Step 3: Revisions and Symmetry

The third step in breast reconstruction is refining the shape and size of the reconstructed breast(s). This is called revision surgery.

Revision surgery often involves using liposuction to remove fat from the abdomen, flanks and/or thighs. This fat is then moved to the reconstructed breast. This is called *fat grafting*.

If reconstruction is on only one side, this step may also include surgery on the natural breast to improve symmetry. This might involve a breast lift, breast reduction, or augmentation.

Revision and symmetry surgeries are usually outpatient procedures. This means you will go home the same day.

Some patients have more than 1 revision surgery to achieve the breast shape and size they want. These surgeries will be about 3 months apart so that your body has time to heal.

Step 4: Nipple Reconstruction

Nipple reconstruction is usually done about 3 months after revision surgery, if desired.

In nipple reconstruction, skin from the new breast mound is raised and folded to create a nipple projection. This procedure is usually done in the clinic using local anesthesia (medicine that numbs the incision area).

In some cases, this step can also be done during revision surgery (step 3) when you are under general anesthesia (medicine that makes you sleep).

Step 5: Nipple Tattooing

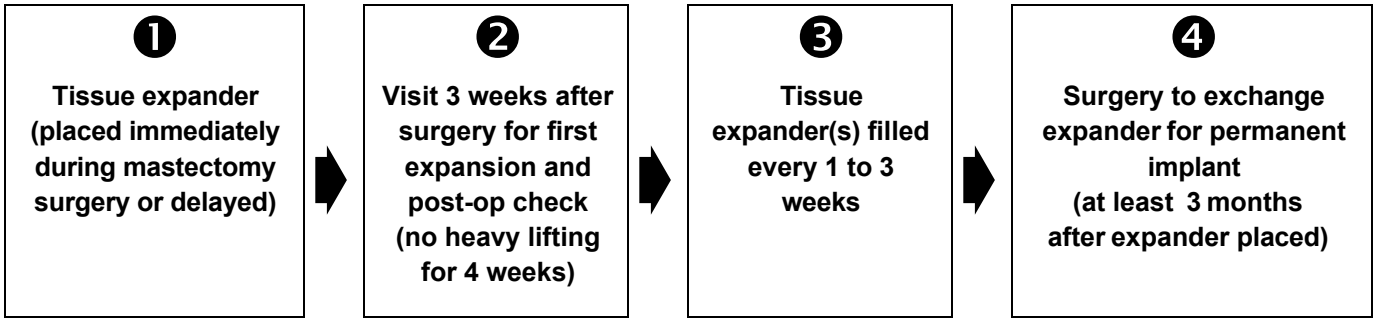
Nipple tattooing adds permanent pigment around your new nipple(s) to create an image of an areola. This is done in the clinic about 6 months after nipple reconstruction. For lasting results, a second tattoo appointment may be needed about 6 weeks after the initial tattooing.

If you decide not to have nipple reconstruction, we can still do a 3D tattoo for the appearance of a nipple and areola.

Center for Reconstructive Surgery | Box 356165
1959 N.E. Pacific St., Seattle, WA 98195 | 206.598.1217

Breast Reconstruction with Implants

Timeline for Reconstruction with Implants



When you are ready to move forward with reconstruction, your surgeon will remove your tissue expander(s) and place a permanent breast implant. This is called implant exchange. This will be outpatient surgery, and you will go home the same day.

Very rarely implants may be placed immediately after mastectomy. Discuss with your surgeon if this is an option for you.

At one of your clinic visits, before we place your final implant, we will talk with you about your goals and the different types of implants. Sometimes your cancer treatment may delay this step.

Common Risks of Implant Surgery

Infection

It is possible to get a seroma (fluid collection) or an infection after tissue expander or permanent implant surgery. This usually occurs within the first few months after surgery. If you get an infection, you will need to take antibiotics either by mouth or by IV (intravenous line).

If an infection is severe, we may need to remove your expander or implant. Your surgeon will talk with you about whether replacing your expander or implant is possible.

Rupture

As implants age, the risk of implant rupture increases. MRI scan is recommended 5 years after implant placement to detect rupture. If your implants rupture, you will need another surgery to replace the damaged implant. Ruptured implants are typically non-life-threatening and considered non-urgent as implant materials are contained within the breast capsule or scar tissue.

Center for Reconstructive Surgery | Box 356165
1959 N.E. Pacific St., Seattle, WA 98195 | 206.598.1217

Capsular Contracture

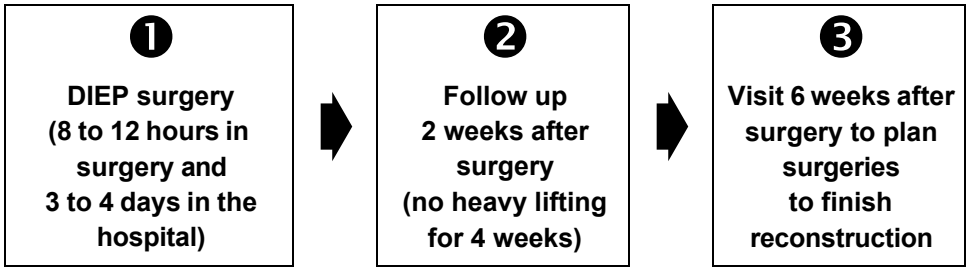
Sometimes, the scar tissue in the area around the implant gets painful, hard, and tight. This is called capsular contracture. It is one of the most common problems after implant surgery.

Capsular contracture is more likely to occur if you have had radiation treatment. If it happens, you will likely need another operation to replace the implant.

Other complications may include rippling and wrinkling around the implant, or breast asymmetry.

Breast Reconstruction with DIEP Flap

Timeline for DIEP Surgery

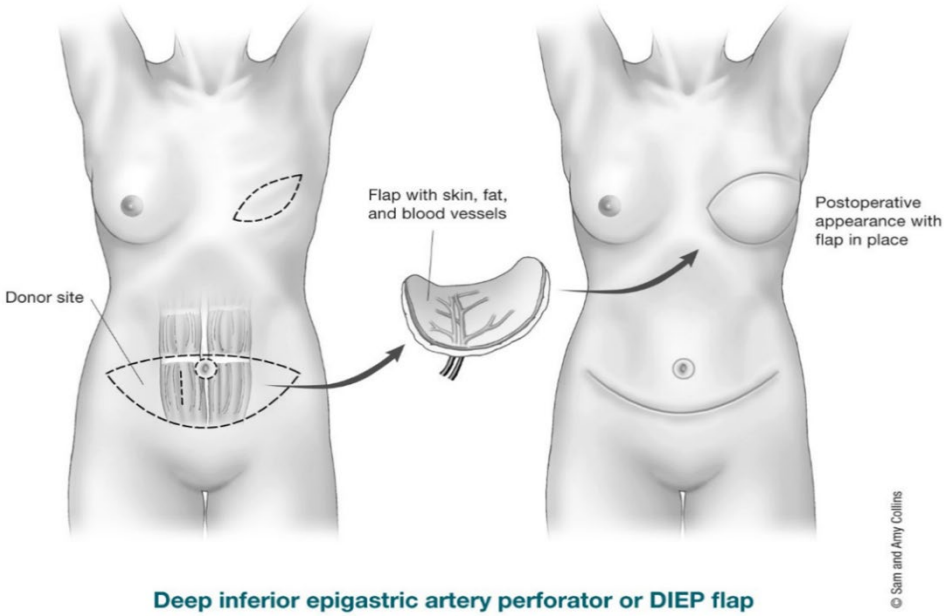


Surgery involving a DIEP (deep inferior epigastric perforator) flap includes taking skin, fat, and blood supply from your lower abdomen to reconstruct your breast after a mastectomy.

Before DIEP surgery, an imaging procedure called a computed tomography (CT) scan is done to find DIEP blood vessels in the lower abdomen. Using microsurgery technique, your surgeon will remove the flap from your abdomen and then connect the arteries and veins in the flap to vessels in your chest.

When this surgery is done, you will have a scar on your chest and from hip to hip below your belly button. You will also have a scar around your belly button and breasts.

DIEP surgery is more complex than other types of reconstruction. It takes about 8 to 12 hours. After this surgery, you will need to stay in the hospital for about 3 to 4 days, with 24 hours in the intensive care unit.



Deep inferior epigastric artery perforator or DIEP flap

Tiny branches of the deep inferior epigastric artery feed the skin and underlying tissue of the DIEP flap.

During surgery, the DIEP flap is carefully moved to the mastectomy site.

Common Risks of DIEP Surgery

Infection

It is possible to get an infection after DIEP surgery. If you get an infection, you will need antibiotics you take by mouth or by IV (intravenous line). An infection can also contribute to delayed wound healing.

Risk of Flap Failure

Most times, DIEP flap surgery results in a successful breast reconstruction. However, there is a 1% to 3% chance that a problem with the flap will occur and it must be permanently removed. This most often happens during the surgery or while you are in the hospital.

If this occurs, your surgeon will talk with you about your other options for reconstruction.

To help prevent problems with your flap tissue, you will need to follow strict activity and lifting precautions for 4-6 weeks after surgery.

Fat Necrosis

Some of the fat we move to your breast may not survive. This can cause small, hard lumps to form. These are usually absorbed into your body. They can also be removed during later steps of revision surgeries.

Other complications include breast asymmetry, delayed wound healing, abdominal weakness or bulge, seroma (fluid collection), and scarring.

Breast Reconstruction with Latissimus Dorsi Flap

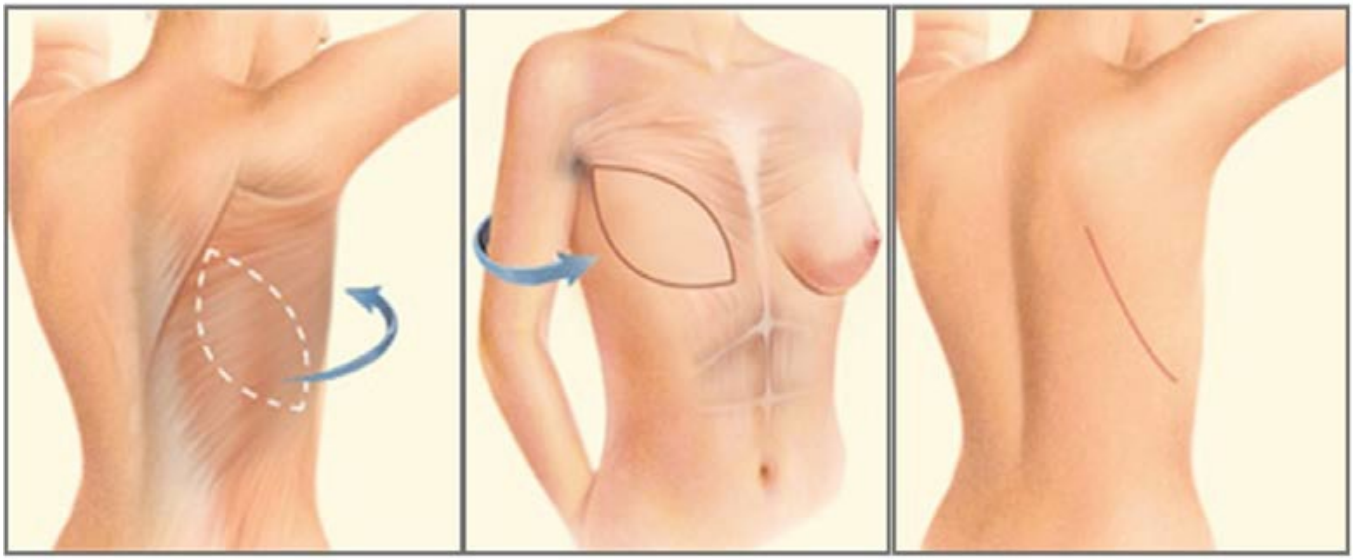
Timeline for Latissimus Dorsi Flap Reconstruction

❶	❷	❸	❹
Surgery (4 to 6 hours in surgery and 1 to 3 days in the hospital)	**Follow-up visit 2 to 3 weeks after surgery (no heavy lifting for 4 weeks)**	**Fill tissue expander, if placed, every 1 to 2 weeks**	**Follow up 6 to 7 weeks after surgery to plan surgeries to finish reconstruction (implant or revision).**

The latissimus dorsi muscle is on your upper back. Your latissimus dorsi muscle and overlying fat and skin are rotated toward your chest to reconstruct your breast. This type of surgery may be an option if you have tight skin after your mastectomy or if you have had chest wall radiation. Surgery takes typically 4 to 6 hours under general anesthesia.

If your latissimus dorsi flap does not have enough volume for a full breast reconstruction, your surgeon may place a tissue expander beneath the muscle. This will later be exchanged with an implant.

After surgery, you will stay at least 1 night and up to 3 nights in the hospital. You will have scars on your back where the muscle was taken and on your chest where the reconstructed breast is created.



Latissimus dorsi flap reconstruction

Center for Reconstructive Surgery | Box 356165
1959 N.E. Pacific St., Seattle, WA 98195 | 206.598.1217

Common Risks of Latissimus Dorsi Flap Surgery

Infection

It is possible to get an infection after latissimus dorsi flap surgery (with or without a tissue expander and implant). If you get an infection, you will need antibiotics you take by mouth or by IV (intravenous line). This can also contribute to delayed wound healing.

Rupture

As implants age, the risk of implant rupture increases. MRI scan is recommended 5 years after implant placement to detect rupture. If your implants rupture, you will need another surgery to replace the damaged implant. Ruptured implants are typically non-life-threatening and considered non-urgent as implant materials are contained within the breast capsule or scar tissue.

Capsular Contracture

Sometimes, the scar tissue in the area around the implant gets painful, hard, and tight. This is called capsular contracture. It is one of the most common problems after implant surgery.

Capsular contracture is more likely to occur if you have had radiation treatment. If it happens, you will likely need another operation to replace the implant.

Risk of Flap Failure

Most times, latissimus dorsi flap surgery results in a successful breast reconstruction. However, there is a chance that a problem with the flap will occur and part of the muscle loses its blood supply. This most often happens during the surgery or while you are in the hospital.

If this occurs, your surgeon will talk with you about your other options for reconstruction.

To help prevent problems with your flap tissue, you will need to follow strict activity and lifting precautions for 4-6 weeks after surgery.

Other Types of Breast Reconstruction

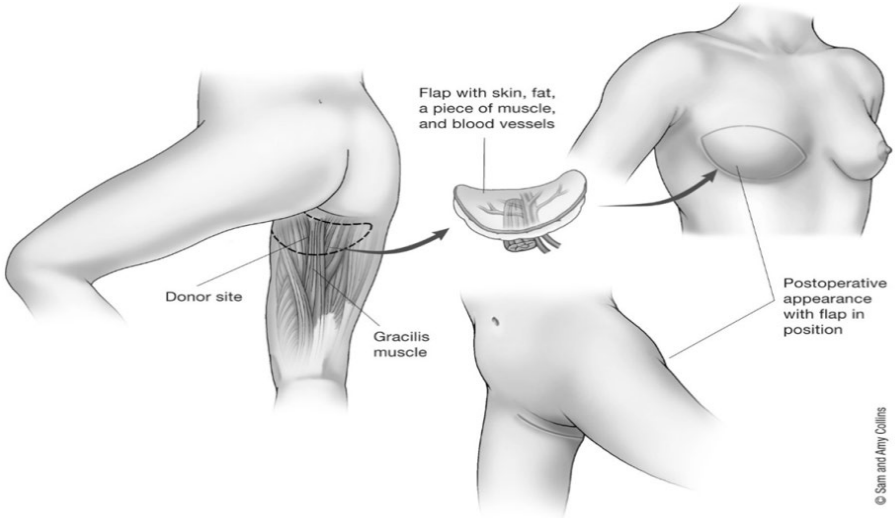
Discuss with your surgeon if you need to consider other methods of breast reconstruction. This may involve using your own tissue from your thigh or your buttocks.

Your surgeon will talk with you about the benefits and risks of these different surgeries. The recovery timeline and risks for these surgeries is similar to the DIEP flap surgery.

Some of these other types of surgery are:

- **TUG (transverse upper gracilis) Flap:** Skin, fat, muscle, and blood vessels from the upper inner thigh are moved to the chest wall. They are connected to the new breast site using microsurgery.
- **SGAP (superior gluteal artery perforator) Flap:** This method is similar to the I-GAP method. It also uses skin, fat, and blood vessels, but they are taken from the upper buttock. This leaves a scar at or near the upper panty line.

Transverse upper gracilis or TUG flap



Overview of Surgery Risks

Some of the risks related to surgery include:

- Problems from anesthesia, for example respiratory or gastrointestinal
- Bleeding
- Blood clots
- Infection
- Delayed wound healing
- Scarring
- Flap loss (due to blood-flow problems)
- Risks from implants (such as rupture or contracture)

Increased Risk

Your risk for having complications after surgery increase if you:

- Use nicotine products
- Have a BMI over 35
- Have diabetes with a hemoglobin A1C over 7
- *Co-morbidities* (medical conditions) such as cardiovascular concerns or anti-coagulation needs

If you have any of these increased risk factors, we may ask you to delay having surgery until these issues are controlled or resolved.

Questions You May Have

Q: Can I talk with other patients who have gone through the kind of reconstruction I am thinking about?

A: Yes. If you want to talk with other patients, please tell your doctor. This might take some time as we need to reach out to these patients for permission to share their reconstruction experiences. Alternatively, there are support groups in social media that you might be able to access and interact with.

Q: When can I have my surgery?

A: After your consult visit, a patient care coordinator (PCC) will talk with you about dates for your surgery. Your dates will depend on your schedule, the surgeon's schedule, and whether you have any health risks to consider.

Q: How much time will I need to take off work?

A: Patients' recovery time at home varies. It depends on the type of surgery you have, how quickly you heal, and whether you have any problems from the procedures. It will also depend on the type of work you do. Please discuss this with your surgeon during your visit.

Q: What should I bring to my clinic visits?

A: We suggest that you bring a list of questions, a notepad and pen, and a support person to all your visits. It can be hard to remember everything you and your surgeon talk about. Writing down what you learn and having a support person there will help.

Q: Which websites provide reliable information?

A: Try these websites:

- *www.diepflap.com*
- *www.PlasticSurgery.org*

Center for Reconstructive Surgery | Box 356165
1959 N.E. Pacific St., Seattle, WA 98195 | 206.598.1217

- *www.BreastReconstructionMatters.com*

Q: How long until my reconstruction is complete?

A: It can take up to a year or more to finish all the steps of reconstruction. It depends on your rate of healing, your cancer treatments, and whether you have any problems from the procedures.

Notes and Questions to Ask

Questions?

Your questions are important. Contact your doctor or healthcare provider if you have questions or concerns.

During Clinic Hours (Monday through Friday except holidays, 8am to 5pm): If you have any questions or concerns, we recommend messaging your surgeon through EPIC MyChart. Please include a photo if applicable.

Alternatively, you may call the Center for Reconstructive Surgery at 206-598-1217, option 2.

Urgent Needs Outside of Clinic Hours
If you have an urgent care need after hours, on weekends, or holidays, please call 206-598-6190 and ask to speak to the plastic surgeon on call.

Center for Reconstructive Surgery | Box 356165
1959 N.E. Pacific St., Seattle, WA 98195 | 206.598.1217

© University of Washington Medical Center
Published PFES: 2012, 2015, 2017, 2022, 2024
Clinician Review: 02/2024
Reprints on Health Online: https://healthonline.washington.edu