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BREAST RECONSTRUCTION

Reconstructive breast surgery is one of the most common procedures that the plastic surgeon is called upon to perform. With increasing cases of breast cancer annually, the number of women seeking reconstruction is at an all time high. The first major decision is timing of the reconstruction. It has become increasingly popular to reconstruct the breast at the same time as the mastectomy, thereby preventing a period of complete absence of the breast. The emotional advantages to the patients are clear, but not all women are candidates for immediate reconstruction. The advantages and disadvantages of immediate reconstruction should be discussed with both the Oncology Surgeon and the Plastic Surgeon.

The majority of breast reconstruction is delayed until after the mastectomy is performed and the wounds are all healed. If the patient does not require chemotherapy or radiation therapy, we prefer to wait three months after the mastectomy to allow the tissues to heal and soften. If chemotherapy or radiation is necessary, we encourage the patient to complete these therapies prior to beginning the reconstruction surgery.

There are many techniques available to the reconstructive surgeon looking to improve a patient's appearance after a mastectomy. The final choice depends on patient desires, body habitus, available tissue, appearance of the opposite breast, and the health of the patient. The realistic goal of reconstructive surgery should always be the improvement of appearance and of the perfect replacement of the breast.

IMPLANT RECONSTRUCTION

The simplest procedure is the placement of a silicone or saline implant beneath the muscle of the chest wall. Incisions can either be through the old mastectomy scar or placed at the inferior position of the newly created breast. The patient will usually be discharged home in a special bra which will be worn for one week or more. There will be some limitations of arm motion for four to six weeks. Complications, while rare, can include haemorrhage, infection, asymmetry, extrusion of the implant and progressive firmness of the reconstructed breast capsule.

TISSUE EXPANSION

Many times the simple placement of an implant is not possible because of inadequate skin or muscle remaining on the chest wall after a mastectomy. In this case, new tissue must be created either by expansion of local tissue or transfer of a flap of skin, muscle and blood vessels.

Tissue expansion is accomplished under a general anaesthetic by the placement of a "tissue expander" beneath the muscle of the chest wall. Expanders initially resemble a flat balloon. During visits to our Department over the next four to six weeks, sterile saline is injected into the expander to stretch the surrounding tissue to the point where it will accept the proper size implant. There is some discomfort with each expansion but the patient can usually continue normal activity. Removal of the expander and placement of the final permanent implant is done during a second anaesthetic. Some types of expander can stay in permanently.

Patients with radiated skin or excessively thin skin are not usually candidates for tissue expansion as the tissues will not stretch.

Complications are unusual, but can include breakdown of the tissue during expansion, infections, bleeding, asymmetry and firmness of the reconstructed breast.

LATISSIMUS DORSI FLAP RECONSTRUCTION

This method of breast reconstruction involves using the large muscle in the back that lies just beneath the shoulder blade together with a portion of over-lying skin and bringing it round to the front of the body to form the new breast. If necessary, an implant is placed under the flap to match the size of the new breast with the other side. Alternatively a tissue expander will be used. The operation will last about 3 hours. You will normally have 2 drainage bottles, one on the back and one to the breast. These will stay in place until drainage is at a minimum, which can take up to a week. You will have stitches, which are usually of the absorbable type, but this will depend on the surgeon.

During your hospital stay it is usual to commence medication to prevent blood clots. This is in the form of small injections.

Possible Complications

These include additional scarring on the chest and back, bleeding, accumulation of fluid in the back, infection and firmness of the reconstructed breast. There are always risks associated with general anaesthetics. Smoking and obesity will increase the risk of these complications, if you have any medical conditions you need to tell the doctors and anaesthetist.

Scars

The scar on your back will usually go from side to side so that it will be hidden by your bra. If you prefer it can run from top to bottom (you should discuss this with your surgeon). The scars both at the back and on the breast will be red, raised and noticeable, and could be itchy for a while. Over time these will fade – this can take 18 months to 2 years. Some people's scars fade better than others, but no scar ever completely vanishes. Once healed, patients are usually advised to massage their scar with an un-perfumed moisturizer or petroleum jelly to soften the scar tissue. You may also be asked to wear tapes along the scar line for up to 3 months. It is normal for a newly constructed breast to be bruised and swollen for quite a while.

AUTOLOGOUS RECONSTRUCTIONS

The more sophisticated tissue transfer techniques do not use implants — they use only the patient's tissues — the results can be far nicer but the reconstruction can fail.

1. TRAM FLAP

This is the rectus abdominus muscle and skin flap. In this procedure a large ellipse of lower abdominal skin is moved along with an underlying muscle and artery + vein to the mastectomy site. The major advantage to this procedure is there is usually enough tissue to build a breast without the use of an implant when removing the tissue from the abdomen area. The abdomen is tightened as in a "tummy tuck". This is a major procedure requiring several hours of surgery and four to six days in the hospital.

Another type of TRAM flap transfer has been made possible because of the development of microsurgery (the use of small needles and suture to sew blood vessels together using an operating microscope). In the **free microsurgical TRAM flap fat**, skin and underlying muscle from the abdomen can literally be transplanted into the breast area. Using an operating microscope, small blood vessels that enter the muscle and fat are reconnected to recipient blood vessels beneath the arm or on the chest. This restores blood circulation through the tissue and allows it to heal into place in its new position. A mesh is usually needed to reinforce the tummy.

These techniques have been remarkably successful for producing a natural and permanent reconstruction. The patient also benefits by a flatter, smoother contour of the abdomen, hips or buttocks.

Patients who are obese, diabetic, heavy smokers or who have little abdominal skin excess are not good candidates for the TRAM flap. Complications include death of the transferred tissue, infection, bleeding and weakness or hernia of the abdominal wall.

2. PERFORATOR FLAPS

DIEAP - Deep Inferior Epigastric artery perforator flap

SGAP - Superior Gluteal artery perforator flap

IGAP - Inferior epigastric artery perforator flap

Since September 2000 we have been using these flaps from the abdomen or the buttocks. The operations are more delicate and involve complex microsurgery — the advantage to the patient is that no muscle is taken with the flap, only skin and fat so there should be less risk of weakness and hernia of the abdominal wall. A mesh is not needed. There may be less pain and a faster recovery but the failure rate may be slightly higher.

NIPPLE

We produce silicone stick-on nipples made from a template of the normal side.

The nipple can also be reconstructed with local tissue from the breast reconstruction but usually this is not done at the initial reconstruction of the breast. This delay allows for more accurate positioning of the nipple on the reconstructed breast. We tattoo a new areola although we sometimes use a skin graft instead.

OTHER BREAST

The other breast may be made bigger or smaller as well.

Breast reconstruction has become an important part of the treatment of breast cancer. Most women who undergo reconstruction feel completely “whole” and highly recommend it to other women faced with losing a breast.

New implants are continually being developed and more should be available in the next five years. Alternatively autologous reconstruction has evolved into a reasonably reliable and safe method to achieve a natural, permanent reconstructed breast.

Breast reconstruction is one of the most rewarding reconstructive procedures a patient can undergo, many times helping a woman overcome the feelings of loss that she suffered with her mastectomy.