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.

Your clinic visits will be at the UWMC Center for Reconstructive Surgery.

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

Your surgeon will talk with you about your options for breast reconstruction, and the risks and benefits of each.

About Breast Reconstruction

Many women report a sense of wholeness and well-being after breast reconstruction. They also say that they have more confidence and a better quality of life.

If your cancer was found early, breast reconstruction may begin during your mastectomy surgery. But sometimes reconstruction cannot be done right away.

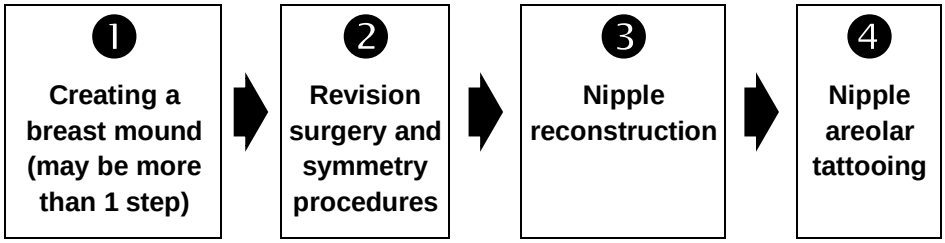
The timeline and type of breast reconstruction we suggest for you may depend on:

- Whether you had chemotherapy, radiation, or other breast cancer treatments
- Your breast size and shape, and whether you have had other breast surgeries
- Other health conditions such as:
  - Obesity, with a *body mass index* (BMI) greater than 30
  - Diabetes
  - Heart disease

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.

Reconstruction Steps

Breast reconstruction involves many steps. There is usually a healing time of about 3 months between each step. The whole process often takes about 1 year, but may be shorter or longer.



Step 1: Creating a Breast Mound

The first step in breast reconstruction is surgery to create a breast mound. Your surgeon may use an implant, your own tissues from another place on your body, or both.

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Many times, an adjustable implant called a *tissue expander* is placed during mastectomy. This implant will help preserve and prepare your skin for reconstruction later.

During your surgery, you may have:

- Tissue expander, followed by an implant later
- DIEP (*deep inferior epigastric perforators*) flap
- *Latissimus dorsi* (back muscle) flap

Step 2: Revisions and Symmetry

The second 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 and thighs. This fat is then moved to the reconstructed breast.

If reconstruction is on only one side, this step may also include surgery on the natural breast to improve *symmetry* (making your breasts look more like each other). This might involve a breast lift, breast reduction, or augmentation.

Revision and symmetry surgeries are usually *outpatient procedures*, also called *day procedures*. This means you will not stay overnight in the hospital.

Some women 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 3: Nipple Reconstruction

A nipple can be reconstructed after the breast mound has "settled." Nipple reconstruction is usually done about 3 months after revision surgery.

In nipple reconstruction, skin from the new breast mound is raised and folded to create a nipple. This procedure is usually done in the clinic using *local anesthesia* (medicine that numbs only the area where your doctor will be working).

In some cases, this step can also be done during step 2 when you are under *general anesthesia* (medicine that makes you sleep).

Step 4: Nipple Tattooing

Nipple tattooing adds color around your new nipple(s) to create a new areola. This is done in the clinic about 3 months after nipple reconstruction. For lasting results, a second tattoo appointment may be needed about 1 month after the first.

If you decide not to have nipple reconstruction, we can do a 3D tattoo. This will make it look like you have a nipple.

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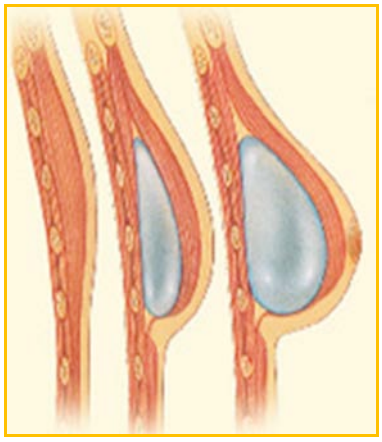

A tissue expander stretches the skin and muscle to create a pocket for the permanent breast implant.

Breast Reconstruction with Tissue Expander and Implants

Placing a Tissue Expander

We cannot place a permanent breast implant during your mastectomy. Your skin will be very delicate and will have healing problems if there is too much pressure underneath.

But, we can place an adjustable implant called a *tissue expander* during your mastectomy. This expander is placed under your skin and chest muscle. Over the new few months, we will slowly fill this expander with a saline solution.

The expander can also be placed at a later date, from weeks to years after your mastectomy. This is often done as an outpatient surgery.

Expansion Process

The expansion process starts about 3 weeks after we place your expander. You will come for clinic visits about every 1 to 3 weeks. At these visits, saline will be added through a port in the expander. As the size of the expander grows over time, your skin and muscle over it will stretch to create your final breast size.

When your expansion is complete, your surgeon will remove the expander and replace it with a permanent implant. This is done as an outpatient surgery. The implant is softer and more natural in feel and shape than the expander.

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.

Timeline for Reconstruction with Implants

1	2	3	4
Tissue expander placed (adds 1 to 2 hours to mastectomy surgery)	**Visit 3 weeks after surgery for first expansion and post-op check (no heavy lifting for 4 weeks)**	**Tissue expander filled every 1 to 2 weeks (usually 4 to 8 visits)**	**Surgery to exchange expander for implant (at least 3 months after expander placed)**

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Risks of Implant Surgery

Infection

It is possible to get an infection after implant surgery. This usually occurs within the first few months after surgery. If you get an infection, you will need antibiotics you take by mouth or by IV (*intravenous* line).

If an infection is severe, we may need to remove your expander or implant. It will be several months before we can place a new one.

Rupture

Implants can leak (*rupture*). If your implants leak, you will need another surgery to replace the damaged implant. This is more likely to happen with older implants. If you suspect a leak, your doctor will most likely want to schedule an ultrasound or magnetic resonance imaging (MRI) scan. These scans will show if there is a rupture.

Capsular Contracture

Sometimes, the scar tissue in the area around the implant gets 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.

If you have had radiation treatment, we usually advise having tissue reconstruction instead of reconstruction using an implant.

Breast Reconstruction with DIEP Flap

Flap reconstruction involves moving a flap of skin, fat, and blood vessels from another area of the body to the breast area for breast reconstruction.

UWMC doctors most often use the *deep inferior epigastric perforator* (DIEP) flap method for this surgery. DIEP flap surgery uses a flap from your lower abdomen to rebuild your breast. Your abdominal muscle is only slightly affected.

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

DIEP surgery is more complex than other types of reconstruction. It takes about 6 to 12 hours. After this surgery, you will need to stay in the hospital for about 3 to 5 days.

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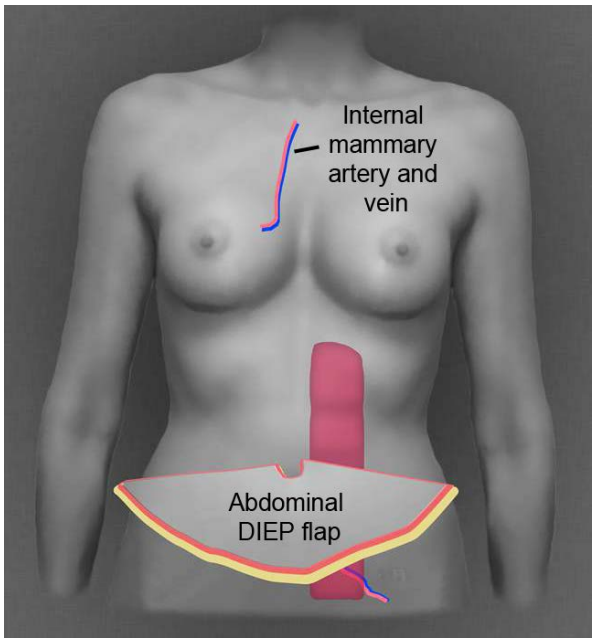
DIEP surgery is a natural breast reconstruction. It uses your own tissues, and you do not need implants.

Timeline for DIEP Surgery

1	2	3
DIEP surgery (6 to 12 hours in surgery and 3 to 5 days in the hospital)	**Visit 2 weeks after surgery (no heavy lifting for 4 weeks)**	**Visit 6 weeks after surgery to plan surgeries to finish reconstruction**



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

DIEP Surgery

In DIEP surgery, the flap is carefully removed from the lower abdomen, moved to the breast area, and reshaped. Doctors use a microscope to help connect blood vessels in the flap to blood vessels in the breast area. This creates the new breast mound.

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

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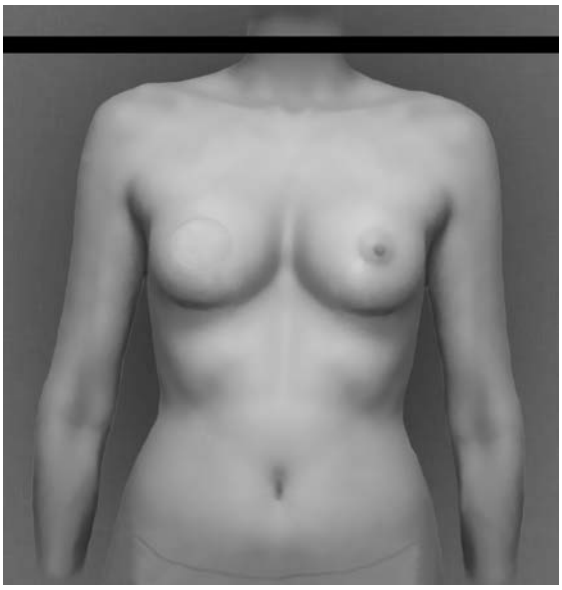

During surgery, the DIEP flap is carefully moved to the mastectomy site.

Risks of DIEP Surgery

Major Surgery

DIEP surgery is major surgery, which means you will have general anesthesia. Surgery will last many hours:

- It takes about 6 to 8 hours to reconstruct 1 breast (*unilateral* DIEP).
- It takes about 10 to 12 hours to reconstruct both breasts (*bilateral* DIEP).

Risk of Flap Failure

Most times, DIEP flap surgery results in a successful breast reconstruction. But there is a 2% to 3% chance that a problem with the flap will occur and it must be permanently removed. This means that 2 to 3 patients out of 100 have a major problem with the flap.

This most often happens:

- During the surgery or in the next 48 hours
- Because blood clots cannot be removed in surgery

If the flap tissue needs to be removed, a tissue expander will be placed as a space holder. Your doctor 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 weeks after surgery.

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Fat Necrosis

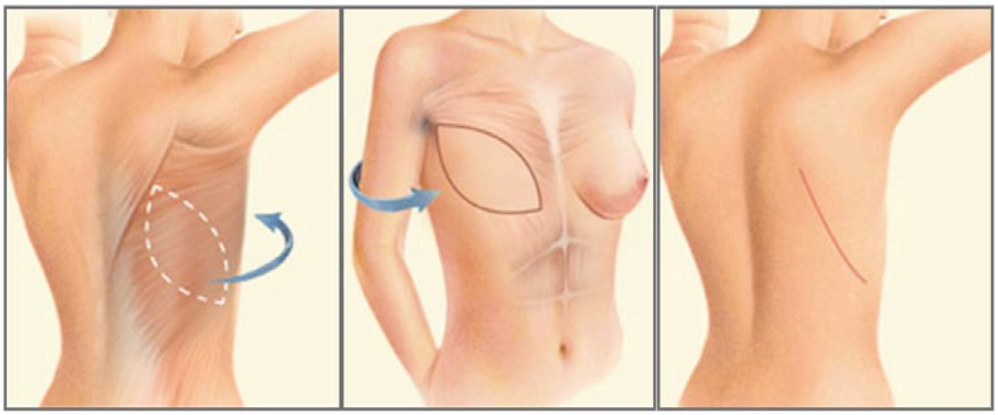
Some of the fat we move to your breast may not survive. This can cause small, hard lumps to form. These are usually absorbed into your body. They can also be removed during later steps of reconstruction.

Breast Reconstruction with Latissimus Dorsi Flap

This type of surgery is an option if you have tight skin after your mastectomy or if you have had chest wall radiation. Your surgeon will create a new breast mound using your *latissimus dorsi* (upper back) muscle and overlying fat and skin to reconstruct your breast.

The latissimus dorsi flap does not usually have enough volume for a full breast reconstruction. Because of this, it is most often used with a tissue expander and then an implant later. This helps the new breast look more natural.

After latissimus dorsi flap surgery, you will stay at least 1 night and up to 3 nights in the hospital. You will have a scar on your back, and your arm on the side where the flap was taken may be a little weaker than it was.



Latissimus dorsi flap reconstruction

Timeline for Latissimus Flap Reconstruction

1	2	3	4
Surgery (about 4 to 6 hours) and stay in the hospital (1 to 3 days)	Follow-up visit 3 weeks after surgery (no heavy lifting for 4 weeks)	Tissue expander filled every 1 to 3 weeks (Starting 3 to 4 weeks after surgery)	Visit 6 weeks after surgery to plan surgeries to complete reconstruction

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Risks of Latissimus Dorsi Flap Surgery

Implant Surgery Also Needed

Most times, the latissimus flap does not contain enough tissue to form the breast. This means you may also need a small implant to get the results you want. Risks linked with implant surgery include infection, capsule contracture, and rupture. (See "Risks of Implant Surgery" on page 5.)

Major Surgery

This is major surgery. You will have general anesthesia and will be in surgery for about 4 to 6 hours.

Recovery Time

Your hospital stay will be about 1 to 3 days. If you work, you will be off work for several weeks. You will also need to avoid lifting anything that weighs more than 5 pounds for 4 weeks after surgery.

Scars

You will have a scar on your back.

Other Types of Breast Reconstruction

If you have a unique body type or health concerns, you may 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.

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.
- **I-GAP (Inferior Gluteal Artery Perforator) Flap:** This surgery is often called the "in-the-crease" I-GAP flap because the scar is hidden in the crease between your buttock and thigh. Blood vessels, extra skin, and fat are taken from the lower buttock. 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.

Surgery Risks

Some of the risks related to surgery include:

- Problems from anesthesia
- Bleeding, which may require a blood transfusion
- Blood clots, which can lead to stroke or heart failure
- Infection at one of the surgical sites, which may require antibiotics and more surgery
- Problems from wound healing
- Obvious scarring
- Flap loss (due to blood-flow problems)
- Risks from implants (such as leakage or contracture)
- Need for another surgery if there is a problem

Increased Risk

Your risk for having problems after surgery is much higher if you:

- Smoke
- Are very overweight
- Have diabetes that is not well controlled

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

Q: When can I have my surgery?

A: A patient care coordinator (PCC) will contact you within 3 days after your consult visit to talk with you about dates for your surgery. Your dates will depend on your schedule, the surgeon's schedule, and if you have any health risks to consider.

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

A: Your recovery time at home will vary. It depends on the type of surgery you have, how quickly you heal, and whether you have any problems from the procedures.

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 of 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 4 websites:

- *www.diepflap.com*
- *www.PlasticSurgery.org*
- *www.Love YourLook.com*
- *www.BreastReconstructionMatters.com*

Q: How long until my reconstruction is complete?

A: It can take 8 months to a little over a year to finish all the steps of reconstruction. It depends on your rate of healing, your cancer treatments, and if you have any problems from the procedures.

Notes and Questions to Ask

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Notes and Questions to Ask

Questions?

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

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