

# UNC Plastic and Reconstructive Surgery

## Breast Reconstruction Facts and Patient Information

### **What is Breast Reconstruction?**

Breast reconstruction is achieved through several plastic surgery techniques that attempt to restore a breast to near normal shape, appearance and size following mastectomy.

Although breast reconstruction can rebuild your breast, the results are highly variable:

- A reconstructed breast will not have the same sensation and feel as the breast it replaces.
- Visible incision lines will always be present on the breast, whether from reconstruction or mastectomy.
- Certain surgical techniques will leave incision lines at the donor site, commonly located in less exposed areas of the body such as the back, abdomen or buttocks.
- A note about symmetry: If only one breast is affected, it alone may be reconstructed. In addition, a breast lift, breast reduction or breast augmentation may be recommended for the opposite breast to improve symmetry of the size and position of both breasts.

### **Breast Reconstruction Risks and Safety**

The decision to have breast reconstruction surgery is extremely personal. Breast reconstruction is not required. You may choose to wear a prosthesis in your bra for symmetry. Insurance commonly pays for prosthetics. You'll have to decide if the benefits will achieve your goals and if the risks and potential complications are acceptable.

Your plastic surgeon and/or staff will explain in detail the risks associated with surgery. You will be asked to sign consent forms to ensure that you fully understand the procedures you will undergo and any risks or potential complications.

The possible risks of breast reconstruction include, but are not limited to, bleeding, infection, poor healing of incisions, possible need for revision(s), and anesthesia risks. You should also know that:

- Flap surgery includes the risk of partial or complete loss of the flap and a loss of sensation at both the donor and reconstruction site.
- The use of implants carries the risk of breast firmness (capsular contracture) and implant rupture.
- Breast implants do not impair breast health. Careful review of scientific research conducted by independent groups such as the Institute of Medicine has found no proven link between breast implants and autoimmune or other systemic diseases. Visit [www.breastimplantsafety.org](http://www.breastimplantsafety.org) for current information.

### **Where Will My Surgery Be Performed?**

Surgery for your breast reconstruction is most often performed in a hospital setting, possibly including a short hospital stay, and your doctor will likely use general anesthesia.

Some follow-up procedures may be performed on an outpatient basis, and local anesthesia with sedation may be used.

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These decisions will be based on the requirements of your specific procedure and in consideration of your preferences and your doctor's best judgment.

### **Breast Reconstruction Procedural Steps:**

#### **What happens during breast reconstruction surgery?**

##### **Step 1 – Anesthesia**

Medications are administered for your comfort during the surgical procedure. Your doctor will recommend the best anesthesia choice for you with each procedure.

##### **Step 2 – Flap techniques reposition a woman's own muscle, fat, and/or skin to create or cover the breast mound.**

Sometimes a mastectomy or radiation therapy will leave insufficient tissue on the chest wall to cover and support a breast implant. Your doctor will discuss if you are able to have an implant based reconstruction or if you will require a flap.

A TRAM flap uses donor muscle, fat and skin from a woman's abdomen to reconstruct the breast. The flap may either remain attached to the original blood supply and be tunneled up through the chest wall, or be completely detached, and formed into a breast mound.

Alternatively, your surgeon may choose a DIEP flap technique which does not use muscle, but transports tissue to the chest from the abdomen or buttock.

A latissimus dorsi flap uses muscle, fat, and skin from the back tunneled to the mastectomy site. The flap remains attached to its donor site, leaving the blood supply intact.

Occasionally, the flap can be used to reconstruct a complete breast mound, but often it will provide the muscle and tissue necessary to cover and support a breast implant.

##### **Step 3 – Tissue expansion stretches healthy skin to provide coverage for a breast implant.**

Implant based reconstruction with use of a tissue expander allows an easier recovery than flap procedures, but it is a more lengthy reconstruction process.

After placement of the tissue expander, the tissue expansion process requires weekly to biweekly office visits with a specially trained nurse who will slowly fill the device with saline through an internal valve to expand the skin. The process will continue until you have reached the size (plus a little bit more) that you would like to be. Since a tissue expander is not designed to serve as a permanent implant, a second surgical procedure will be needed to replace the tissue expander with a permanent saline or silicone implant. This will typically occur about 3 months after the tissue expansion process is completed.

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### **Step 4 – Surgical placement of a breast implant creates a breast mound.**

A breast implant can be an addition or alternative to flap techniques. Saline and silicone implants are available for reconstruction. Your surgeon will help you decide what is best for you.

Reconstruction with an implant alone usually requires tissue expansion.

### **Step 5 – Grafting and other specialized techniques create a nipple and areola.**

Breast reconstruction can be completed through a variety of techniques that reconstruct the nipple and areola.

3D tattooing

CV (skin) flap can be used to reconstruct the nipple with subsequent tattooing for the areola

CV (skin) flap can be used to reconstruct the nipple along with a skin graft from your groin to reconstruct the areola

### **Breast Reconstruction Words to Know**

#### **Areola**

Pigmented skin surrounding the nipple.

#### **Breast Augmentation**

Also known as augmentation mammoplasty. Breast enlargement by surgery.

#### **Breast Lift**

Also known as mastopexy. Surgery to lift the breasts.

#### **Breast Reduction**

Also known as reduction mammoplasty. Reduction of breast size and breast lift by surgery.

#### **Capsular Contracture**

A complication of breast implant surgery which occurs when scar tissue that normally forms around the implant tightens and squeezes the implant and becomes firm.

#### **DIEP Flap**

Also known as **D**eep **I**nferior **E**pigastric artery **P**erforator flap. A surgical technique that uses fat and skin from your abdomen to reconstruct the breast. Differs from a TRAM flap because TRAM flap uses muscle, DIEP uses just skin and fat.

#### **Donor Site**

An area of your body where the surgeon harvests skin, muscle and fat to reconstruct your breast – commonly located in less exposed areas of the body such as the back, abdomen or buttocks.

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### **Flap Techniques**

Surgical techniques used to reposition your own skin, muscle and fat to reconstruct or cover your breast.

### **General Anesthesia**

Drugs and/or gases used during an operation to relieve pain and alter consciousness.

### **Grafting**

A surgical technique to recreate your nipple and areola.

### **Hematoma**

Blood pooling beneath the skin.

### **Intravenous Sedation**

Sedatives administered by injection into a vein to help you relax.

### **Latissimus Dorsi Flap Technique**

A surgical technique that uses muscle, fat and skin tunneled under the skin and tissue of a woman's back to the reconstructed breast and remains attached to its donor site, leaving blood supply intact.

### **Local Anesthesia**

A drug injected directly to the site of an incision during an operation to relieve pain.

### **Mastectomy**

The removal of the whole breast, typically to rid the body of cancer.

### **Seroma**

Tissue fluid pooling beneath the skin.

### **Tissue Expansion**

A surgical technique to stretch your own healthy tissue and create new skin to provide coverage for a breast implant.

### **TRAM Flap**

Also known as **T**ransverse **R**ectus **A**bdominus **M**usculocutaneous flap. A surgical technique that uses muscle, fat and skin from your own abdomen to reconstruct the breast. Differs from a DIEP flap because TRAM flap uses muscle, DIEP uses just skin and fat.

### **Transaxillary Incision**

An incision made in the underarm area.

### **TUG Flap**

Also known as **T**ransverse **U**pper **G**racilis flap. A surgical technique that uses muscle taken from the inner thigh to reconstruct the breast.

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### Personal Choice

Breast reconstruction is an option available to most women confronted with the physical changes following mastectomy. While breast reconstruction is considered elective surgery, undergoing breast reconstruction can have profound emotional and practical benefits. It is also important to keep in mind that breast reconstruction does not interfere with the treatment of breast cancer or surveillance for recurrence. It can, however, help to enhance your confidence and self-image after mastectomy.

The decision to have breast reconstruction is a personal one, to be made by you and your loved ones. It is important to know that not all patients are candidates for all types of reconstruction. The type of reconstruction you undergo will be decided by you and your surgeon, depending on your particular needs, anatomy and previous treatments. In the following document, you will learn the process of breast reconstruction, including the techniques currently in use, and what most women can reasonably expect in terms of recovery and results.

Many women wonder what a reconstructed breast looks and feels like. Will it look the same as my previous breast? Will it match my other breast? Does the nipple have feeling? Unfortunately, while there are many techniques of breast and nipple reconstruction, none of them will be able to give you back the exact same breast you were born with. It is important to realize that after a mastectomy, the only tissue remaining on the chest wall is muscle and a thin layer of skin. Your plastic surgeon will be creating an entirely new breast from these tissues. The breast often feels and looks different from the original breast and procedures to make it look more similar to the opposite side may be needed as you will read below.

In addition, most women find the skin of the chest wall has very limited sensation after a mastectomy. Nerves that were removed during the mastectomy cannot be replaced and the loss of feeling is unfortunately permanent. Despite these limitations, most women who undergo breast reconstruction derive immense benefits from the procedure. These include feelings of regained wholeness and femininity, as well as practical benefits such as eliminating the need for wearing a breast prosthesis.

### There are 3 main steps in any breast reconstruction:

- 1) Creation of a new breast mound
- 2) Touch-ups of the reconstruction, and possible modification of the opposite breast (lift, reduction) in patients having a mastectomy of one side (optional)
- 3) Creation of a new nipple and areola (optional)

### Types of Breast Reconstruction

There are **three main types of breast reconstruction**. The first type of reconstruction uses an implant filled with silicone gel or saline to recreate the breast mound. A second option is to build a breast mound using tissue “borrowed” from another part of your body. The last type of reconstruction combines the use of both “borrowed” tissue from your back as well as an implant.

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Your plastic surgeon and his/her team will discuss these methods with you and counsel you as to which option is best suited for you based on your physical and treatment characteristics.

### **Who Can Have Reconstruction?**

Most women who are having or have had a complete or partial mastectomy (removal of all or some of the breast tissue and nipple) are candidates for breast reconstruction. If you have had, or will need radiation therapy to the breast, it may influence the type of reconstruction, and when you can have it. This will be discussed in greater detail later. Some patients will need chemotherapy after their mastectomy, and this too can affect the timing of your reconstruction.

### **When to Begin Reconstruction?**

Reconstruction can be either immediate (at the same time as the mastectomy) or delayed (at a later time). This decision may be dictated by the characteristic and stage of the breast cancer, and will be made together with your breast surgeon. In many cases, immediate reconstruction is a reasonable and safe option.

### **Immediate Reconstruction**

Immediate reconstruction has been shown to be a safe option for many women. In this type of reconstruction, the breast mound creation is done at the same time as the mastectomy. Immediate reconstruction also reduces the number of anesthetics required to complete the reconstruction. If you are interested in beginning reconstruction at the time of mastectomy, you must ask your breast surgeon to make a referral for you to see a plastic surgeon.

### **Delayed Reconstruction**

Delayed reconstruction is performed several months or even years after the mastectomy after other cancer treatments are finished. Generally we prefer to wait a minimum of 6 – 9 months following the completion of radiation therapy to allow time for the chest skin to heal before performing breast reconstruction.

### **Methods of Reconstruction**

There are three methods of reconstruction.

- a) Reconstruction using implants,
- b) Reconstruction using your own tissue only ('autologous' reconstruction),
- c) Reconstruction using your own tissue combined with an implant.

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### A. Implant Reconstruction

This can be done in one or two stages. The two-stage procedure is still the most commonly performed technique in the US. The one stage direct to implant procedure can be performed safely with the use of acellular dermal matrix (ADM) in select patients.

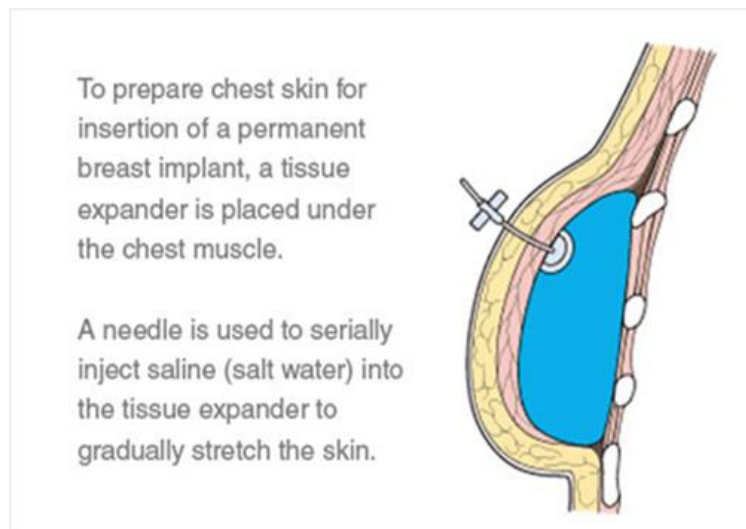
### Two-Stage Tissue Expander/Implant Reconstruction

In two-stage implant reconstruction, the breast mound is first created by placing a saline-filled tissue expander under the skin and muscle of the chest. Because the skin as well as breast tissue are removed at the time of mastectomy, it is usually necessary to stretch the remaining skin and chest muscle before inserting the permanent breast implant. The temporary implants (tissue expanders) achieve this gradual inflation using saline injections. The expansion procedure is repeated about 6-8 times during weekly or biweekly office visits.

After your last expansion, your doctor will determine when the tissue expander should be replaced with a permanent implant. This is performed under general anesthesia as an outpatient surgical procedure. The expanded skin is fashioned into the final breast shape during this procedure. It is also convenient to reduce or lift the opposite breast at the same time if desired.

In single-stage implant reconstruction, a silicone implant is typically used. The plastic surgeon will place the implant under the skin and muscle without first using a tissue expander. The device is designed and engineered as a permanent implant. The advantage of single-stage implant reconstruction is that usually only one general anesthesia and one recovery period is required. It avoids the discomfort of the firm expander and the clinic visits to fill it. You may still need a second surgery to adjust its position.

If your breast tissue has been previously treated with radiation, then an implant reconstruction alone is not typically recommended.



## **UNC Plastic and Reconstructive Surgery** **Breast Reconstruction Facts and Patient Information**

**Tissue Expansion Timeline**

2-4 weeks	6-8 weeks	12-24 weeks
Healing for incision	Expansion	Rest period for skin
<b>Tissue expander placement</b>		<b>Exchange for permanent implant</b>

### **One-stage implant reconstruction using Acellular Dermal Matrix**

Single stage implant reconstruction is an option for certain women. This is done through a collaborative approach between the breast surgeon and the plastic surgeon. This option is best for women with small breasts, good quality of skin tissue, and for women having mastectomy for early stage disease or for prevention due to a high risk profile.

In one-stage implant reconstruction, the breast implant reconstruction, the breast implant is placed under the muscle of the chest and then secured in place with a material called acellular dermal matrix (ADM). ADM is also known as Alloderm® or Allomax™.

### **What is Acellular Dermal Matrix (ADM)?**

ADM is made from the skin from a human body (donated cadaveric skin) that has been specially prepared for your body to accept it. There have been no reports of infection or disease transmitted by ADM during breast reconstruction.

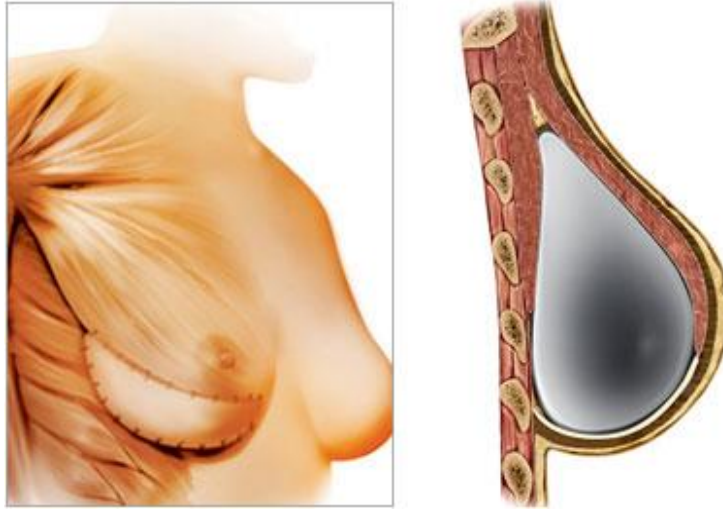
### **One-Stage Acellular Dermal Matrix (ADM) / Implant Reconstruction**

The single-stage procedure involves placing ADM with the chest muscle to provide a hammock-like support for the breast implant. ADM effectively makes the chest muscle space larger so that a permanent full-sized breast implant can be placed without the use of a tissue expander. In addition to the convenience of only having to undergo one surgery, there are reports of better cosmetic outcome and less capsular contracture with ADM use.



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### **Breast Implant Safety**

Both saline and silicone gel implants are safe, FDA approved, and available for use in the US. The possibility that an implant would be “rejected” by the body is remote. The life expectancy for implants is 10 years, but may be longer or shorter for any individual patient. This does not mean that you will definitely need them replaced at that time, but it is important to know that implants are not “lifetime” devices.

**Saline implants:** Saline implants are plastic shells made of silicone externally and filled with salt water. Reconstructions using permanent saline implants tend to result in a less natural appearance and feel than reconstructions using silicone gel filled implants. .

**Silicone Implants:** Although in the 1980s, there were speculations that silicone gel may be associated with breast cancer and rare autoimmune disorders, many studies published from reputable university centers worldwide have found no substantiating evidence to support this cause-and-effect relationship. After a temporary ban on the use of silicone implants for breast augmentation by the FDA in the 90s, silicone implants were placed back on the market in 2008. The newer generation silicone implants contain thicker silicone gel that is more cohesive and in turn have the advantage of being more “form-stable”.

### **Expectations and Results**

The tissue expander can sometimes cause a sensation of pressure or tightness in the chest each time that fluid is added. The most common side-effect of the implant procedure is the gradual hardening of the breast due to capsular contracture. While breast implants themselves never harden, the body normally forms a capsule or layer of scar tissue around the foreign object, in this case the breast implant. In most women, the scar tissue capsule remains soft and pliable, but in some women (10%) the capsule can be unusually thick resulting in a firm and painful breast. In these cases, surgery may be needed to alleviate these symptoms. Other complications of implant reconstruction include: infection (4%), implant malposition (3%), and wrinkling (2.5%). In general, an implant reconstructed breast will feel firmer than the natural breast, and **it will always feel different** from the natural breast.

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**BEFORE**  
Just following breast biopsy.

**AFTER**  
Right silicone implant reconstruction  
and left augmentation.

### **B. Autologous Reconstruction**

Autologous tissue breast reconstruction uses the patient's own tissue to create a breast mound. This method of reconstruction can generally achieve a more durable and natural-appearing result than reconstruction based on prosthetic implants alone. Complete restoration of the breast mound in a single stage is possible in most patients. There is now a large array of choices for autologous tissue breast reconstruction.

### **Abdominal Tissue Reconstruction**

This method uses the patient's own abdominal tissue to construct a new breast mound. There are two major ways in which the abdominal tissue can be transferred to the chest to build a breast: pedicled (tunneled) or free (completely removed and then microsurgically reattached). Although both methods result in similar breast and abdominal scars, there are some major differences between them.

#### **1. Pedicled Transverse Rectus Abdominus Myocutaneous (TRAM) Flap**

This method relies on the rectus muscle as a carrier for blood supply to the lower abdominal skin and fat. After the flap has been harvested, a tunnel under the skin is made between the abdomen and the mastectomy defect to relocate the abdominal flap to the chest. Since the entire rectus muscle is used with the strong covering over the muscle for the reconstruction, the abdominal donor site is closed using either sutures or using a permanent mesh (a strong artificial material) to re-establish abdominal strength.

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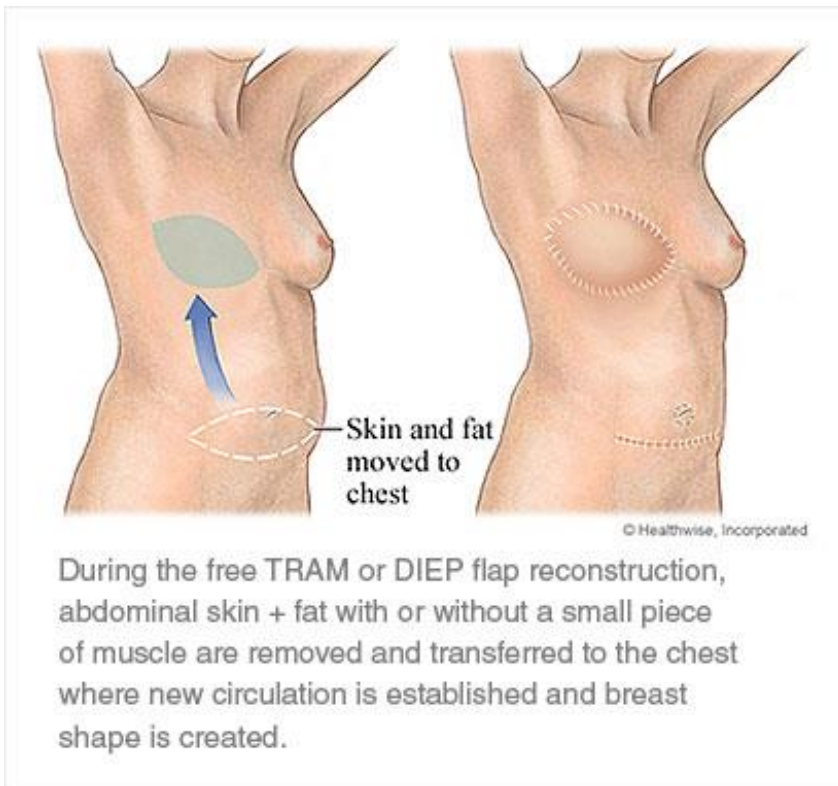
## Breast Reconstruction Facts and Patient Information

### 2. Free Deep Inferior Epigastric Perforator (DIEP) Flap

This procedure is an evolution from the pedicled TRAM flap and is only performed in select centers with microsurgical expertise. Since the lower abdominal tissue must be completely detached from the body and transferred to the chest, microsurgery is required to restore circulation to the transplanted skin and fat. The two biggest improvement of this technique over pedicled TRAM flaps are:

- a) virtually no or little rectus muscle is disturbed to better preserve abdominal strength following surgery
- b) the flap is completely removed from the abdomen and reattached to the blood vessels in the chest which provides better blood supply to the new breast

In a small number of cases (15-20%), the blood supply to the skin and fat of the lower abdomen is insufficient and a small cuff of the abdominal muscle is taken to include more blood vessels. The main risk of free flap techniques is that in one to three percent of patients, microsurgery fails to reestablish connection to the abdominal tissue transferred to the chest. If this happens, the reconstruction will be unsuccessful. The transferred tissue cannot be saved and another method of breast reconstruction must be employed at a later date. Women who are active smokers, obese or have conditions such as diabetes or clotting disorders have greater risk for microsurgery failure. Surgical times for microsurgical methods of breast reconstruction are generally twice as long compared to the TRAM flap technique.



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### Expectations and Results

Reconstruction using your own abdominal tissue generally results in a natural feel and look that will last indefinitely. Your new breast will be fully integrated into the body and respond to changes in your body weight as would your natural breast.

When your abdomen is used as the donor tissue for breast reconstruction, the scar will extend from side to side at the level of your pubic hairline. This scar is usually slightly higher than the scar from a cosmetic tummy tuck. Although this method will remove excess skin and fat from your abdomen, it will not make your abdomen completely flat. You must always keep in mind that the main goal of this procedure is to reconstruct the breast following cancer surgery, not flattening of the abdomen.

Recovery from the abdominal flap reconstruction takes between 6-8 weeks. While most of the physical discomfort subsides within the first two weeks, there is lingering fatigue during the remainder of the rest period. It is not uncommon to experience fullness, tightness, or numbness of the abdominal skin. These symptoms will almost always improve over time, but may take up to 6 months or more.

In a small percentage of women, especially those requiring both breasts to be reconstructed, there is an increased risk of abdominal hernia and bulge formation following the abdominal flap procedure. This risk is higher for the TRAM flap than for the DIEP flap procedure in which all the abdominal muscle is left intact.

Occasionally there can be a phenomenon called “fat necrosis” in the newly reconstructed breast mound. That is when the fat from the abdominal flap does not receive enough blood supply in its new position and forms a scar as a result. It will manifest as a hard lump under the breast skin which can feel alarming upon detection. Your plastic surgeon can usually differentiate between fat necrosis and cancer recurrence on clinical examination. If there is any doubt, then you will undergo a needle biopsy or a MRI to arrive at a diagnosis.

### Gluteal and Thigh Free Flaps

One of the primary reasons for the use of alternate flap includes inadequate abdominal fat in a slender patient or previous abdominal surgeries that have disrupted the blood supply to the abdominal tissues.

The ample soft tissue of the gluteal region make the **free gluteal flap** a reasonable second or third line option for creating a breast mound. Although this method is more limited in its ability to create a breast that is large, the reconstructed breast will be soft and have a natural shape. There is flattening at the buttock donor site, which can be noticeable in normal clothing.

The **TUG (Transverse Upper Gracilis) flap** is taken from the inner thigh region, the same distribution as in a cosmetic inner thigh lift. Part of the gracilis muscle is taken to provide the blood supply to this flap, this is usually not missed following its removal. This flap is used to create a smaller sized breast and almost no contour abnormality can be expected in the inner thigh following this flap.

In both the gluteal and thigh flaps, the amount of skin that can be taken is limited so that these techniques are mostly used in the immediate breast reconstruction setting. The risk that the microsurgery will not be

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successful and all of the tissue will be lost is greater than in a TRAM/DIEP flap (3-5%), as these procedures are much more technically demanding.



Before

After right DIEP flap and  
nipple areolar reconstruction

### **C. Autologous Tissue with Implant Reconstruction**

This type of breast reconstruction requires the use of a smaller tissue expander/implant with your own tissue because of the limited volume of your back tissue.

#### **Latissimus Dorsi Flap**

This flap borrows muscle and skin from the upper back. The tissue, while still partially attached to the body, is tunneled underneath the skin from the back to the chest. Although this method provides much of the needed skin, there is not enough tissue volume to form the breast mound by itself. Therefore, either a tissue expander or implant can be used to stretch the transferred muscle and skin from the back. At a later stage, the tissue expander is replaced with a permanent implant. This procedure is most commonly performed if you have had a mastectomy on one of your breasts followed by radiation, or if your desired breast volume is larger than what can be created with an implant alone.



Before

After right mastectomy and  
implant reconstruction and  
left latissimus dorsi with  
implant reconstruction



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### Matching the Opposite Breast (Optional)

A reconstructed breast will not precisely match your natural breast. If you have large breasts, you may need a reduction of your opposite breast in order to match the reconstructed breast. If you have smaller breasts that sag, you may need a lift of the natural breast or augmentation with an implant to improve the shape and facilitate symmetry. Both reductions and lifts leave permanent scars on your breasts. The precise location of the scars and technique used to balance the breasts will be explained in great detail by your plastic surgeon when planning for this stage.



Before

After right mastectomy  
and implant reconstruction  
and left reduction

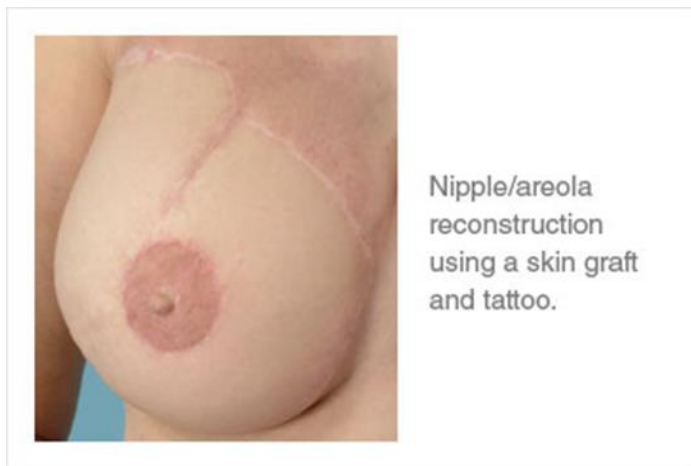
### Reconstruction of the nipple and areola (Optional)

It is preferable to allow your reconstructed breast to “settle” for at least 3 months so that the nipple and areola can be placed in the proper position. Nipple/areola reconstruction is done as an outpatient surgery with local or general anesthesia.

**3D tattooing:** Done in an office setting, tattooing uses pigments to give the illusion of a projecting nipple. The procedure is done in a two hour office visit with an additional office visit for completion.

**CV-Flap with tattoo:** The CV flap uses tissue and fat of the reconstructed breast to recreate a nipple. If the nipple of your natural breast is prominent, then a portion of it can be used as a graft to make a new nipple for the reconstructed breast in a procedure called “nipple share”. In either case, several months after the nipple reconstruction is completed, the tattooing would be done in an office setting by a specially trained nurse to recreate the areola using pigments that match you natural areola color.

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**CV-Flap with skin graft:** The nipple may be made from the tissue and fat of the reconstructed breast followed by a skin graft that is removed from your groin and placed around the nipple to recreate the areola.

### **Selecting a Reconstruction Technique**

The best method of reconstruction for you depends on several factors, including the size and shape of your breasts, one or both breast removed, amount of body tissue in the potential donor sites such as abdomen, thigh, and buttock, and whether or not you will or have received radiation therapy.

Your plastic surgeon will recommend one or more options to you based on these factors. It is important that you understand the major advantages and disadvantages of each method. Outlined below is a brief comparison of implant and tissue reconstruction techniques.

### **Making Your Choice**

Breast reconstruction is an elective surgery intended to enhance your confidence and self-image following mastectomy surgery for breast cancer. If you are considering breast reconstruction, you should schedule an appointment with a plastic surgeon to find out what options are available to you.

In closing, the decision to have breast reconstruction is an individual one. There are physical and psychological benefits to reconstruction, but you must be completely committed to the process before you begin. If you are not sure now, remember that you can always choose to undergo breast reconstruction later. It is a choice that requires careful and thoughtful consideration, and it is yours alone to make.

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	<b>Implant/Expander</b>	<b>Autologous Tissue</b>
<b>Surgery</b>	Two separate shorter surgeries (2 hours)	One longer procedure (6-8 hours, microsurgical) (3-4 hours TRAM, latissimus)
<b>Hospitalization</b>	Day surgery or overnight stay	Average 3-5 days for pedicle TRAM Average 4 days for free DIEP
<b>Recovery</b>	2-4 weeks following tissue expander insertion 2-4 weeks following permanent implant exchange	6-8 weeks
<b>Scars</b>	Mastectomy scar only	Mastectomy scar and scar at donor site
<b>Shape and Feel</b>	No natural sag, firm over time	Natural feel, soft
<b>Opposite Breast</b>	More changes needed to match implant	Fewer changes needed to match implant
<b>Complications</b>	Breast feels more firm and less natural appearing with time	Minimal risk of complete failure of pedicle TRAM 1-3% risk of microsurgical failure with complete flap loss, abdominal weakness, bulge, hernia