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Introduction to Breast Reconstruction

Loss of a breast is a severe physical and emotional event for any woman. Fortunately, procedures are currently available for reconstruction of the female breast following a mastectomy, which helps to correct both the physical and emotional loss associated with a mastectomy.

Breast Cancer's Effect on Reconstruction

Most women who have had a mastectomy are candidates for breast reconstruction. Treatment of different types of breast cancer may vary significantly, hence the type of reconstruction and the timing of your reconstruction may also vary. Some patients may be candidates for immediate reconstruction (performed at the time of the mastectomy), while others may be more appropriate for delayed reconstruction. The specific nature and timing of your procedure will depend on many factors and will be discussed with you in much more detail at your consultation.

Breast Reconstruction during Cancer Treatment

If chemotherapy or radiation therapy is prescribed for you following your mastectomy, reconstructive procedures must be very carefully coordinated with these other therapy methods to ensure proper treatment for the cancer. Radiation and/or chemotherapy do

not prevent your reconstruction; however, planned radiation therapy may require delayed, rather than immediate reconstruction following a mastectomy.

Reconstructive Procedures

In general, there are two types of reconstructive procedures. The first involves some type of prosthetic device (a tissue expander or an implant). The second involves autologous tissue only. Often these procedures may be combined so that a balance of your native tissues **and** an implant may be used to achieve the optimal result.

There are advantages and disadvantages to every technique. For example, autologous reconstructions require sacrifice of uninvolved tissues with a second wound site and the associated increase in hospital stay and recovery, while prosthetic reconstructions may deliver a less natural feel and have the added risks of permanent implants (scar contracture, deflation, malposition, etc.).

Many factors are considered when choosing a specific reconstructive plan. These include:

- The availability of donor tissues
- The need for post-adjuvant therapies (radiation or chemotherapy)
- Your medical history
- Your smoking history
- Lifestyle considerations

Prosthetic Reconstruction

Prosthetic reconstruction describes procedures that involve placing an implant beneath the skin and residual muscle remaining on the chest wall, or under a muscle flap to recreate the breast mound. Often times, this initial device is a tissue expander, which is an inflatable-type prosthesis with a small valve that can be filled through the skin in the office after surgery.

- This is used to stretch the skin and muscle to accommodate the placement of a permanent breast implant in the future.
- The tissue expander is placed in a subpectoral pocket with acellular dermal matrix (Alloderm) placed along the inferior portion of the breast. Acellular dermal matrix is a biologic implant made from human cadaveric skin that has been treated to remove cellular material and to act as a scaffold for your own cells to incorporate into.
- The tissue expander is slowly filled in the weeks following surgery, and then allowed to remain in place for several months.

A second procedure is required to exchange the tissue expander for a permanent silicone or saline implant. Silicone implants can come in two forms: Smooth round and form-stable or shaped. The smooth round implants have a smooth outer shell and are filled with silicone gel. Form-stable implants are sometimes referred to as gummy bear breast implants because they maintain their shape even when the implant shell is

broken. The consistency of the silicone gel inside the implant is thicker than traditional silicone gel implants. These implants are also firmer than traditional implants, but are thought to be less likely to break.

Gummy bear breast implants are shaped rather than round. They have more projection at the bottom and are tapered towards the top. If a shaped implant rotates, it may lead to an unusual appearance of the breast. Placement of gummy bear implants requires a longer incision in the skin.

Risks

The risk of potential complications associated with implant reconstruction include:

- capsular contracture
- wound breakdown
- infection
- potential implant exposure

Radiation therapy significantly increases the risk of capsular contracture and other complications.

Long-term complications with implants include:

- capsular contracture resulting in asymmetry
- the need for removal and replacement of the implants over time
- possible malposition
- possible implant exposure
- possible infection
- potential leak or rupture of the implant

Autologous Tissue Reconstruction

The most common types of autologous tissue reconstructions involve transfer of a muscle flap from either your back or your stomach with varying amounts of skin and fat transferred with the muscle.

The tram (transverse rectus abdominus myocutaneous) flap involves transfer of lower abdominal skin, fat, and muscle to reconstruct the breast mound. The skin and fat used to make up the new breast come from the lower portion of the abdomen and receive their blood supply through the rectus abdominus muscle (the long muscles which run vertically in the mid portion of the abdomen and tense during sit ups). In properly selected patients, the amount of tissue available by this technique is significantly more than that of the back, and a breast implant beneath the transferred tissue is usually not required.

The TRAM flap reconstruction may be preferable in patients who have lost more significant amounts of tissue with their mastectomy or who have a greater degree of sag in the opposite breast. This technique requires adequate volume of tissue in the abdomen for transfer to the breast. The potential risks specific to reconstruction using

the lower abdominal tissues which include: infection, hematoma, seroma, abnormal scarring, and abdominal wall weakness resulting in bulge or hernia.

Another common type of autologous tissue procedure involves transfer of the latissimus dorsi muscle and some of its overlying skin from the back. The tissue is rotated from the back through a tunnel in the armpit to the area of the chest wall on the side of mastectomy. For small reconstructions, the flap can be used alone, but more often an implant or tissue expander is placed beneath the muscle flap. The skin overlying the muscle from the back is then used to replace the skin lost at the time of mastectomy. This procedure is useful in patients who have lost a significant amount of breast tissue, have lost the majority or all of the pectoralis muscle, have had significant degree of radiation to the chest wall with severe fibrosis, or have failed other methods of reconstruction.

Nipple Areola Complex

Regardless of the technique chosen to recreate the breast mound, a final procedure is required for reconstruction of the nipple areola complex. This is often done in the office or in an outpatient setting several months after the breast mound is completed.

Alternatives for nipple areola reconstruction include sharing the nipple and areola on the opposite side if they are large enough to provide adequate tissue for both sides. Nipple-areola sharing can provide an excellent color match. When these tissues are not available, the nipple and areola can be reconstructed using local skin flaps and skin grafts taken from other areas of the body. These then require tattooing to achieve a natural color match.

Your Initial Consultation

Your initial consultation requires an in-depth exam by your doctor as well as a conversation. Some things you may expect include:

- Detailed medical record review by doctor
- Thorough examination
- Expectation discussion
- Risk factor discussion
- Procedure option discussion
- Photographs
- Fee and hospital time discussion

Before Your Reconstruction

Here's what you need to know before your reconstruction surgery:

- Maintain a healthy lifestyle prior to surgery
- Avoid certain medications that may have adverse effects on surgery
- Take nutritional supplements provided by your doctor
- Perform routine laboratory tests

- Do not take aspirin or any drug containing aspirin for at least 2 weeks prior to surgery
- Discontinue smoking for at least 2 weeks prior to surgery
- Do not eat or drink anything for 8 hours prior to surgery
- Wear loose-fitting and comfortable clothes the day of surgery

After Surgery

Follow these post-operation guidelines for a speedier recovery:

- Avoid vigorous exercises or strenuous activity for an additional 4 weeks following hospital discharge.
- Perform breast “exercises” provided by your doctor.
- Take prescription medication as needed.
- Do not soak the incisions under water (in a bathtub) for four weeks following surgery.

Contact Boulder Plastic Surgery

If you have any questions about breast reconstruction, [contact Boulder Plastic Surgery](#) at 303.578.4193.