

Breast Reconstruction Surgery: Tissue Transfer

Information for
Patients & Family about

- **PEDICLE or FREE TRAM**
- **DIEP**
- **SGAP**
- **Latissimus Dorsi**
- **TUG**
- **SIEA Flaps**

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Introduction

This booklet provides information to help you understand breast reconstruction and the recovery period after surgery. Your plastic surgeon and nurses will provide you with more details about your type of surgery. Please do not hesitate to ask them questions. You may find that some of the information in this booklet does not apply to you.

What is tissue transfer breast reconstruction?

A flap of fat, some overlying skin and/or muscle is taken from the lower abdominal (stomach) or back area and moved to the chest, where it is stitched in place.

The common places, from which the fat, overlying skin and/or muscle are moved are the stomach, upper back area, upper buttocks or inner upper thigh. The place from which the tissue is taken is called the donor site.

Two different techniques are used to transfer the tissue from the donor site to the chest area:

a) **Pedicled flap technique (TRAM or latissimus dorsi)**

Muscle, fat and skin flap are tunneled from the donor site to the breast area while still attached to the blood supply.

b) **Free flap technique (DIEP, TRAM, SGAP or TUG)**

The fat, overlying skin and/or muscle flap are lifted, detached and then moved to the breast area. Microsurgery is used to reattach the blood vessels of the flap to those under the arm.

Donor sites used for breast tissue to create a reconstructed breast

When fat, overlying skin and/or muscle is used from the stomach the flap is called a:

- **TRAM** (transverse rectus abdominis myocutaneous) or
- **DIEP** (deep inferior epigastric perforator) or
- **SIEA** (superficial inferior epigastric artery)

Fat, skin and muscle from the back is called a:

- **Latissimus dorsi**

Fat, and overlying skin from the upper buttocks is called a:

- **SGAP** (superior gluteal artery perforator)

Fat, overlying skin and muscle from the inner thigh is called a:

- **TUG** (transverse upper gracilis)

Aim of breast reconstruction

The aim of breast reconstruction is to match the natural breast as closely as possible in shape, colour and texture. However, the reconstructed breast will not precisely match the appearance, shape, movement, sensation (feeling) or sensitivity of your natural breast. The reconstructed breast may also feel firmer and slightly cooler. It's colour may also be paler than your natural breast. Women with darker skin colour may have darker scars than those with fair complexions.

Mastopexy or reduction mammoplasty

In some cases, surgery is required to balance the size and shape of the breasts. This "balancing" may involve lifting (mastopexy) and/or reducing (reduction mammoplasty) the size of your natural breast. This may be done during the initial breast reconstruction surgery or at the time of nipple reconstruction.

Nipple Reconstruction

Nipple reconstruction is done at a later stage (about four to six months after the first surgery). Tissue from the breast mound or part of the opposite nipple is used to make a new nipple. The areola is created by tattooing the skin. The reconstructed nipple will not have the same sensation as a natural nipple.

Before Surgery

Before your surgery you will sign a consent form in your surgeon's office. It is important that you are well informed about the breast reconstruction procedure, possible risks, and complications. Your expectations of the surgery need to be realistic. Therefore, it is important that you ask your plastic surgeon any questions you may have.

Preparing for Surgery

You will be in the hospital for about three days.

- You need to arrange for help at home, as you should not do household activities such as vacuuming/washing floors, laundry, gardening for at least three to four weeks after you leave the hospital. Avoid activities that involve lifting heavy objects (5-10 pound or 2.25 to 4.5 kilograms) for at least 3 months after the surgery.
- You should not drive a motor vehicle for two weeks after the surgery as sudden braking and impact from seat belts may injure your reconstructed breast(s).
- Smoking increases the risk for serious complications. Therefore, it is important to stop smoking at least three months before and for one month after the surgery. Contact your family doctor if you need help to stop smoking. If you use Nicoderm patches to stop smoking, it is important that you stop using these two months before surgery, as Nicoderm patches have similar negative health effects as smoking.
- If you are taking aspirin or products containing aspirin, you need to stop taking them two weeks before surgery as these products could cause bleeding during or after surgery.

- If you are taking herbal medicines, these should be stopped two weeks before surgery as they also can cause bleeding.
- You will either receive a telephone call or may be required to visit the Pre-admission clinic at the hospital before your surgery date. The nurse in the clinic will give you specific instructions about preparation for surgery and will teach you about what to expect during and after surgery. The nurse will also explain to you how to use a pain scale so that your pain can be rated. After surgery your pain will be controlled using a Patient Controlled Analgesia pump (PCA). You will be given a brochure that explains the use of this pump.
- An anesthetist in the pre-admission clinic may see you. It is important to tell the anesthetist or nurse if you have had motion sickness, postoperative nausea and vomiting and problems with unrelieved pain after surgery.

What happens during surgery?

The length of time for this surgery varies from three to six hours or longer and depends on the type of breast reconstruction procedure; if a mastectomy is done at the same time, whether a balancing procedure is needed on the opposite breast and if one or two breasts are reconstructed.

- An intravenous (IV) will be placed in your arm to provide you with anesthesia, fluids and medications during and after surgery.
- Elastic stockings and leg pumps (calf compressors) will be placed on your legs to help the flow of blood and prevent blood clots from forming in your blood vessels.
- Once you are asleep a catheter (tube) will be put into your bladder to drain urine. The catheter will remain in place overnight or until the second day after surgery.
- The surgeon will place a number of small plastic drains in your wounds to drain fluid from the surgical area.

What happens after surgery?

Day of Surgery

- After surgery, you will be moved from the operating room to the recovery room. The length of stay in the recovery room varies with each person. Once your condition is stable, you will be moved to your room.
- When you are in your room, the nurses will continue to check your condition as well as the temperature and colour of your breast(s). As the days pass the frequency of these checks will decrease.
- While you are in bed, the head of the bed will be up and your knees will be bent to prevent stretching of the skin closures in the lower stomach (TRAM/DIEP/SIEA only).
- The nurses will encourage you to take deep breaths and to do leg and foot exercises to prevent blood clots and improve the blood flow throughout the body. To help you take deep breaths, you will be given a device called a spirometer which the physiotherapist will teach you to use.
- You will need to wear calf compressors until you are up walking several times a day and elastic stockings until the day you go home.
- You will be given something to eat and drink when you are ready. You will need to avoid drinking or eating food or fluids with caffeine for up to one month after surgery. To control nausea, let the nurse know and you will be given medication.

Pain Control

The nurses will ask you to rate your pain by using a pain scale from 0 to 10. Pain can prevent you from moving, deep breathing and sleeping, all of which could slow your recovery. The nurses will teach you how to cope with the pain.

You may experience pain and/or a sensation of tightness around the new breast, rib cage, stomach and donor site. If you had a mastectomy and axillary node dissection (glands were removed from your armpit to see if the cancer has spread) you may also experience some numbness in the upper, inner arm. These sensations will all decrease as time passes.

Some patients have lower back pain and find that an ice-pack or sitting in a chair relieves the pain.

In addition to pain medication, simple relaxation methods or listening to soothing music helps relieve pain.

Do not hesitate to tell the nurse if your pain is not controlled with the PCA. Some patients are afraid to bother the nurse or fear becoming addicted to the medication. For most patients there is no chance of addiction to medication after surgery. Preventing severe to moderate pain in the early stages after surgery will also prevent pain from persisting later.

Day 1 after surgery

- In the morning, if you had a TRAM, DIEP or latissimus dorsi procedure, the nurse or physiotherapist will help you get into a chair at the bedside so that you may wash yourself.

To increase your activity, you are encouraged to take short walks at least three times a day. This can be painful, but it is important for a safe recovery. Activity improves the blood flow throughout the body and can lower the risk of developing blood clots. Pressing the PCA button for pain medication before moving or getting out of bed will make it easier for you to get up. Holding a pillow over your stomach when you move may also ease the pain.

- When you get out of bed or are walking, avoid stretching your stomach muscles (TRAM/DIEP/SIEA). Do this by keeping your upper body bent forward when you move or walk.

To avoid using your stomach muscles when getting out of bed, roll to the edge of the bed and push yourself up with your arms.

- On the day you get out of bed, the catheter will be removed from your bladder. Some patients have difficulty passing urine after the catheter comes out. Tell the nurse if this happens to you. After the catheter is out, you will be helped to the bathroom.
- The doctor and nurse will examine the reconstructed breast and change the dressings when necessary. To help you become more comfortable with your new breast, we encourage you to look at your breast during dressing changes. You may see some redness, and/or blue areas or swelling across the new breast and the donor site. This is normal and will improve over time.

Days 2-3 after surgery

- Increase your activity by gradually increasing the distance you walk every day. After each walk sit in a chair for 30 minutes. It is important to increase your walking in the hall to at least three times a day. As you become stronger you will be able to get up on your own.
- The physiotherapist will show you how to exercise your arm on the reconstructed side. It is important to do the exercises in order to gain full range of movement in the arm/shoulder and to avoid complications. Exercising the arm may cause discomfort at first but it will become less so as time goes on.
- You will be on a high protein, caffeine free diet to help with wound healing. Beginning on day three, you should try to eat at least half to most of the food on your tray as the days go by.
- You will be given a daily stool softener to prevent constipation and straining during bowel movements.
- If you have any concerns or feel anxious about your surgery, diagnosis or recovery, do not hesitate to talk to the nurses who are available to answer your questions, provide support and help you cope with the situation.
- Depending on the level of your pain, the PCA will be removed and you will be given pain medication by mouth. Tell the nurse if your pain is not controlled with this medication.

How will I take care of myself at home?

The time it takes to recover from the surgery depends on your general health and the extent of the surgery. Most women are able to resume their normal activities within 10-12 weeks, some as early as 6-8 weeks. However, some women experience fatigue for a number of months.

To get comfortable while lying down, place pillows under your knees and head to reduce the strain on your stomach wound and muscles. A foam wedge under the knees or used as a back rest may be helpful. As well, lying in a curved position when on your side will be more comfortable. It is best for the first week at home to have a family member/friend to help you.

To help wound healing, eat different types of food high in protein (meat, fish, chicken, eggs, beans, nuts, soup, milk and cheese), fruit and vegetables and grains (brown bread, bran, oats). Drink six to eight cups of water daily.

Pain at home

You will be given a prescription for pain medication. However, if the pain is mild to moderate, you may prefer plain or extra strength Tylenol. You will have a loss of sensation (numbness) in the stomach area (TRAM/DIEP/SIEA only) and the reconstructed breast. Therefore, it is important to avoid using a hot water bottle; hot bags or heating pad as these may cause burns.

If you had a TRAM/DIEP or SIEA, you may have tightness in the stomach area. This will decrease over time. Some women develop highly sensitive skin around the stomach wound after the TRAM surgery. This is normal and occurs because the nerves cut during surgery start regenerating. It may take 12-18 months to settle and gentle massage may help desensitize the area. Your new breast(s) will feel numb for 6-18 months or longer after the surgery.

Constipation

Pain medication (Tylenol #3 with Codeine) will cause constipation. To avoid constipation, take two plain or extra strength Tylenol instead of Tylenol with codeine. A high fibre diet (grains, dried fruit and vegetables), drinking plenty of fluids and walking will prevent constipation. If you are constipated take a mild laxative and stool softener or use a glycerine suppository. Your pharmacist can suggest a laxative for you.

Wound care

Your surgeon may refer you to community health nurse if you go home with drains or need wound dressings changed. This will be arranged while you are in the hospital. The community health nurse will help you to care for the drains and/or dressings and any other health problems you may encounter once you are home.

- The wound lines across the new breast and the donor site are closed with stitches that dissolve (sutures) and paper tapes (Steri-strips). Do not remove the Steri-strips. Allow them to fall off on their own. There may be some bruising, tenderness and also slight bleeding around the wound. This is normal and will improve over time.
- 24 hours after the drains are removed, keep the wound clean by showering every day. Gently pat the wound dry with a clean towel; do not rub the area. Avoid tub baths until your wounds are fully healed. Soaking in the tub may increase the risk of infection.
- If you want to shave under your arm on the mastectomy side, use an electric razor. Do not use deodorant under your arm on the mastectomy side if there is any break in the skin.
- After the stitches have dissolved and your wounds have healed (about 3 weeks after surgery), the plastic surgeon may suggest that you massage and move your new breast(s) around to keep it as soft as possible. Scar tissue massage: gently massage along the sides of the scar in circular movements with the pads of your fingers. Massage for about five minutes a day. Continue the massage for the first year after surgery.
- Wound healing (breast and stomach) may be slow as problems may occur. If this occurs, the community health nurses will help you to care for the wounds.

- The application of Vitamin E to the wound lines is not recommended, as some surgeons believe this may widen the scars.
- If your scars are exposed to the sun, use sunscreen with SPF30 after surgery. Sun exposure can lead to severe sunburns. As well, sunbathing in a one piece dark bathing suit can lead to heat conduction injury to the stomach or breast reconstruction area. Therefore, following TRAM surgery, SPF30 sunscreen and a light colored bathing suit is recommended.

Drain care

Before you go home, the nurse will teach you how to empty the drain and prevent the tubing from becoming blocked (stripping the tubing). You will be given written instructions about drain emptying and stripping. It is important to make sure the drain(s) is working to prevent the collection of fluid inside the wound area. If fluid is not coming out of the drain, notify the community health nurse, or your plastic surgeon if you do not have a homecare nurse.

- Your community health nurse or plastic surgeon will remove the drain when drainage has decreased to less than 35 mls in 24 hours. Some people experience a stinging sensation when the drain is removed. Some fluid may leak from the opening after the drain is removed. If that occurs, cover the area with sterile gauze until the opening is closed. This takes between 24 and 48 hours.
- You may shower 24 hours after the drain is removed.

What is a seroma?

When the drain is removed, sometimes fluid continues to build up and you may develop a pocket of fluid called a seroma.

The body may absorb seromas if they are small, but if they are large, the surgeon may need to remove the fluid using a syringe and needle. This procedure is done in the surgeon's office and may have to be repeated several times during your recovery. Occasionally, a drain may need to be inserted to drain the fluid.

What exercises should I do at home?

Exercise is important in your recovery. Walking daily is an ideal way to exercise. You can gradually increase the distance and speed you walk everyday when you feel up to it. However, avoid high-impact aerobics, jogging, lifting heavy objects including weights, bouncing on a rebounder and swimming until your surgeon approves.

To improve your recovery, it is important to avoid overactivity. Rest when you feel tired.

- Before you go home the physiotherapist will teach you how to do the exercises to increase comfort and movement of your shoulder and arm, and tell you when to start doing them. You will be provided with a written copy of exercise instructions.
- Avoid holding your shoulder forward on the mastectomy side as this may cause the shoulder muscle to tighten.
- Your plastic surgeon will tell you when it is safe to do exercises that involve your stomach or back muscles.

Call your plastic surgeon if you notice any of the following:

- New drainage, green/yellow or foul smelling drainage from the wound lines or drain site
- Increased redness and/or heat around the wound site, or change of color over the breast and/or around the donor site
- Increased pain or swelling of the breast
- The drain falls out or does not remain compressed
- Seroma in the donor or breast site
- Temperature of 38.5°C (100.5°F)
- Calf pain, redness, pain and/or swelling or shortness of breath

Call 911 or go to an Emergency Department if you experience the following:

- Sudden severe chest pain or shortness of breath

Emotional adjustment

Losing a breast can be a devastating experience. You and your partner may go through a period of grief after the loss of your breast. Some of the emotions you may feel are anger, anxiety, fear, despair or hope, sadness or depression or acceptance. It takes time to adjust to the change in your new breast shape and sensation. Over time your new breast will begin to feel more a part of you.

- Each woman's recovery is individual, and there is no right or wrong way to cope with it. Many women with breast cancer cope by sharing their worries and feelings with family and/or friends. Other women cope by attending support groups.
- If you would like to know about patient and family counseling services, ask your doctor or the nurses for this information.

- If you feel that learning about your condition will help relieve your anxiety and fear of the unknown or if you would like information about support options, the Cancer Society has a telephone information line and volunteers will provide you with excellent information (1-888-939-3333).

Sexuality

Check with your plastic surgeon about returning to sexual activity. Some women who have had breast reconstruction surgery feel uneasy about returning to sexual activity. They worry about how their changed appearance will affect their relationship with their partner. Some men worry about making the wrong moves or saying the wrong things.

The nerve that supplies feeling to the breast and nipple is disconnected during surgery. Therefore, the feeling of pleasure from touching the breast and nipple is mostly lost. However, breast reconstruction can boost some women's feelings of wholeness and attractiveness, which may help them enjoy sex more.

Women differ about their need and readiness for intimacy. Some women feel it works best when a partner follows her lead and does not rush to start sexual activity. Many women have said that keeping romance in a relationship, as part of recovery was important as it helped make the relationship feel normal. Other women have said that they needed to openly communicate their feelings and fears to their partners to improve their partner's understanding of the situation. Some women have found that their partners go through a grieving process as well.

Clothing

You may wear a bra to provide breast support as soon as all the wounds are completely healed or soon after the surgery (decided by the plastic surgeon). Avoid wearing bras that are tight and/or have underwires. Instead, wear a loose fitting stretch bra or a sports bra that has a clasp.

Wear loose comfortable clothing for the first few weeks.

Breast self-examination and mammogram after reconstruction

It is important to check both your natural breast and your reconstructed breast each month. Check with your surgeon when to start and how to do breast self-examination on your reconstructed breast. If you want additional information about breast self-examination call the Cancer Society information line at 1-888-939-3333.

It is recommended that you have a yearly mammogram of your natural breast. Mammography is not routinely required on the reconstructed breast. It is only needed if there is a concern. Your plastic surgeon will advise you whether a mammogram is suitable for your reconstructed breast.

What is lymphedema?

Lymph nodes (glands) in the armpit are sometimes removed during breast cancer surgery (axillary node dissection). These nodes can give important information about how far the cancer has spread and can guide treatment.

Some swelling in the breast and arm area is normal during the first few weeks after axillary node dissection.

If you have ongoing tightness, aching/pain, heaviness, swelling, redness, less movement/flexibility of your arm, hand or wrist you may be developing a condition called lymphedema and should report these symptoms to your doctor.

For further information about lymphedema call the Cancer Society information line at 1-888-939-3333.

The following recommendations may help to reduce your chances of getting lymphedema:

- After surgery, position your arm on a pillow. Keep the arm raised above the level of the heart for 45 minutes two to three times a day while lying down.
- It is important to prevent infection as this could lead to lymphedema. Wash cuts, scratches or burns promptly, treat them with antibacterial medication and cover them with a bandaid.
- Use insect repellent or wear long sleeves when possible to avoid insect bites.
- If signs of infection occur after injury or insect bite (redness, pain or swelling) see your doctor for treatment as soon as possible.
- Avoid getting a sunburn on the arm. Use sunscreen or protective clothing.
- Wear gloves when gardening or oven mitts when reaching into the oven or barbecuing.
- Have blood drawn, intravenous lines, injections or blood pressure measurement on the opposite arm if possible.
- Use an electric razor with a narrow head for underarm shaving.
- Eat balanced meals and try to maintain an ideal weight.
- It is important to use your arm in everyday activities.
- When your plastic surgeon says you are ready you can include swimming and other activities to stimulate lymph drainage.

What is axillary web syndrome (lymphatic vessel cording)?

After axillary node dissection and/or radiation treatment to the axilla, a condition known as “axillary web syndrome”, hardening of the lymphatic vessels may occur. This condition is described as a stiffness or tightness in the underarm, forearm and wrist.

Fine cords (like violin strings) running down the inside of the arm and sometimes into the forearm may be noticed. Previously gained range of motion may be lost.

Axillary web syndrome usually resolves without treatment within weeks or months.

It is not recommended that the cords be snapped but rather do slow prolonged stretching (to maintain shoulder and elbow range).

Physiotherapists who provide breast cancer rehabilitation may be consulted. Call the Cancer Society’s information line at 1-888-939-3333.

Summary

The information in this booklet comes from the voices of many women who have shared with us their experience of undergoing breast reconstruction. The nurses, doctors, physiotherapists and dietitians who are privileged to care for these women compiled this booklet.

We welcome comments about the content and format of this booklet. If you would like to contribute to the booklet or have suggestions for improving the content or format, please speak to your nurse or doctor.

Resources

Breast reconstruction website

www.vch.ca/breastreconstruction

BC Nurse Line

1-866-215-4700 604-214-4700 (Vancouver)

This is a 24 hour line that puts you in touch with a Registered Nurse who will answer your questions about symptoms, health concerns, recommended course of action, when to see a health professional and further health resources.

Deaf and hearing-impaired

Toll-free province-wide: 1-866-TTY-4700

BC Cancer Agency Patient & Family Counselling Services

1-800-663-3333 (Vancouver)

1-888-563-7773 (Kelowna)

1-800-523-2885 (Fraser Valley)

Canadian Breast Cancer Network

1-800-685-8820

Cancer Society’s Cancer Information Line

1-888-939-3333.

Dial-A-Dietician

1-800-667-3438

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email pchem@vch.ca and quote Catalogue No. **FE.327.B741**
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