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TEMPORARY INFORMATION SHEET (WORK IN PROGRESS)

BREAST RECONSTRUCTION

Breast reconstruction involves surgery to replace the breast tissue that was lost due to a mastectomy or lumpectomy. The aim is to restore breast shape and size so that both breasts match as closely as possible. There is evidence that women who have reconstruction benefit psychologically and feel a lot better about their bodies and themselves. Of course, not all women want to even consider breast reconstruction at a time when their main concern is breast cancer and whether they have been cured. Also, women who are having, or who have had mastectomy can be psychologically traumatised and may not yet be ready to consider the prospect of further surgery.

Who should consider breast reconstruction?

Many women find it difficult to come to terms with the loss of their breast. However, very few women (unless they are very well-informed) will ask about reconstruction at the time of the diagnosis of breast cancer or even when they are about to have a mastectomy. On the other hand, if reconstruction is suggested to women at this time a very sizeable proportion of them will be very interested in either immediate reconstruction (at the time of mastectomy) or delayed reconstruction.

The benefits of breast reconstruction

1. You will not have to wear an external prosthesis which can be uncomfortable and acts as a constant reminder of the mastectomy..
2. You will have reasonable breast shape, reasonable breast size and matching sizes in underwear and swimming costumes.
3. Even without clothes, in many cases the new breast can look very natural and help restore self-confidence, feelings of femininity, attractiveness and sexuality.

Limitations of breast reconstruction

1. It involves a further major operation with obvious surgical risks involved.
2. It is very difficult to precisely restore the original breast appearance.
3. The breast will lack the sensitivity of the natural breast.
4. In some cases there may be a scar either on the back or on the tummy.

When can breast reconstruction be carried out?

Breast reconstructions can either be done immediately at the same time as the mastectomy, or delayed until everything has settled down, often six months to a year after the original treatment. Immediate reconstruction offers very significant cosmetic benefits in that the surgeon can usually hold on to most of the patient's breast skin, only having to replace the nipple and the internal breast tissue. This means that the original skin envelope is retained and therefore the size and shape of the breast and the overlying skin of the breast are retained, giving the best possible cosmetic result. However, only certain types of breast cancer patients are suitable for this type of reconstruction. It is certainly well worth considering if you are a suitable candidate before you have actually had your mastectomy.

With delayed reconstruction it is more difficult to get an exact replica of your original breast. However, for an experienced surgeon it is often possible to get a very good result but it may require more than one operation.

Methods of reconstruction There are three basic forms of basic reconstruction in common use.

1. Reconstruction of the breast using implants.
2. Reconstruction of the breast using skin from the back with or without an implant.
3. Reconstruction of the breast using skin and fat from the tummy involving microsurgery.

1 Reconstruction of the breast using implants

Implants offer a very simple, low risk option of breast reconstruction. Placing an implant into the breast area is a relatively quick and easy operation to perform. It does not involve scarring in any other part of the body and recovery is usually very quick afterwards. However, there are a number of problems associated with implants that the patient needs to be aware of. In patients who have previously had a mastectomy (delayed reconstruction) a simple implant will usually not give a very good breast mound as the skin is too tight. To get around this problem, most surgeons will use a balloon implant to expand the skin first, which means the patient will have to come back for a second operation to have the final implant placed. Alternatively, a very expensive implant which is permanent but can be expanded can be used and this means that the patient will not have to have a further operation in order to place a different implant. Expansion of these implants means coming into the clinic and having an injection through the skin on the chest into the implant at least three or four times.

At best implants will form a relatively small, pert breast which never develops the natural droop of the opposite breast. Is it therefore only suitable for patients who are generally slim with small, pert breasts on the opposite side, or patients who are having implants on both sides.

Implants have their own problems and issues including hardening of the implant (capsule formation), rupture, leakage and infection. While these problems are uncommon for cosmetic breast enlargement with implants, they are a lot more common for patients who are having breast reconstruction. These issues are a major problem for patients who have had radiotherapy. At least a third of patients who have had previous radiotherapy will run into one or other of these problems and may eventually have to have their implants removed and opt for another form of breast reconstruction.

Breast reconstruction with implants tend to stay the same for many years while the opposite normal breast will sag and hence they become more and more asymmetrical with time.

One of the big advantages of implants, however, is that no bridges are burnt and if the woman is dissatisfied with her reconstruction she can always opt for a different form of reconstruction at a later date.

2 Reconstruction of the breast using skin from the back with or without an implant (Latissimus dorsi skin and muscle flap reconstruction).

In order to overcome the problem of implant reconstruction where there is insufficient skin to match the size and natural droop of the normal breast, special reconstructive techniques have been developed. The most common of these reconstructive techniques is to use a sheet of skin and muscle from the back, which can be transferred around to the front of the chest and used to create a new breast.

There is usually not quite enough volume of the skin and muscle alone to match the other side and a small implant is often required to achieve a good result. Fortunately in this situation the implant is very deep under a thick layer of muscle, which means that it is less likely to cause problems.

The muscle which is used is called the latissimus dorsi muscle, which is a flat sheet of muscle running across the back. It is not essential for everyday function of the arm and is usually not missed unless the patient is a very serious swimmer or climber. Occasionally patients can have problems with shoulder stiffness and weakness though this can usually be resolved with physiotherapy.

There is a long scar across the back which we try to design in a horizontal line that can be kept hidden under the bra strap. Occasionally, however, this scar is not as nice as we would like it as it can be puckered, indented and stretched. It is quite common to see small puckers at either end of the scar which sometimes need revision. On the positive side, this kind of reconstruction can create a small to moderately large breast which can look and feel very natural. In larger breasted women, however, it may be necessary to reduce the other side somewhat in order to achieve a good match.

Complications

1. Flap loss

The flap of skin and muscle depends on its blood supply which enters the muscle in the armpit. Very occasionally, in less than 1% of cases, this blood supply is compromised in some way, leading to loss of the flap. This is a very traumatic complications which requires removal of the flap and therefore complete failure of the reconstruction. When this unusual complication occurs, generally patients either opt to have a further reconstruction using a different type of breast reconstruction, or abandon the idea of reconstruction completely.

2. Haematoma

Collections of blood in the breast site or in the back where the flap has come from can occur and may require going back to theatre.

3. Seroma

Fluid very frequently collects in the back where the muscle has come from. This may have to be drained in out-patients using a needle and a syringe. However, drainage of these seromas, which are very common, is usually easy and painless.

4. Scar

The scar can be indented, puckered, red, stretched and obvious. There may be a slight contour deformity when looking critically at the back.

5. Wound infection

This can occur and may cause the wound to break down, requiring further surgery. Infection of the implant in breast reconstruction will usually require removal of the implant, which will have to be replaced at a later date.

6. Loss of sensation

There is usually a large number patch around the scar on the back. The new patch on the breast is always number also.

7. Cosmetic issues

The new breast may have slight creases, puckers or may have an unnatural shape. Problems such as this may have to be revised with a small operation at a later date.

8. Twitching

Twitching or abnormal movements of the new breast may occur a number of months after the operation. Occasionally this can be a persistent problem and a small nerve which is attached to the muscle may have to be removed. It may have to be cut.

Frequently asked questions

1. Will I have a nipple?

A nipple can be fashioned at a later date.

2. How long will the operation take and what is the recovery time?

The operation usually takes about three to four hours to perform. Most patients are in hospital for about five days. It usually takes three or four weeks to recover from the procedure. There will be drains in both the breast site and the back site for a few days after the operation, depending on how much fluid is produced by these areas.

3 TRAM Flap/DIEP Flap

This form of reconstruction uses skin and fat which is transplanted from the lower abdomen and re-modelled as a breast. The lower abdominal tissue can be transferred on a long stalk of muscle but this means sacrificing part of the abdomen wall (the six pack muscle) and much smaller amounts of tissue can be moved in this way. Generally most units doing a lot of breast reconstruction transplant the lower abdominal skin and fat, which means the blood vessels have to be re-attached into the chest wall using microsurgery. Because microsurgery is involved, this method of reconstruction is more complex than any other type and the operation time is much longer, taking up to 6 or 7 hours. However, it does allow a very large amount of tissue to be transferred safely to the chest, which means that in all but the thinnest of women, a very sizeable breast can be created without requiring an implant. Because there is a lot more skin and fat available, a much better breast shape can be achieved in many cases. The tissue is also much softer and more natural than any other form of reconstruction. For those patients who are very unhappy with an overhang of skin and fat in the lower tummy (which is very common after a number of pregnancies), this technique has the added benefit of a tummy tuck.

Who is suitable for this kind of procedure?

Patients interested in having this done obviously need to have skin and fat excess in their lower abdomen (most women do). However, very thin patients may not have enough tissue to make a sufficiently large breast. Alternatively, patients who are very overweight are not suitable for this procedure either as there may be too much tissue. They may also not be fit enough for such a long procedure and will naturally have a higher complication rate. Most women who opt for a TRAM flap are otherwise fit and healthy with no serious medical conditions. Ideally, patients should not be smokers and some abdominal scars can interfere with this operation. The most common abdominal scar, however, is the caesarean or hysterectomy scar, which usually does not create problems with this operation.

Consultation

At the consultation your full history will be taken and your breasts will be examined. An attempt will be made to calculate the amount of skin and fat that is required to make a breast that matches your normal side. Your tummy will be examined for scars and photographs will be taken. The consultation usually involves a very long and detailed discussion about the results that can be achieved and the risks involved. If you are a smoker it is important to stop smoking well in advance of surgery. Aspirin and certain anti-inflammatory drugs can cause increased bleeding and should be avoided prior to this major surgery.

The operation

A pattern is designed using the normal breast and this pattern will then be used to design a new breast on the lower abdomen. If it is an immediate reconstruction, however, the involved breast prior to mastectomy can obviously be used. The mastectomy scar is then re-opened and a pocket is made for the new breast. Using microsurgical techniques, small vessels in the chest wall are then located and very carefully dissected out in preparation for the flap. In the meantime, the flap is being prepared on the abdomen. Skin and fat is raised off the muscle. A cuff of muscle is removed in order to include the blood vessels to the flap, which are then carefully dissected out. This is called a TRAM flap. If possible, the blood vessels are dissected leaving all the muscle behind, which obviously produces damage to the abdominal wall. This is

called a DIEP flap. The flap is then transferred to the chest and the blood vessels in the flap are connected to the blood vessels in the chest using microsurgery. The connections are very small and there is always a risk that these blood vessels can clot due to technical problems. In a unit where many of these flaps are performed, however, this problem will only occur in a very small minority of cases. The abdomen is then closed like a tummy tuck, leaving a long scar in the lower abdomen from hip to hip. A permanent mesh is usually inserted to reinforce the abdominal wall, especially if a small amount of muscle has been removed. The belly button is re-sited and the new breast is stitched into place and re-shaped. It is very difficult to get a perfect match in one operation as the surgeon is limited by the amount of skin and thickness of the fat available in the lower abdomen and this can obviously vary from case to case. However it is usually possible, with a minor adjustment at a second operation, to fix small problems or discrepancies.

Patients are then sent back to a high dependency unit where they are very closely monitored. It is important that patients have a lot of fluid (are well hydrated) and are kept very warm and comfortable. The room is usually kept heated at tropical levels and all of this is to promote a good flow to the flap and prevent the little vessels from blocking off. This means that the first 24 hours are quite uncomfortable for the patient. The anaesthetist will have placed many lines and tubes, including a line going into the wrist, often one in the neck and a catheter in the bladder. After 24 hours the flap usually stabilises and the need for the intensive monitoring is reduced. This means the woman can sit out and some of the lines can be removed, which would make her more comfortable. Most patients are in hospital for five or six days after this procedure. It takes a minimum of two to three weeks for the patient to be up and about and comfortable again and it can take many months before the patients are back to all their original activities and exercise. This is partly due to a temporary weakness in the abdominal wall muscles.

Complications

1. Bleeding

Like any operation, blood can collect under the skin where there has been surgery. This is particularly common in the lower abdomen and occasionally requires going back to theatre to remove the blood collection.

2. Wound infections

Wound infections can occur although usually these are of a minor nature.

3. Flap loss

In approximately 3-4% of patients the microsurgery does not work and the little vessels clot off, causing the new reconstructed breast to fail. This is obviously a huge disappointment to everyone as the entire operation has been for nothing. When this occurs, it is also usually necessary to do an operation to replace the flap and this is usually done by taking a flap from the back (LD). In a small number of cases, a part of the flap may fail because its blood supply is not enough. This may require going back to theatre to remove a dead piece of skin and fat at a later date. It may also spoil the cosmetic result, although usually not.

4. Abdominal wall weakness, hernia and bulges

The lower abdomen may be weakened by the surgery and this may cause it to bulge slightly, in spite of the reinforcing mesh. Very occasionally the abdominal wall may give way, leading to a hernia where the gut can protrude through the abdominal wall, creating a very unsightly bulge which may be very problematic for the patient. These often have to be repaired by further surgery.

5. Cosmetic issues

In spite of taking very accurate measurements, it is very difficult to get a perfectly matching breast when doing a delayed reconstruction. In immediate reconstruction where you retain most of the skin, a superb cosmetic result can be achieved in one go. However, I tell most patients having a TRAM flap who have already had their mastectomy that it is very likely they will require an adjustment of their flap or an adjustment of the opposite breast (breast lift or reduction) in order to achieve a good match. These minor adjustments can usually be done as day case surgery and can often be done at the same time as nipple reconstruction.

Nipple reconstruction

This is a very simple and minor operation which can make an enormous difference to the appearance of the breast reconstruction. A reconstruction is simply a mound until it has a nipple on it and therefore it is well worth doing and can make the breast look almost normal. However, simple pre-made stick-on silicone nipples can be bought which are a useful temporary measure. Higher quality nipples can also be made by the prosthetics department, which can make a nipple which will perfectly match the opposite side in colour and shape. Women who like these stick-on nipples generally opt for a reconstruction in the long run and this can be done using a small skin graft which can be taken from the groin or another area. Usually the nipple itself is made overly large to begin with because they tend to shrink considerably over the next few months. In the beginning the nipple and the surrounding skin (the areola) can be a very good colour match for the opposite side. Unfortunately, with the passing of time the reconstructed nipple tends to fade quite considerably. This is not usually a problem for most patients but if it is a concern, the area can be very simply tattooed by our tattooing service in order to restore its colour. This is generally quick and painless to do and can dramatically improve the appearance.