

## BREAST RECONSTRUCTION OPTIONS

One of the most important decisions a newly diagnosed breast cancer patient must make is to choose between breast conservation (lumpectomy and radiation) or mastectomy. Although breast conservation is often the procedure of choice for women with early stage breast cancers, many women are either not candidates or may choose mastectomy for personal peace of mind.

Traditionally, breast reconstruction has been reserved for women having mastectomies. However, women having breast conservation surgery are frequently candidates for reconstruction as well. This is referred to as oncoplastic surgery. Depending on the size of the breast and the size of the cancer, breast conservation can lead to a cosmetic result that leaves the patient dissatisfied. This is particularly true for patients receiving radiation therapy after breast conservation surgery. Reconstruction procedures after breast conservation treatment can help to achieve the best possible outcome for patients. Please see more on oncoplastic surgery below.

### **Breast Reconstruction Following Mastectomy:**

#### **Tissue Expanders:**

The most common technique used for breast reconstruction is the use of tissue expanders followed by implants. The expander is basically a durable balloon that is placed under the chest muscle after the mastectomy. The expander is partially filled with saline (the same fluid that goes in your arm when you have an IV) during the surgery. Most patients go home on the first or second day after surgery.

The surgical wounds are usually given a few weeks to heal before the process of expansion is started. Saline is injected every two weeks into the expander (this is a simple procedure done in the office) until the desired size is achieved. This may be bigger, smaller or the same size as the original breast. Once the skin is adequately stretched, the expander is removed and a permanent implant is placed. The permanent implant can be either saline or silicone. This is usually an outpatient procedure performed under general anesthesia. Nipple reconstruction is usually performed 3-6 months later.

If the patient has opted to have a unilateral mastectomy, the contralateral breast may need to be modified to produce a better cosmetic result. In cases where the opposite breast is smaller, an implant can be added to make the breast sizes equal. If the opposite breast is larger, it can be reduced. These procedures are all covered by insurance providers.

#### **Flap techniques:**

Not all women are candidates for tissue expanders. Other women may be good candidates but prefer the advantages of reconstructing the breast with natural tissue. For these women, the option of tissue transfer is a logical alternative. There are several options for flap reconstruction:

**Transverse Rectus Abdominus Muscle Flap (TRAM):** In this procedure, skin, fat and muscle from the lower abdomen is transferred to the chest, and a breast mound is reconstructed to match the opposite breast. This procedure may be performed

immediately after mastectomy or may be delayed to a future time. The tissue transferred to the chest has its own blood supply, and feels very much like normal breast tissue. Nipple reconstruction typically takes place a few months later, at which time the shape of the newly reconstructed breast is often revised. Not only does this reconstructed breast look and feel like a normal breast, but the patient also gets a modified tummy tuck as a result of removing the excess abdominal tissue.

#### **DIEP Flap:**

This procedure is similar to a TRAM flap in that it uses the same excess abdominal tissues to create a new breast that looks and feels like natural breast tissue. The advantage of the DIEP flap is that it preserves the abdominal muscle that the TRAM flap sacrifices. This means that patients have better core strength after surgery, and therefore have an easier time with such activities as getting out of bed or exiting a car. The advantage of the DIEP over the TRAM is particularly evident for patients having bilateral reconstruction. The main disadvantage to the DIEP flap is that it requires a longer hospital stay.

#### **Latissimus Dorsi Flap:**

In this procedure, a portion of the skin, fatty tissue, and muscle is taken from the back and transferred under the skin to the mastectomy site following the removal of the breast. In many cases, an implant is placed under the latissimus flap in order to create a breast that is symmetric with the other breast. It is often used when the breast has been previously irradiated, or for patients who are not candidates for the TRAM flap (i.e. very thin patients with inadequate abdominal tissue to create a breast flap).

#### **Reconstruction Following Lumpectomy – Oncoplastic Surgery:**

Breast conservation therapy with lumpectomy and radiation usually produces a pleasing cosmetic results. However, 20-30% of patients report dissatisfaction with the appearance of their breasts at the conclusion of treatment. Oncoplastic surgery combines the principles of breast cancer surgery and plastic surgery to achieve a potentially superior result. Oncoplastic techniques allow the breast cancer surgeon to remove more breast tissue, therefore resulting in a wider margin around the cancer. Immediately following the cancer removal, the plastic surgeon uses plastic surgery techniques to provide the best cosmetic outcome possible.

**Timing:** It is important to understand that Oncoplastic Surgery is best performed at the same time as the lumpectomy. This allows the plastic surgeon to give the breasts the best cosmetic result possible. It is far more difficult to achieve a superior cosmetic result when patients seek reconstruction after cancer surgery and radiation have been completed. See Delayed Reconstruction below for more details.

#### **Who is a candidate for Oncoplastic Surgery?**

Patients with large breasts are often good candidates for Oncoplastic Surgery. With this approach the breast cancer is removed in combination with the breast tissue that is ordinarily removed with breast reduction surgery. This allows a generous margin of good tissue to be removed along with the cancer – potentially resulting in decreased risk for local recurrence of breast cancer. In addition, removing the cancer through a breast reduction technique can help alleviate the common concerns of patients with large breasts

including neck pain, back pain, grooves in the shoulders from bra straps, and skin infections under the breasts.

Patients with dropping breasts (referred to as ptosis) may also be candidates for Oncoplastic Surgery. Breast cancers may be approached through the same incision used for a breast lift (mastopexy). In this way the cancer is removed and the breast is given a more youthful look.

Patients with small breasts may also be candidates for Oncoplastic Surgery. Removing a cancer in a small breasted patient may leave a breast that is notably smaller than the opposite breast. Patients may choose to have an implant placed in one or both breasts following the removal of the breast cancer.

Delayed Reconstruction AFTER lumpectomy and radiation: Approximately 20-30% of patients who have breast conservation therapy have results that they find cosmetically unacceptable. A consultation with a plastic surgeon will be needed to determine if a patient is a candidate for this surgery.

#### **Nipple reconstruction:**

Nipple reconstruction after expander reconstruction is usually done several months after the final implant is placed. If flap reconstruction has been performed, the nipple is usually made a few months later when the newly constructed breast is well-healed and has had adequate time to settle. The nipple reconstruction can be performed in the office or as an outpatient in a surgery center. After the new nipple has healed, a medical-grade tattoo system is then used to give the nipple a natural color and create an areola.

#### **Advances in Breast Reconstruction: Nipple Sparing Mastectomy**

One of the most exciting advances in breast cancer treatment during the past several years involves mastectomy techniques in which the nipples are preserved. In these cases all of the skin, including the nipple are areola, is saved. Patients who have their nipples saved get some of the best results. Although the nipples usually don't have any sensation, they preserve the natural look of the breast and contribute to patients feeling more whole after surgery. Not all patients are candidates for this type of mastectomy. Together, the breast surgeon and plastic surgeon will evaluate patients based on the cancer size and location as well as the size and shape of the breast.