

RECONSTRUCTION TECHNIQUES

For most patients, breast reconstruction will require two to three surgical procedures. The first, and most involved, procedure is the primary reconstruction of the breast mound or breast shape, which may be done in any of several ways.

The second procedure usually consists of either additional work on the breast shape or the placement of the permanent implant. Any procedures needed to make the opposite breast more similar to the affected breast also would be done at this time.

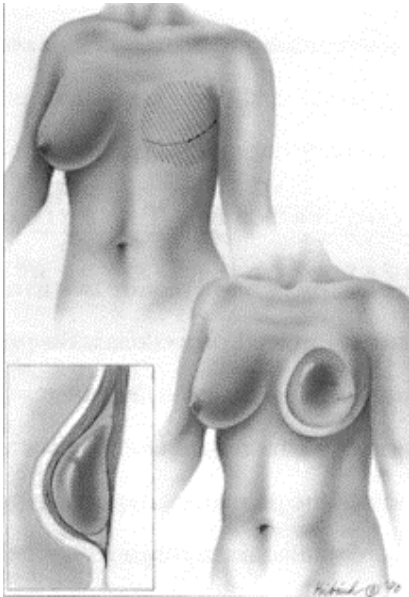
The final step usually is the nipple/areolar reconstruction. Location of the nipple/areolar area is critical to breast appearance and must be done after all other reconstructive stages are completed.

IMPLANT TECHNIQUES

Breast implants have been available for breast reconstruction and augmentation since the early 1960s. More than two million women in the United States have had breast implants inserted. Both the implants and the techniques for placement have improved significantly in recent years. Today there are a variety of implants in terms of type, filling solution and surface texture. During your office consultation, we will provide you with a complete package of information on the history, technology, safety and types of implants.

Some patients are good candidates for simple implant placement, either at the time of the mastectomy or later. The implant technique is done by developing a pocket under the chest wall muscle (pectoralis muscle) to protect the implant and to provide soft tissue coverage over the implant.

While the implant technique's advantages are its simplicity and the potential for a single-stage breast mound reconstruction, it also has drawbacks. Most mastectomy patients have insufficient tissue overlying a simple implant and may tend to have a relatively small breast reconstruction that may become tight or firm (Figure 1).



*Figure 1
Implant is placed through mastectomy scar under skin and muscle to create breast shape.*

TISSUE EXPANDER TECHNIQUES

The tissue expander technique is a more recent development and has been available only since the early 1980s. It is the most common breast reconstruction technique in current use. Many mastectomy patients have a tissue expander implant placed prior to the placement of the permanent implant to stretch overlying skin. This provides a more adequate breast size and shape and a better chance of obtaining a soft breast reconstruction.

In this technique, an expandable implant is placed under the skin and muscle at the time of the mastectomy, or later if a delayed reconstruction is chosen. Initially, the tissue expander is filled with a sterile saline solution that provides some initial size and shape so the patient may begin the reconstruction process with some volume in the implant.

Over a period of several months, sterile water is gradually added to the implant through a small valve attached to the implant. This procedure takes about five minutes in the physician's office. The tissue expander can be filled as many times as necessary until the reconstruction site matches the anticipated breast volume.

When the tissue over the chest wall is fully expanded, the permanent breast implant can be placed by reopening the mastectomy surgical scar and exchanging the tissue expander for the permanent implant. Additional work may be done to improve the shape of the breast at this stage (Figure 2).

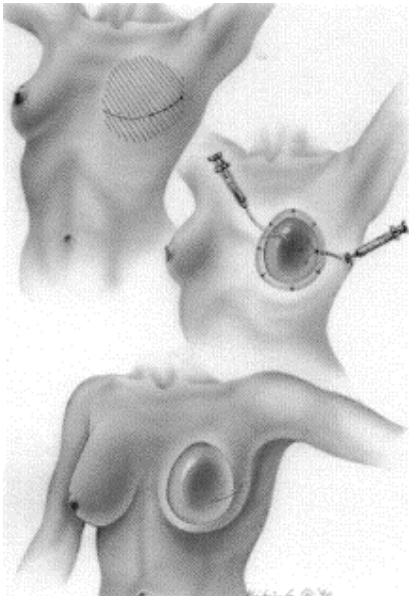


Figure 2

Tissue expander placed exactly like implant, then filled periodically until adequate size and shape is achieved.

Both stages of the tissue expander technique are relatively simple procedures that require only a limited hospital stay, usually overnight.

LATISSIMUS DORSI MUSCULOCUTANEOUS FLAP TECHNIQUE

The latissimus dorsi musculocutaneous flap is one of two breast reconstruction techniques that can be done using some of the patient's own tissue. With this procedure, a block of skin and muscle from the patient's back is used to replace skin and muscle removed during the mastectomy. This technique makes a one-stage breast mound reconstruction possible for most patients because it does not require tissue expansion. The latissimus dorsi flap usually does not carry much tissue bulk with it, however, so a small implant may be needed behind the flap to gain reasonable breast shape and size.

In addition to one-stage breast mound reconstruction, the additional tissue the latissimus dorsi flap brings also provides most patients with adequate tissue for a full breast reconstruction. This is an advantage for patients who have extremely tight chest wall skin, those who have had a full radical mastectomy with missing pectoralis muscle, and those who have had radiation following a mastectomy.

The disadvantages of this technique are that it is a more involved procedure than the tissue expansion technique, requiring more operative and hospitalization time, and that it involves an additional scar on the back, to which some patients object (Figure 3).

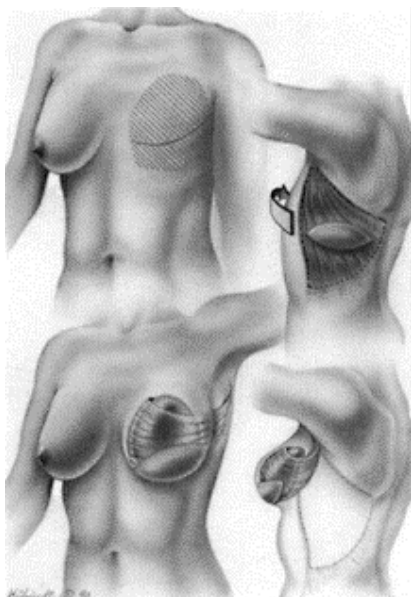


Figure 3
Latissimus muscle and overlying skin is transferred to mastectomy site to rebuild breast.

TRANSVERSE RECTUS MUSCULOCUTANEOUS FLAP

The second of the new reconstruction techniques using some of the patient's own tissue is the transverse rectus musculocutaneous flap technique (TRAM). This major advance in breast reconstruction uses the lower abdominal skin and fat to rebuild the breast.

The primary advantage of this abdominal flap technique over the latissimus dorsi flap is that the entire breast mound can be reconstructed from the patient's own tissue, usually without the need for an implant behind it. Most patients have adequate abdominal skin and subcutaneous (under the skin) fat to allow for the reconstruction of one breast, and sometimes both.

With this technique, the surgeon elevates a large block of tissue from the lower abdominal area, but leaves it attached to one of the two rectus muscles in the abdominal wall. This tissue then is tunneled under the skin up to the area where the breast will be reconstructed. There it is sculpted and fashioned to form a breast mound. The abdominal incision is closed, giving the patient a result that is very similar to having an abdominoplasty (tummy tuck).

The abdominal flap lets the plastic surgeon rebuild the entire breast shape, using the patient's own tissue. This not only avoids a major second stage surgery for the reconstruction but also gives the patient a breast that will remain soft and have a consistency similar to breast tissue. It also is possible to reconstruct a full breast with the abdominal flap and to gain a normal amount of breast ptosis (breast droop) because of the quality of the tissue used (Figure 4).

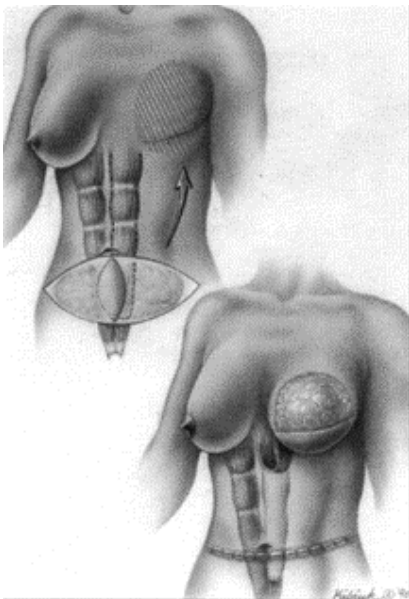


Figure 4
Lower abdominal skin and muscle (TRAM) are transferred to mastectomy site to reconstruct breast in one stage without implants.

As with other breast reconstruction techniques, the abdominal flap technique does have some trade-offs. First, it is a significantly longer operation than the implant or expansion technique and requires a longer hospital stay and recuperation. Abdominal flap patients, however, usually can have nipple reconstruction or minor revisions done secondarily on an outpatient basis, thus requiring only one hospitalization.

Not all patients are good candidates for this procedure, particularly those who are excessively overweight, who are heavy cigarette smokers, or who have had multiple abdominal surgeries and abdominal scars, which may rule out using the rectus muscle. Because the abdominal flap technique is a more extensive operation, it does carry slightly higher wound healing risks, which will be carefully explained during your plastic surgery consultation.

A TECHNIQUE FOR ALMOST EVERYONE

As you can see, almost any mastectomy patient who desires breast reconstruction will be a candidate for one of these techniques and many patients have the opportunity to choose from several techniques.

As a candidate for reconstructive breast surgery, you will want to discuss each of these options fully with your plastic surgeon so you can be more involved in choosing the most appropriate technique for you.

<http://www.polands-syndrome.com/surgery/BREAST1.htm>