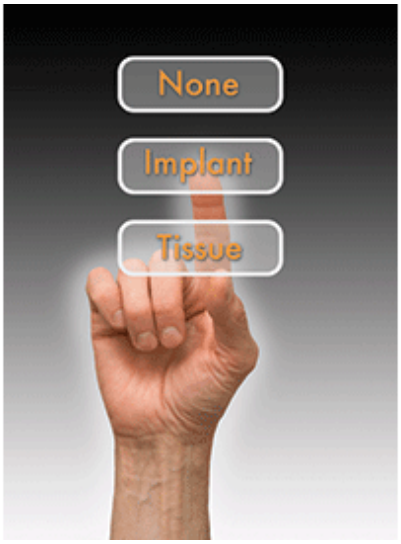

Control Point 6

What Are My Options for Breast Reconstruction?

Control Point #6

What Are My Options for Breast Reconstruction?

Having a breast reconstruction is a very personal decision and you should not be pressured one way or another by your partner, friends, or doctors. Take control of this decision by getting as much information as you can from your treating doctors; support groups; organizations, and if possible, other women who have gone through the same procedure.

Don't feel rushed by your surgeon's operating schedule; take the time to work out the best option for you right now. This could include never having a reconstruction, having it done in a few years (**delayed reconstruction**), or having it at the same time as your mastectomy (**immediate reconstruction**). If you're having an immediate reconstruction, the plastic surgeon will usually take over directly after the mastectomy, while you're still under anesthetic. Some surgeons are trained to do both the mastectomy and a more limited type of reconstruction which is often referred to as oncoplastic surgery.

There are many myths about having a breast reconstruction after a mastectomy, but one thing that's certain is that it's a complex decision. Factors that influence this decision include not only your thoughts and feelings, but also the availability of expertise and resources, such as your specialist team and the availability of operating theater time.

What is breast reconstruction?

Breast reconstruction is a complex procedure, and often, you may need two or more operations to achieve a correctly positioned new breast. However, your breasts probably won't be completely symmetrical afterward and will never be like your own natural breast. Still, many women choose to have reconstructions. Different approaches to breast reconstruction include:

- Using tissue expanders and breast implants
- Using your body's own tissue ("flap" or "tissue" reconstruction)
- Using a combination of tissue reconstruction and implants.

Understand what breast reconstruction surgery can do for you, but also be aware of what it won't do for you. It will involve more surgery that takes longer under the anesthetic than surgery without a reconstruction, and that is associated with more side effects, but it will give you a "mound," either constructed from your own tissue or using a silicone implant.

The breast reconstruction process can also include reconstruction of your nipple, but some women omit this step because the reconstructed nipple is only cosmetic and will not function like your natural nipple.

Finally, you may choose to have surgery on your other breast, even if it's healthy, so that it more closely matches the shape and size of your reconstructed breast. This can, for example, involve an enhancement, or more usually a "lift" (mastopexy) or a reduction, particularly if you had large breasts to start with.

When can I have breast reconstruction?

If you think you may want a breast reconstruction, it's very important to discuss this with your breast surgeon before your breast cancer operation. Ask your breast surgeon to arrange an appointment with a plastic surgeon before your mastectomy to discuss whether or not you are more suited to an immediate reconstruction, a delayed reconstruction, or no reconstruction.

You may want to see one or two reconstructive surgeons who work with your breast surgeon. It may be best to see one who has experience in all

types of reconstructions, including implants and non-implant procedures using your own tissue. Ask to see some photographs of their work, or better still, see if you can talk to one or two of their previous patients.

Most oncologists can normally work out the timing of treatments such as chemotherapy and hormonal treatment with a reconstruction. Common approaches to timing are shown in Figure 17.1.

Ultimately, your own feelings, thoughts, and instincts are critical. Take control here and don't be rushed. It may take a few extra days to get all the information you need.

Different types of breast reconstruction

Tissue expansion and breast implants

A breast implant is a round or teardrop-shaped silicone shell that's filled with saline (saltwater) or silicone gel. A plastic surgeon places the implant behind the muscle in your chest (pectoral muscle) in a manner similar to that which occurs during breast augmentation (enlargement) surgery (Figure 6.1). Sometimes, a mastectomy is done on both sides and bilateral implants are inserted, particularly if there is a strong family history of breast cancer.

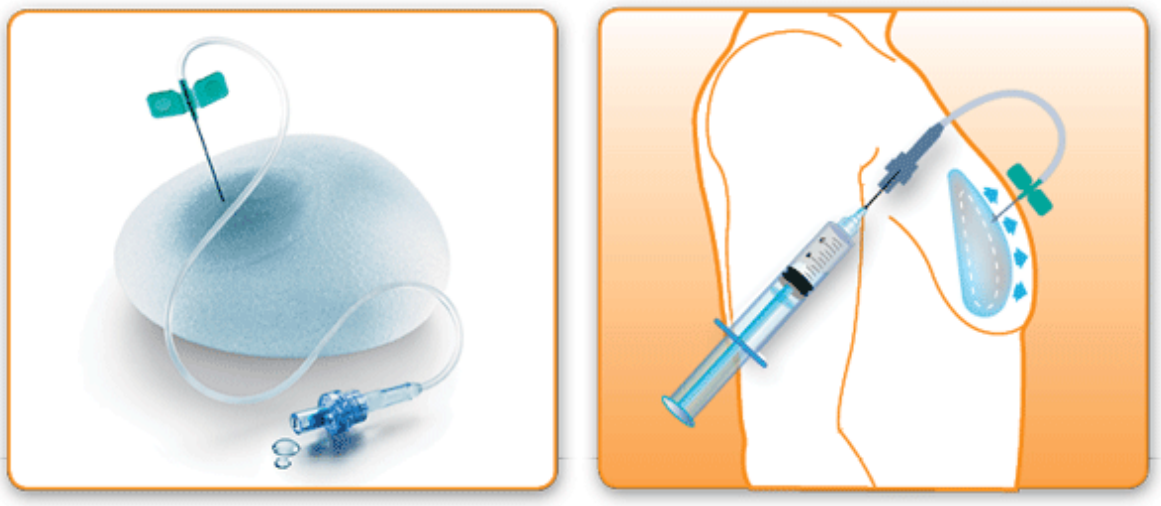

Figure 6.1: Pictured above is an >expander, to be inserted behind the pectoralis major muscle. Saltwater is injected into its magnetic port (at tip of green butterfly needle) once a week for roughly four to six weeks.

Few women are able to go through a one-stage implantation process—receiving the final, permanent implant at the time of the mastectomy. Rather, most women require a two-stage process, using a temporary **tissue expander** before the permanent implant is placed. Tissue expansion involves stretching your remaining chest skin and soft tissues to make room for the breast implant. After the tissue expander is implanted, you'll need to visit your doctor's office every week or two, for a total of five or six visits, to have small amounts of saline inserted into the expander through a magnetic port. The port is magnetic so that the nurse or doctor can use a magnet to quickly find the access port and inject the saline. It's a bit like a beach balloon that slowly gets inflated with saline rather than air (Figure 6.2).

Figure 6.2: This woman had a mastectomy and a sub-pectoral implant. A magnet (left) is used to find the exact location of the port under the skin. A needle and syringe full of saline (right) is then used to inflate the implant at regular intervals.

The skin is stretched slowly to avoid too much discomfort or pressure as the implant expands, but some minor discomfort is often associated with the procedure (Figure 6.3). The first day or so after your surgery is usually when you'll be the most uncomfortable.

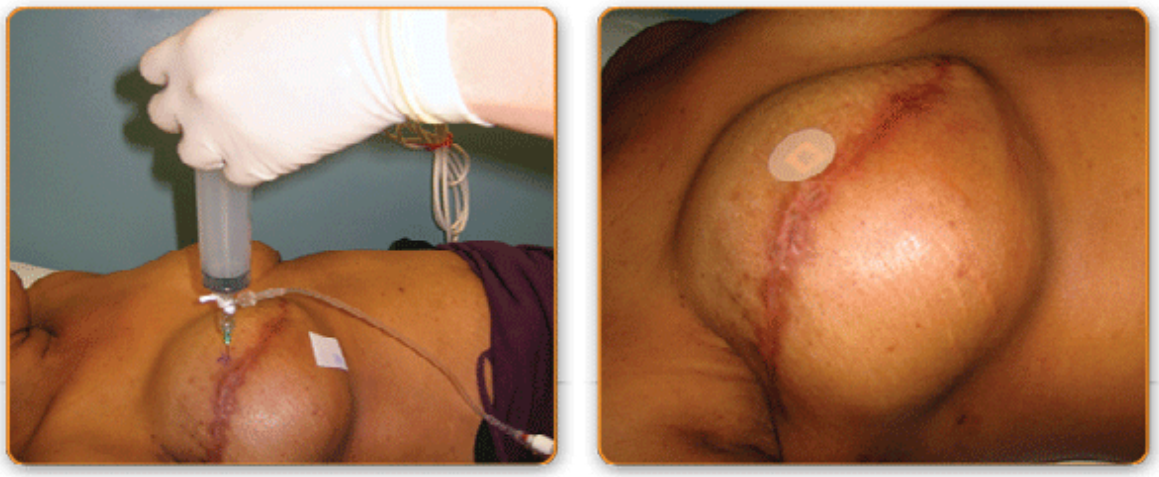

Figure 6.3: A further 50 mL of saline was inserted into the implant before the patient's radiation treatment started.

After the tissue expansion process is complete, your surgeon will perform further surgery to remove the expander and replace it with a permanent implant, which has a more natural look and feel. This normally takes place six to nine months after the implant is first inserted. Once complete, the final result can look very good in a bra (Figure 6.4). Over time, implants may rupture or need replacement. However, implants involve less surgery, less pain, shorter recovery, no additional scar, and less expense than **flap reconstruction**.

Figure 6.4: A mound has been produced that looks good in a bra.

Although an implant reconstruction may be performed at the same time as your mastectomy, or at a later time, it cannot usually be performed after radiation therapy is given to the chest area after a mastectomy (**post-mastectomy radiation therapy**). This is because radiation treatment can cause tightening and reduced flexibility or stretch of the skin, making the

implant impossible to insert (Figure 6.5). Sometimes, though, it can be done if there is some stretch left in the skin. If radiation therapy is necessary, a flap reconstruction is preferable if a delayed reconstruction is done because the irradiated skin can be removed and replaced with healthy skin from another part of the body (a "**donor site**").

Figure 6.5: This woman's skin has become quite tight after a mastectomy and radiation, which will make it nearly impossible to have a sub-pectoral implant reconstruction. A "flap" reconstruction will be required instead.

Radiation after a mastectomy will be covered later, but the main reasons it's usually given are because your cancer has spread to four or more lymph nodes under your armpit, or the cancer is larger than 50 mm (about 2 inches) or larger.

Tissue or flap reconstruction

This is the most complex reconstructive option, but it has the advantage of a more natural look and feel. With tissue or flap reconstruction, your surgeon moves a section of skin, muscle, fat, and blood vessels from one part of your body to your chest to create a new breast mound. The nipple can be recreated later. Flap reconstructions require three to eight hours of surgery, and sometimes longer.

Because muscle flap reconstruction requires healthy blood vessels, women with diabetes, connective tissue disease, vascular disease, previous major abdominal surgery, or a history of smoking may need to consider other options. During a flap reconstruction, flaps of muscle and skin are taken from the back, abdomen, or buttocks. In some cases, the skin and tissue need to be expanded further with a breast implant to achieve the desired breast size.

Flaps can be "free" or "attached" from the donor source and original blood supply. A **free flap** means that the "flap" of skin, fat, and muscle tissue is completely detached and then connected to a new supply of blood vessels in the original breast area without tunneling under the skin. The surgeon

detaches the tissue completely from its blood supply and uses microsurgery to reattach the tissue flap to new blood vessels near your chest. Because of the intricate nature of reattaching blood vessels using microsurgery, free flap surgery typically takes longer to complete than pedicle flap surgery does.

Not all plastic surgeons can do microsurgery. The free flap procedure can have a higher complication rate, so make sure that you see a highly skilled specialist. However, many surgeons believe that the free flap allows them to create a more natural shape than the attached or pedicle flap. An attached or "pedicle" flap is tunneled under the skin whilst the flap is connected to the original donor source and blood supply. There are four common types of flap reconstructions: latissimus dorsi, TRAM, DIEP, and gluteal.

The **latissimus dorsi muscle flap** is taken from the back, with its own blood supply, and is tunneled under the skin to the front of the chest (Figure 6.6). The flap is not large, and it may therefore be necessary to use a small implant as well as the flap. This is a useful technique if you do not have large breasts or if previous abdominal surgery prevents using abdominal tissue.

Figure 6.6: Different views of a latissimus dorsi muscle flap. A sub-pectoral implant was also inserted on the left side to match the size of the new breast on the right side.

The **transverse rectus abdominus muscle (TRAM) flap** procedure uses tissue tunneled from your lower abdomen—including a full thickness of skin, fat, and muscle—that is either attached to its own blood supply (or "pedicle") or detached ("free") from its own blood supply. This muscle flap will create a reconstructed breast at the mastectomy site with no areola or nipple (Figure 6.7). It also means that some of the fat and muscle in your abdomen is used, so a "tummy tuck" is an added bonus. The downside is that there can be more weakness in the abdomen, and a hernia

is a possible complication. There is no doubt that this is a major procedure, and it can take many weeks to fully recover, but most women are happy with the very natural feel of their new breast. Although the scars in Figure 6.7 look prominent, they will fade and be less visible within four to six months of surgery.

Figure 6.7: About three months after a TRAM flap with no nipple reconstruction, showing the new breast and the scar in the lower abdomen (the donor site).

The **deep inferior epigastric perforator (DIEP) flap** procedure uses blood vessels in the abdomen that travel through (perforate) the rectus abdominus muscle to supply the overlying abdominal skin. This newer procedure is almost the same as a TRAM flap, but skin and fat are the only tissues removed, so no muscle is taken. The flap uses a free (detached) flap approach, which allows you to retain more strength in your abdomen. If your surgeon can't perform a DIEP flap procedure for anatomical reasons, he or she might opt instead for the muscle-sparing free TRAM flap. Studies have shown that there are fewer abdominal complications from the DIEP flap because muscle is not taken. The **superficial inferior epigastric artery (SIEA) flap** is very similar but uses different blood vessels.

A good website for more information is www.microsurgeon.org. The British Association of Plastic Reconstructive and Aesthetic Surgeons is also useful: www.bapras.org.uk

The **gluteal (or buttock) flap** is a free flap procedure that takes tissue—possibly including muscle—from your buttocks and transplants it to your chest area after the mastectomy is finished. There are two forms of gluteal flaps: the S-GAP, or "superior gluteal artery perforator," reconstruction uses tissue from the top of the buttock, which contains the upper gluteal artery and the I-GAP, or "inferior gluteal artery perforator," which uses tissue taken from the crease of the buttock (where the buttocks meet the thigh) that contains the lower gluteal artery. A rounded section of skin and fat (and occasionally muscle) is removed either from the top of the buttock or the crease along the underside of the buttock. After being

transferred to the breast, the tissue is shaped to create the breast mound and is attached to the remaining breast tissue using microsurgery. It can take several weeks to recover from such a procedure and there will be scars in the buttocks area and the breast that will need to heal. There may be noticeable asymmetry between the buttocks after the flap is taken. Antibiotics are often given before and after surgery to reduce the risk of infection. Table 6.1 below summarizes the different types of flap reconstructions.

Flap	Latissimus Dorsi	TRAM (pedicle)	TRAM (free)	DIEP	Gluteal
Type of Flap	Pedicle	Pedicle	Free	Free	Free
Donor Site	Upper back	Abdomen	Abdomen	Abdomen	Buttock
Muscle Removed	Yes	Yes	Yes	No	Yes
Suitable with Previous Abdominal Surgery	Definite	Possible	Possible	Possible	Definite
Microsurgery Needed	No	No	Yes	Yes	Yes
Procedure Time (hrs)	2–4	6–8	6–8	6–8	8–12
Days in Hospital	4	7	7	7	7
Smaller Breasted	Yes	Yes	Yes	Yes	Yes
Larger Breasted	Yes, with implant	Yes	Yes	Yes	Yes
Chance of Flap Breakdown or “Necrosis”	Not common	Often minor wound healing problems and partial flap loss	< 5% total flap loss	< 5% total flap loss	< 8% total flap loss
Chance of Abdominal Hernia	No	Yes (<5%)	Yes (<2%)	Yes (<1%)	No
Sensation	No nipple	No nipple	No nipple	No nipple	No nipple

Table 6.1: Comparison between different types of flap reconstructions.

Nipple reconstruction

Not all women choose to have nipple reconstruction. It’s entirely up to you. Some women can’t really be bothered going back for surgery and it’s perfectly okay if you feel that way.

The nipple can also be reconstructed and tattooed to reproduce an appropriate color match with your other breast. The reconstructed nipple will not have sensation. Silicone "stick-on" nipples are also available.

Figure 6.8: A left TRAM flap reconstruction with a nipple reconstruction and a reduction of the right side for balance.

Nipple reconstruction is usually done in one of two ways: your surgeon can use the skin of your reconstruction, raising it and bringing it together to look like a nipple; or "nipple sharing" by transferring part of your nipple from the other side (Figure 6.8). The areola is reconstructed by using a skin graft, usually from the crease of your groin, or is simply tattooed. Neither method will give you a functioning, sensitive nipple; reconstruction is strictly cosmetic.

Reconstruction of your other breast

Sometimes your plastic surgeon will talk to you about the other breast. Inevitably, your other breast will not be the same as your reconstructed breast in terms of size and position. Surgery to the other breast can improve symmetry.

This may be a "lift," or mastopexy or a reduction known as a **reduction mammoplasty** (Figure 6.8), or even an implant to enlarge the other side (Figure 6.6). Removal of the other breast (prophylactic mastectomy) is very rarely considered, though we may discuss it if you have an exceptionally strong family history of breast cancer and you feel it's easier to have just one anesthetic, remove the burden of constant mammography on that side, and ensure a symmetrical reconstruction. However, don't rush this decision—it takes a lot of thought and discussion. Always make sure that your plastic surgeon sends any normal tissue from the reduced side for examination by the pathologist.

Recovery after a reconstruction

You are likely to feel quite tired and sore for a week or two after implant reconstruction, and for up to three to six weeks after flap procedures. Most of your discomfort can be controlled by painkillers prescribed by your doctor. You'll also have stitches (sutures) in place after your surgery. They'll probably be the kind that dissolve on their own, so you won't need to have them removed.

Depending on the type of surgery, you should be able to leave hospital in one to ten days. Surgical drains are used to remove fluid from the site of your operation. Usually, these drains are removed while you're in the hospital, but sometimes you can be discharged with a drain still in place.

Follow your surgeon's advice on stretching exercises and returning to your normal activities. Getting back to normal activities may take up to six weeks or more, depending on the type of procedure performed. Take it easy during this period. Your doctor will let you know of any restrictions to your activities, such as avoiding overhead lifting or strenuous physical activities. Don't be surprised if it seems to take a long time to bounce back from surgery.

If you've had one breast reconstructed, you'll need to have a screening mammogram done regularly for your other breast. Mammography isn't done on your reconstructed breast, but a CT, MRI, or ultrasound may be done if we ever need to look behind your reconstruction. You may opt to perform breast self-exams on your natural breast and on the skin and surrounding area of your reconstructed breast. If cancer comes back on the reconstructed side, it usually appears as small "pimples" or nodules, often around your scar.

Complications and risks of a reconstruction

Breast reconstruction carries the possibility of complications. Most commonly, expanders will feel tight until the surrounding tissue stretches. Further, breast implants aren't lifelong devices, and you may eventually need surgery to replace or remove the implant. Also, with breast implants, you could experience complications such as infection or rotation (where the implant moves into the wrong position).

There is a slightly higher risk of infection around the implant with chemotherapy, and an increased risk of **capsulitis**, or capsular contracture. Capsulitis is when scar tissue forms and compresses the implant into a hard and unnatural shape. The odds of this occurring increase in the 12 to 24 months after you have had radiation therapy to the chest wall and implant. These complications may require additional surgery.

Tissue reconstruction is a major procedure. It prolongs your time in surgery and can extend your recovery time by several weeks. Flaps cause pain both at the "donor" site and in the chest area. Removal of muscles from the donor site will cause pain and weakness or rarely, a hernia.

In addition, poor wound healing, a hernia in your abdominal scar, a collection of fluid (seroma), and/or infection can occur. The worst complication, which is rare, is when the flap doesn't take due to tissue death (a bit like gangrene) from insufficient blood supply. Complications are more common if you are overweight, have diabetes, or are a smoker.

Should I have breast reconstruction?

Some women find a mastectomy without reconstruction a constant reminder of their cancer. There is some evidence from the UK and the US that you may feel more positive about yourself if you have a reconstruction after a mastectomy.

Nevertheless, many women are quite comfortable not having a reconstruction and feel relieved that their cancer has been removed and the breast is gone. I sometimes hear surgeons saying, "Forget the reconstruction for now because we don't want to delay your cancer treatment," but this is a misinformed statement. Your cancer has probably been there for many months, and perhaps even a year or so in some circumstances. A few days' or even a few weeks' delay in getting treatments that generally take place after surgery will not change your prognosis at all.

Your general health, previous abdominal treatments (which can affect the donor area for a flap reconstruction), and your proposed cancer treatment are taken into account to work out which type of reconstruction will give you the best result. The plastic surgeon will give you information on the

anesthesia, the location of the operation, and what kind of follow-up procedures may be necessary.

In Australia, for example, less than five percent of women have access to an immediate reconstruction, usually because of a lack of expertise and the logistical difficulties of having a breast surgeon operate at the same time as the plastic surgeon. At our group of hospitals, all women are offered a reconstruction, but only about 40 percent take up the offer after a full and frank discussion.

Some women prefer to think about an immediate reconstruction whereas others really just want to have a mastectomy and think about a reconstruction a year or two later. There is no correct answer. Go with not only what is available to you but also with what you feel comfortable doing at this stage. You can always reconsider a reconstruction at a later time.

It's important to understand what you can expect from a breast reconstruction before you make your decision. A reconstruction will not give you a new, normally functioning breast. The difference between your reconstructed and your natural breast will be minimal when you're dressed but usually obvious when you're undressed. Having a reconstruction will provide a contour or shape so that you'll be able to wear most of your usual clothes and swimwear.

In summary, don't be rushed by your surgeon about this very important decision. It's far better to delay your surgery a week or two and get the right advice than it is to try to conform with your surgeon's operating schedule. Let him or her panic, rather than you, while you get some sound advice.

CONTROL POINT #6–
WHAT ARE MY OPTIONS FOR BREAST RECONSTRUCTION?

An implant reconstruction cannot usually be performed after radiation therapy is given to the chest area. If your doctor feels that there is a chance you will need radiation to the chest wall after a mastectomy, ask to see a plastic surgeon before your surgery.

Don’t feel rushed by your surgeon’s operating schedule; take the time to work out the best option for you right now. This could include never having a reconstruction, having it done in a few years (delayed reconstruction), or having it done at the same time as your mastectomy (immediate reconstruction).

Having a breast reconstruction is a very personal decision and you should not be pressured one way or another by your partner, friends, or doctors.