THE UNIVERSITY OF BRITISH COLUMBIA

Vancouver CoastalHealth

DEPARTMENT OF PLASTIC SURGERY
Breast Reconstruction Program

A Patient's Guide to

Breast Reconstruction Surgery

Expectations, Procedures & Recovery

Vancouver Coastal Health & The University of British Columbia
Division of Plastic Surgery, Breast Reconstruction

Disclaimer:

The materials within this guide are for educational and informational purposes only and should not replace the advice or counsel of a doctor or health care professional. While Vancouver Coastal Health makes every effort to ensure the content in this booklet are accurate, everyone interprets information differently and your journey may be different than what is described. Always consult with your physician or health care professional.

IMPORTANT

If you have a medical emergency, please call 911

For non-emergency information, please call 811 for Health Link BC

Both services are available 24 hours per day, 7 days per week

Contents

Introduction

This booklet will outline all the basic information you need to know and might be curious about regarding breast reconstruction surgery. In this book, you will learn more about the different types of reconstruction surgeries available including alloplastic reconstruction, or implants, autologous reconstruction, or tissue flaps, and oncoplastic reconstruction. For each option, an outline of the procedure, complications and recovery time will be discussed. You will also find information regarding nipple and areola reconstruction, revision surgeries, and some detailed information about how to care for yourself after you are discharged from the hospital. Lastly, you will find a list of additional resources that may be helpful or of use to you at any time in your breast reconstruction journey.

Note that while we try our best to ensure the information in here is accurate and reliable, your care may differ slightly depending on your unique situation and your surgeon's preferences and practices. Use this tool as a guide to educate yourself, but please prioritize advice from your surgeon.

We hope this tool will be of benefit to help you feel empowered to make informed decisions that will best suit your situation, aesthetic desires and lifestyle.

Deciding if Breast Reconstruction is Right for You

Breast reconstruction is surgery to rebuild the breast after it has undergone a mastectomy to remove tissue affected by cancer. Breast reconstruction can be done on one breast or both. The intention of the surgery is to make the new breast feel and look as natural as possible. Breast reconstruction surgery can help manage your emotions of losing a breast and move forward. It may also help to restore a sense of normalcy and is an opportunity for patients to feel like themselves after breast cancer. Some individuals decide to not undergo breast reconstruction as there are non-surgical options available including prosthetics. We suggest reviewing the information in this booklet and discussing available options with your surgeons, so you are comfortable with your decision. Our team is here to support you no matter what you decide.

Expectations

It is important throughout this journey to maintain realistic expectations. While the goal of the surgeon is to create a breast that is very similar to your breast prior to mastectomy, there are a few things to keep in mind regarding expectations. First, a reconstructed breast will never be completely identical to your original breast. And second, in most patients, sensation in the reconstructed breast will often be much less or different than the sensation in your original breast.

We encourage you to discuss your desired aesthetics, preferences and concerns with your surgeon at your consultation appointment as a means of maintaining realistic expectations for your breast reconstruction journey.

Your Consultation Appointment

Questions to Consider before & during your Consultation

1. Is breast reconstruction right for me?
2. Am I eligible for breast reconstruction?
3. Is it best for me to have reconstruction at the same time as my cancer surgery (immediate reconstruction) or waiting until my cancer treatment is complete (delayed reconstruction)?
4. Does reconstruction affect chemotherapy and radiation therapy?
5. What are the options for my reconstruction?
6. What are the risks and benefits of each option?
7. What is the recovery for each type of reconstruction?
8. Will the reconstructed breast be similar to my other breast?
9. What can I expect in the long term? What problems can arise in the future?
10. How and when is nipple reconstruction done?

Note: There is information in this booklet that will address some of these questions, as well as our FAQ document, but keep these questions in mind to discuss with your surgeon at your consultation appointment as they will be able to tailor the answers specific to your unique situation.

Your Consultation Appointment at a Glance

My plastic surgeon is: _____

My reconstruction surgery is: _____

_____

My surgery date is: _____ **Time:** _____

Questions I have: _____

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Notes: _____

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Breast Reconstruction Surgery Timeline

There are two different reconstructive pathways: immediate and delayed. The following two sections will define both timelines and outline some considerations for each. Regardless, breast reconstruction should never interfere with the treatment for breast cancer, and a suitable timeline will be discussed with you based on your treatment plan.

Immediate

Immediate breast reconstruction surgery takes place at the same time as your mastectomy surgery. That means that both your general surgeon and plastic surgeon will be at the surgery. Your general surgeon will remove the breast (or part of the breast) that is affected by cancer, and your plastic surgeon will build the new breast and complete the reconstruction.

There are some advantages to immediate breast reconstruction. One main benefit is that there are less surgeries involved. Additionally, when both the general surgeon and plastic surgeon work together, they can save breast skin, known as the skin-sparing technique. The scars are often easier to conceal using the skin-sparing technique. Another benefit is that recovery and healing from mastectomy surgery and reconstruction surgery can occur simultaneously, without the need for an additional recovery period.

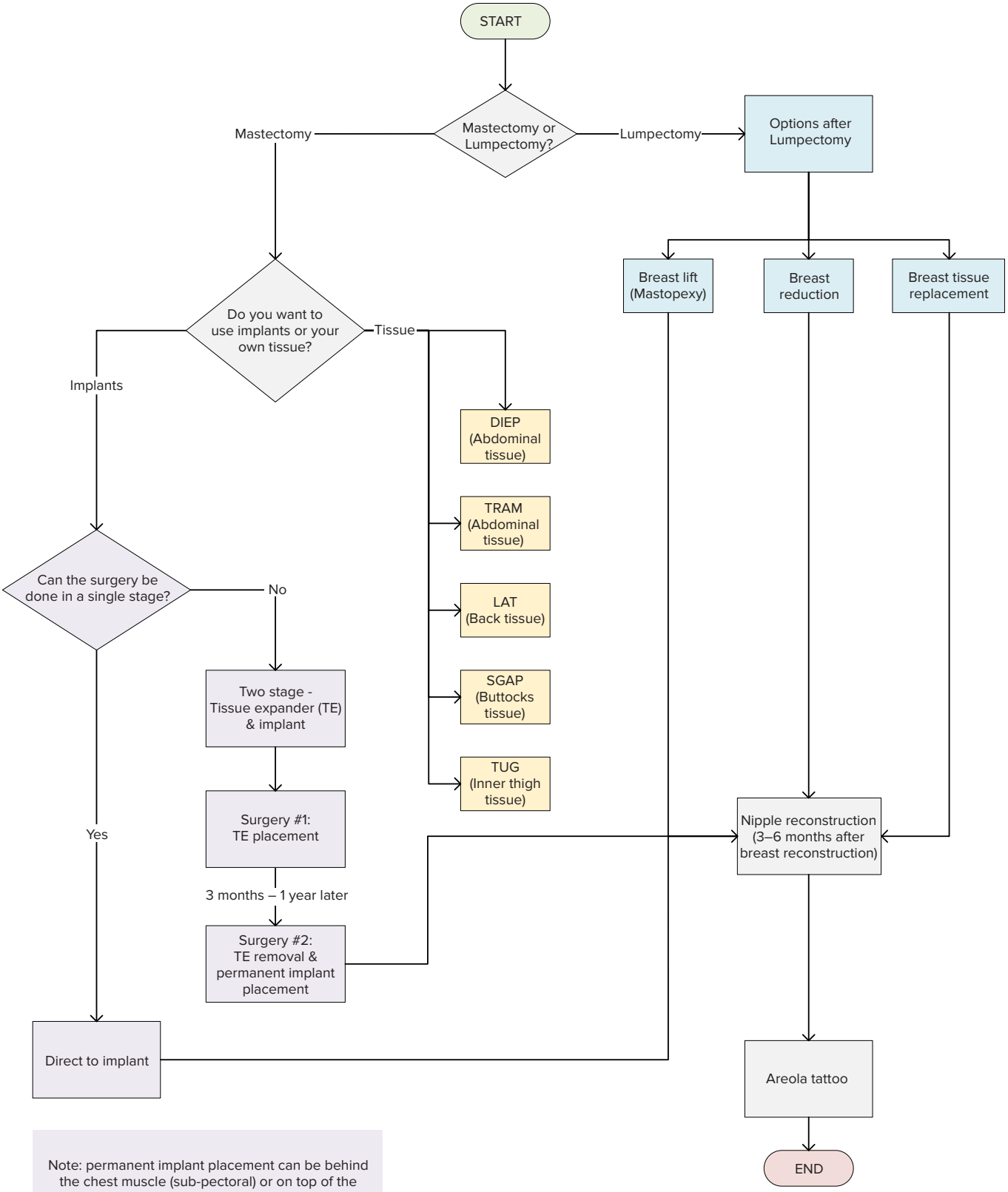
Not everyone will choose immediate surgery as the emotional and physical burden of breast cancer treatment may be enough to deal with at one time. Further, you may choose to delay your breast reconstruction if you are undecided and would like more time to consider your options. With some time to live without a breast after mastectomy surgery, you may gain some clarity regarding your desires and wishes for reconstruction, or against. Lastly, some who undergo immediate reconstruction may be more likely to compare the appearance and sensation of the reconstructed breast to their natural breast, which can lead to dissatisfaction.

Delayed

Delayed reconstruction surgery can take place months or years after your mastectomy surgery. That means that you will undergo your mastectomy surgery, and several months or years later, will undergo another surgery or two to complete breast reconstruction if you choose.

If wound healing after surgery is thought to be a concern (individuals who smoke, have diabetes, or are overweight), your surgeon may suggest delaying surgery so these factors can be addressed prior to surgery for optimal healing after surgery. You may also choose to delay your reconstruction surgery if you need more time to consider your options. However, delayed reconstruction will appear quite different to an immediate reconstruction and you should ask your surgeon to review clinical photos to illustrate this.

Breast Reconstruction Options Overview



Note: permanent implant placement can be behind the chest muscle (sub-pectoral) or on top of the chest muscle (pre-pectoral). Discuss with your surgeon about which option is best for you.

Using Implants (Alloplastic Reconstruction)

Alloplastic reconstruction is the use of breast implants for reconstructing the breast. This involves placement of an implant under or over the chest muscle (pectoralis muscle) with or without the use of acellular dermis, to create a breast mound. There may be a need for future surgery after implant reconstruction, especially as a woman ages and the appearance of the breast changes. Another disadvantage to implant reconstruction is that the size of the reconstructed breast is limited as the size depends greatly on the implants available.

Types of Implants

There are two types of implants available: silicone gel implants and saline implants.

Silicone

Silicone implants are filled with silicone gel. Silicone implants have been approved by Health Canada as the scientific evidence does not support a connection between silicone and cancer, connective tissue disease or neurologic disease.

One benefit of silicone gel implants is that they provide a softer and more natural breast shape than their saline counterparts. Rippling can be a common side effect with the use of implants and is often reduced with the use of silicone implants.

In the event of rupture, the silicone gel will sit in the capsule and will not be absorbed by your body. Because of this, a rupture may go undetected, though there is no evidence to suggest that this is a concern. Your surgeon may advise an MRI or ultrasound for surveillance in the future.

Saline

Saline implants are filled with saline (salt water). There is a slightly higher risk of rippling with saline implants and they may feel more firm than silicone. In the event of rupture, your body will absorb the saline fluid and the implant will flatten. The implant will need to be replaced in the event of rupture.

Single-Stage Procedure

Single-stage implant reconstruction can only be performed on an immediate basis, meaning that the implant will be placed at the time of the mastectomy surgery. An acellular dermal matrix (a soft connective tissue human graft generated using a de-cellularization process)will be used to cover the implant, or a portion of the implant, to facilitate incorporation and revascularization. In other words, it is used to prevent the patient's body from rejecting the implant. You can read more about the acellular dermal matrix in the glossary section at the end of this booklet. The single-stage procedure is ideal for patients who wish to have reconstructed breasts that are smaller or similar in size to their original breasts.

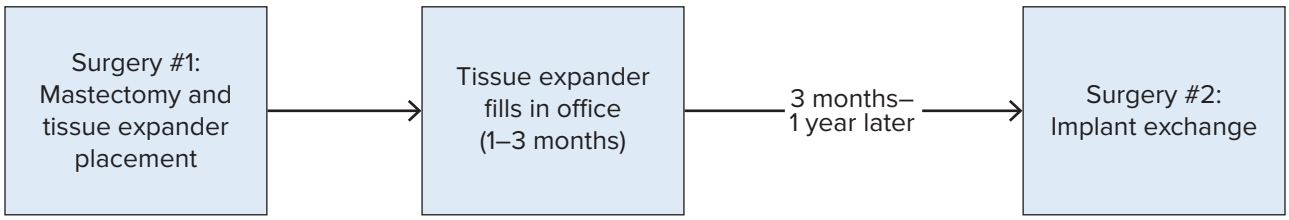
Recovery

Same day procedure, or possibly a 1-night hospital is required. A drain is required in the affected breast(s), which will be removed in the office at a follow-up appointment around 7–10 days after surgery. Patients will typically take 6 weeks off work. Exercise and heavy lifting is limited for 6 weeks. Note that sensation will be different in your chest following surgery, so we advise not using heat or cooling pads on your chest/implants as this can cause serious complications to your skin if left for too long, and/or loss of the implant.

Two-Stage Procedure

The two-stage procedure of implant reconstruction requires two surgeries. During the first surgery, a temporary implant known as a tissue expander will be placed. Tissue expanders have a port that can be accessed through the skin which is used to insert saline and inflate the tissue expander like a balloon. Tissue expanders allow us to stretch the breast to skin to create a pocket big enough to place an implant. After you have healed from surgery, your tissue expander will be accessed in the office and filled incrementally over a period of 1–3 months, depending how many fills are required to reach the desired size. Once the tissue expander is filled to the desired size, your skin needs enough time to adequately stretch before the second surgery can be done. As such, the second surgery to place the permanent implant will take place 3 months to 1 year later.

The two-stage procedure for implant reconstruction is often necessary for patients who wish to have breasts larger than their original size, patients whose breasts after the mastectomy will not be adequate size for implant placement, and for those who do not have good blood flow to the skin following cancer excision.



Recovery

Same day procedure, or possibly a 1-night hospital stay is required for the first procedure. A drain is used in the affected breast(s) for fluid collection. The drains are removed in the office at a follow up appointment around post-operative day 7–10, once the fluid collection amount is <20-30mL in 24 hours. Patients will require some time off work with the length varying based on numerous factors, including type of work and how recovery is going. The second surgery is typically quicker, drains are not required, and patients are often able to return home after surgery. Exercise and heavy lifting is limited for 6 weeks following both surgeries. Note that sensation will be different in your chest following surgery, so we advise not using heat or cooling pads on your chest/implants as this can cause serious complications to your skin if left for too long, and/or loss of the implant.

Complications

The following is a list of complications that are association with alloplastic/implant reconstruction. The glossary of terms at the end of the booklet will define each of the complications and explain the incidence rates.

- Capsular contracture
- Mastectomy flap necrosis
- Seroma
- Wound healing complications
- Implant malposition, displacement or rupture
- Hematoma
- Infection
- Deep Vein Thrombosis (DVT)
- Pulmonary Embolism (PE)

Using Your Own Tissue (Autologous Reconstruction)

Autologous reconstruction involves using your own tissue from elsewhere on the body and transplanting it to the chest to create a breast. The procedures tend to be longer, with longer recovery periods as well. The varying options differ mainly in which part of the body the tissue will be coming from, and whether the tissue will need to be connected to a new source of blood supply or if the original source of blood supply can be used. Please note that not everyone will be a candidate for each of these procedures; a patient needs to have sufficient tissue at the donor site to be eligible. Your surgeon will examine you at your consultation appointment to determine which procedures will suit your unique situation.

For patients that live out of town, it is recommended to stay in Vancouver for at least two weeks after surgery so that the team can address any complications that may arise from surgery.

DIEP Flap

The deep inferior epigastric perforator flap, or DIEP flap, is a procedure in which tissue is taken from your abdomen and transplanted to the chest wall to form the breast mound. Because tissue is being taken from the abdomen, you get the "added bonus" of a tummy tuck. The tissue between your belly button and pubic bone is removed and dissected, leaving the rectus muscle intact. The dissected flap consists of skin, fat and one blood vessel, and is then transferred to the chest. The surgeon will attach the blood vessel on the flap to internal mammary vessels which will allow for a new source of blood supply to the flap. Because the rectus muscle is left intact, the risk of a hernia or bulge is significantly reduced. The patient will have a scar around the belly button, across the abdomen at the level of your hips, and varying scars on the breast.

The procedure is typically 5–10 hours in length, or longer if both breasts are being reconstructed.

Complications

- Flap failure (due to blood clot)
- Hematoma
- Infection
- Wound healing complications
- Seroma
- Deep Vein Thrombosis (DVT)
- Pulmonary Embolism (PE)
- Umbilical necrosis

Recovery

A hospital stay of 3–5 days is required. The nurses will monitor the flap's blood supply closely while the patient is admitted to the hospital. Patients will have 2 drains in the abdomen, and one in each affected breast, which are typically removed 7–10 days after surgery at a follow up appointment in the office. It may be beneficial to have someone at home with you for the first 2 weeks that you are home to help you with basic tasks. Exercise and heavy lifting should be avoided for 6 weeks following surgery. The recovery recommendations will differ slightly depending on your surgeon, including bra and binder use, use of mobility exercises and restrictions on activity – please ensure you follow the guidelines that are provided to you.

TRAM Flap

The transverse rectus abdominis muscle flap, or the TRAM flap, is like the DIEP flap procedure, with the exception that part of the rectus muscle is taken as well. Fat, muscle, and skin will be removed from your lower abdomen and transplanted to the chest to create the breast mound. Occasionally the blood supply from the abdomen can be preserved. If not, your surgeon will attach the flap's blood vessels to a source of blood supply in the chest. The TRAM is a good option for those with comorbidities and those who lead a less active lifestyle as the procedure is shorter. The TRAM flap procedure can also be used if there is a need for greater blood supply.

Complications

This procedure takes 3–4 hours, depending on if one breast is being reconstructed or both.

- Seroma
- Hematoma
- Wound healing complications
- Fat necrosis
- Deep Vein Thrombosis (DVT)
- Pulmonary Embolism (PE)
- Infection
- Flap failure (due to blood clot)
- Abdominal herniation/bulge

Recovery

A hospital stay of 3–5 days is required. Drains are required in both the abdomen and the affected breast(s) and are typically removed in the office at a follow-up appointment 7–10 days after surgery. You may want to have someone at home with you for the first 2 weeks to help you with basic tasks. You may notice tightness, pulling and numbness in the abdominal area following this surgery which will typically improve over the course of 3 months, though the numbness may last longer. Exercise and activity should be limited for 6 weeks following surgery. Overall recovery and recommendations may vary slightly depending on your surgeon so be sure to follow the instructions provided to you for optimal healing.

LAT Flap

The latissimus dorsi flap, or LAT flap, is a procedure in which the skin, fat, and latissimus dorsi muscle are taken from the back to create the breast mound. Unlike in the DIEP procedure, the flap that is taken in the LAT procedure stays connected to the body for the duration of the procedure and the blood supply remains connected to its original source. Some patients will not have enough tissue to create an entire breast, and therefore an implant may need to be used in conjunction with the LAT flap procedure. Patients are left with a scar on their back along the bra line, and on the breast.

The procedure is 4–8 hours in length depending on if both breasts are being reconstructed or just one.

Complications

- Deep Vein Thrombosis (DVT)
- Pulmonary Embolism (PE)
- Seroma
- Hematoma
- Wound healing complications
- Mastectomy flap necrosis
- Implant related complications
- Infection
- Flap failure (due to blood clot)

Recovery

A hospital stay of 2–4 days is required. Drains are used in the back as well as the affected breast(s) and are usually removed around 7–10 days after surgery in the office at a follow up appointment. Exercise and heavy lifting should be avoided for a period of 6 weeks. Plan for 6 weeks off work. Initially, you might notice reduced strength (up to 30% reduction) with activities that require you to reach overhead, lifting groceries, and so forth. However, over the next 6 months to a year, your muscles will adapt and strength will return to normal. Your surgeon will provide you with specific recovery guidelines prior to your surgery which are important to follow for optimal healing.

SGAP Flap

The superior gluteal artery perforator flap, or the SGAP flap, is a procedure in which skin and fat are taken from the upper buttocks and then transferred to the chest wall to create the breast mound. The blood vessel from the donor flap is attached to the mammary artery in the chest allowing for blood supply to the flap. This procedure is technically complex and is often reserved for patients who are not candidates for the DIEP, LAT or TRAM procedures.

This surgery takes 8–10 hours.

Complications

- Deep Vein Thrombosis (DVT)
- Pulmonary Embolism (PE)
- Infection
- Hematoma
- Seroma
- Fat necrosis
- Flap failure (due to blood clot)
- Mastectomy flap necrosis
- Wound healing complications

Recovery

A hospital stay of 3–5 days is required, with nurses checking the flap frequently to ensure adequate blood supply. For the first two days in hospital, patients must lay flat in bed to prevent any pressure or tension on the buttock incision. A drain is required in both the buttock and the affected breast(s) which are usually removed on post-operative day 7–10 at a follow-up appointment in the office. It may be beneficial to have someone at home with you for the first two weeks following surgery to help you with basic tasks. For two weeks following surgery, flexion of the hips needs to be minimized. Exercise and heavy lifting should be avoided for 6 weeks following surgery, at which point you can return to work.

TUG Flap

The transverse upper gracilis flap, or TUG flap, is a procedure in which the skin, fat, and muscle from the inner thigh is removed and transplanted to the chest wall to create the breast mound. The flap is attached to the mammary artery for blood supply. Liposuction of the opposite thigh is often required to achieve symmetry. Patients are left with scars on the breast(s) and on the inner thigh along the bikini line.

This surgery is 4–8 hours in length depending on if one breast is being reconstructed or both.

Complications

- Seroma
- Fat necrosis
- Hematoma
- Wound healing complications
- Mastectomy flap necrosis
- Flap failure (due to blood clot)
- Infection
- Pulmonary Embolism (PE)
- Deep Vein Thrombosis (DVT)

Recovery

A hospital stay of 3–5 days is required with nurses checking on the blood flow to the flap frequently. Patients will have a drain in the thigh, as well as the affected breast(s) which will be removed at a follow-up appointment in the office 7–10 days after surgery. Similar to the SGAP flap procedure, patients must lay flat for 2 days following surgery to prevent tension and pressure on the inner thigh incision. Flexion of the hips must also be minimized for a period of 2 weeks following surgery. Exercise and heavy lifting should be avoided for a period of 4–6 weeks. It may be beneficial to have someone at home with you for the first two weeks following surgery to help you with basic tasks. Patients should plan for 6 weeks off work.

Oncoplastic Reconstruction

Oncoplastic reconstruction is an option for those who have a lumpectomy, which is the removal of part of the breast to treat breast cancer, rather than a mastectomy which removes the entire breast. After a lumpectomy, there may be some asymmetry or contour abnormalities and oncoplastic reconstruction techniques can be used to reduce these aesthetic abnormalities, especially in individuals with larger breasts. Typically, the reconstruction occurs during the same surgery as the lumpectomy.

Oncoplastic Techniques

There are two categories of oncoplastic reconstruction: breast tissue rearrangement (including the breast lift and breast reduction) and breast tissue replacement. After your consultation appointment and review of the lumpectomy plans, your surgeon can make recommendations for oncoplastic reconstruction that will best suit your situation while considering your goals. If only one breast is affected by the cancer, the other breast can be modified to match if you desire.

Breast Lift (Mastopexy): after the tumor is removed, the remaining breast tissue is rearranged to improve the breast shape and position on the chest. This is an option for those who do not want to significantly change the size of their breast but want to improve the shape.

Breast Reduction: after the tumor is removed, additional breast tissue is also removed to reduce the overall size of the breast and improve the shape and position on the chest.

Breast Tissue Replacement: after the tumor is removed, the remaining breast tissue and additional non-breast tissue from the chest is used to fill the space. This is an option for those who want to keep their original breast size and improve the shape. This option does require additional scars along the chest where the additional non-breast tissue is taken from.

Complications

- Breast/nipple asymmetry
- Seroma
- Hematoma
- Nipple sensory change
- Infection
- Nipple necrosis
- Deep Vein Thrombosis (DVT)
- Pulmonary Embolism (PE)
- Wound healing complications

Recovery

A shorter hospital stay, or even no hospital stay, may be required depending on the extent of your surgery, or you may get to return home after surgery. Drains may not be required. Exercise and heavy lifting should be avoided for a period of 6 weeks following your surgery.

Nipple & Areola Reconstruction

Nipple reconstruction typically occurs 3–6 months after the initial breast reconstruction, allowing sufficient time for your body to heal from the previous surgery, and allowing the breast mound to settle into its final shape and position. It is important to note that in most cases, the sensation in the reconstructed nipple will be different than that of a natural nipple.

Techniques

Nipple flap reconstruction: the nipple flap reconstruction technique is a minor surgery that involves reforming a small portion of the breast skin to create a protruding nipple.

Nipple sharing reconstruction: the nipple sharing reconstruction technique can be used if a woman still has one of her natural nipples. The procedure involves using half of the natural nipple and transplanting it onto the contralateral breast.

Nipple & areola tattoo: the nipple and areola tattoo would be performed by a tattoo artist that specializes in nipple and areola tattooing. With use of colour and shading, the tattoo artists can achieve a 3D appearance. The clinic can provide you with information on recommended tattoo artists if this is something you are interested in.

Revision Surgeries

Revision surgeries are sometimes required to address complications from the original surgery or to achieve better symmetry. Scar revisions can also be done in some cases. Various techniques and methods can be used depending on what the area of concern is. Make an appointment with your plastic surgeon if you'd like to discuss any concerns and possibilities for revision.

Preparing for Surgery

As you have read previously, activity often needs to be restricted for the first few weeks after returning home from surgery, and you will likely need some help with basic tasks. There are some things you can do at home to make things easier upon your return.

- Do the laundry
- Put clean sheets on the bed
- Move things you use often within waist height to avoid reaching and bending down
- Move things you use often within reach of where you will be recovering
- Buy groceries and prepare some meals as grocery shopping and cooking may be challenging
- Arrange to have someone at home to help you with tasks, take care of your children, pets and loved ones if necessary

You can have solid foods up until 6 hours prior to surgery, and clear liquids (apple juice, water, etc.) up until 2 hours prior to surgery. Make sure that you follow these guidelines as otherwise your surgery could be delayed.

Going Home

This section of the booklet will outline some important details about caring for yourself after the surgery. Before you leave the hospital, you should have:

- Discharge instructions
- An outpatient appointment with your surgeon within one week of discharge
- Prescriptions for pain medications, nausea medications and antibiotics if necessary

Jackson-Pratt (JP) Drain Care

The drain is held to your skin with a stitch and a bandage placed over top. It is normal for small amounts of fluid to leak onto the bandage; you can change the bandage as needed. You cannot shower while the drains are in place.

Your nurse will show you how to empty your drain prior to leaving the hospital. You will be asked to empty the fluid in the bulb twice daily and record the amount of fluid. You will be given a container to empty the fluid into for measuring purposes. At the end of this booklet is a record sheet you can use to keep track of the fluid you are emptying each day.

Use these directions to empty the fluid:

1. Strip the tubing of any clots by pinching the tubing at the point closest to the insertion site with one hand and using your other hand to gently slide your fingers down the tubing to push clots into the bulb. You may consider using a Kleenex to strip the tubing to reduce friction.
2. Open the stopper on the drain, which will cause the bulb to expand. Ensure you do not touch the inside of the stopper or the inner area of the bulb to reduce any risk of infection.
3. Turn the bulb upside down, and gently drain the fluid into the container you were provided.
4. Turn the bulb right side up and squeeze the sides of the bulb to remove as much air as possible.
5. Continue to squeeze the bulb as you close the stopper.
   Important: if the bulb is left inflated with air when it is sealed, it will not function and drain properly which could cause a fluid collection.
6. Note the date/time and amount of fluid in the container on the record sheet provided to you.
7. Discard the fluid in the toilet and rinse out the container.
8. Repeat steps twice daily and add the volumes at the end of each day for a 24-hour total.
9. Repeat these steps for each drain (if you have more than one).

Dressings & Wound Care

It is common for your dressings to have a small amount of fluid or blood on them following surgery. Do not remove any dressings from your surgeries while you are at home; your plastic surgeon will remove the dressings at your follow-up appointment to determine how the incisions are healing. They will provide further direction at that appointment, indicating if further dressings are required or if the incisions can be left open to air. Silicone tape can be used for scar management and can be purchased from your plastic surgeon's office; your plastic surgeon will let you know when you can start using the silicone tape.

Around 4–6 weeks post surgery, if you notice a small pinpoint hole along your incision line, or something that resembles a pimple, this could be a stitch abscess. Stitch abscesses are nothing to worry about and just your body attempting to get rid of a dissolving stich. Apply a warm compress to the skin twice/daily and it will resolve. Contact your surgeon if there is increasing redness or the area opens more.

Pain & Comfort

Pain after surgery can be expected. Your plastic surgeon will provide you with a prescription for pain medication to take at home. We advise taking pain medication regularly for the first few days following surgery. You may experience nausea post-operatively as well; your surgeon may provide a prescription, or it is a good idea to take Gravol at home to help with this.

Capsular Contracture

Capsular contracture is a complication that can occur with implants and tissue expanders in which the capsule/scar tissue that has formed around the expander or implant inside the breast hardens and tightens. It may cause pain, look tight and feel tight. These symptoms are common and do not need to be addressed immediately. However, if you notice redness on the breast(s) or significant swelling of the breast(s), please make an appointment with your plastic surgeon to address the concerns right away.

Compression Garments

Compression garments are required post-operatively for most surgeries to support the breast(s) and reduce swelling. The length of time you will need to wear your bra will vary depending on your surgeon. There are a variety of compression garments available; you can get fitted for one and purchase through your clinic, or we can provide you with a list of recommended options. If you have extended health benefits, we encourage you to check coverage eligibility as sometimes the cost will be covered.

Seeking Help

IMPORTANT: If you have any of the following symptoms after your breast reconstruction surgery:

- **Daytime hours:** call your plastic surgery clinic
- **After hours:** call the plastic surgeon on call at VGH (604-875-4111) or go to your nearest emergency department

- Increased redness or swelling around the wound or drain site, or if it is warm to touch
- Increased drainage or bleeding around the wound or drain site
- If your drain becomes loose or comes out
- Fever (38 degrees Celsius) with chills lasting more than 4 hours
- Unusual “pus-like” drainage (usually foul smelling, and yellow or green in colour) from your incision
- Increased pain that is not managed by the pain medications prescribed
- Your tissue flap is dark/black/purple or your tissue flap is very pale and cool to touch as these could both be indications of blood supply issues. Your flap should be pink and warm.
- Chest tightness or difficult breathing

Call 911 immediately if you have any of the following symptoms after your breast reconstruction surgery:

- Severe bleeding
- Shortness of breath
- Sudden or severe chest pain
- Sudden onset of feeling faint or dizzy

Glossary of Terms

Abdominal Hernia/Bulge: this occurs when the abdominal wall is weakened and the intestines push outwards, creating a protrusion in the abdomen. Surgery may be required to repair the hernia/bulge depending on the severity.

Acellular Dermal Matrix: cadaver skin that has been processed to remove all human components that is used to promote incorporation and revascularization. It can also be used to recreate the breast shape and allows more flexibility with implant placement as with the use of acellular dermal matrix, implants can be placed on top of the chest (pectoralis) muscle.

Breast/nipple asymmetry: when the bilateral breasts or nipples are not symmetrical. Incidence: 1-5%.

Capsular contracture: this occurs when scar tissue forms around the implant and causes tightening and hardening, which can cause a change to the implant shape. It can occur within months or years after reconstruction and in some cases, the implant will need to be replaced. The risk of capsular contracture increases in patients that have had prior radiation. Incidence: 20-30%.

DVT: a DVT, or deep vein thrombosis, is when a blood clot forms in your leg during surgery. Signs and symptoms are swelling, redness and heat to the leg. Anticoagulant medications (blood thinners) are prescribed to treat this complication, and usually need to be taken by the individual for 3 months. Incidence: 0.07-3.5%.

Fat necrosis: this occurs when blood supply to the flap's fat is not adequate, causing the fat to die and harden. Sometimes this feels like a hard lump in the breast and may be triggering to patients. Incidence: 8-15%.

Flap failure: this occurs when a clot forms in the blood supply to the flap, causing the flap to die. This requires an urgent return to the operating room, either to repair the blood supply or in some cases, requires removal of flap. Incidence: 1-2%.

Hematoma: a hematoma occurs when there is bleeding under the skin. If the bleeding is severe, an additional surgery may be required to stop the bleeding. Incidence: 5%.

Implant malposition, displacement or rupture: in the event of malposition, displacement or rupture, an additional surgery may be required to revise the current implant or replace it with a new one. Mammograms, MRI and ultrasound can be used to investigate a suspected rupture though surgical intervention is required for confirmation that a rupture has occurred.

Infection: infections after breast reconstruction surgery are rare, but they do happen. Antibiotics will be prescribed to treat an infection that occurs. If antibiotics are unsuccessful and infection persists, the implant may need to be removed. The team would often advise delaying any further reconstruction surgery for a minimum of 3 months to allow the infection to resolve and the body to heal. Incidence: 1-2%.

Mastectomy flap necrosis: mastectomy flap necrosis occurs when the blood supply to the breast skin that is left behind after mastectomy, and may cause death of some tissue. Additional dressing changes, another surgical procedure or a skin graft may be required. Incidence: 15%.

Nipple necrosis: nipple necrosis occurs when the blood supply to the nipple is insufficient and the nipple dies. Incidence: 1%.

Nipple sensory change: during surgery, some of the nerves to the nipple may be affected, which could result in a sensory change to the nipple. Incidence: 10%.

PE: a PE, or pulmonary embolism, is when a blood clot forms in the lung during surgery. A DVT can also break apart, causing smaller clots to travel through the blood stream to the lungs. A PE is rare, though a very serious complication as it can disrupt or completely sever blood supply to the lungs, which can be fatal. Anticoagulant medication (blood thinners) would be prescribed for 3 months if a patient has a PE that is treatable. Incidence: 0.09-2%.

Seroma: a seroma is a collection of fluid that occurs under the wound. Depending on the severity, the fluid may to be drained, which can be done in the office. Incidence: 15%.

Umbilical necrosis: this occurs when the umbilical (belly button) tissue dies. Incidence: <1%.

Wound healing complications: wound healing complications can vary from infection to dehiscence (opening of the stitches). There are some factors that put individuals at a higher risk of these complications such as a weakened immune system (after chemotherapy), and smoking. Incidence: 10%.

MSP/Cost Coverage Information

For individuals who wish to pursue breast reconstruction due to a breast cancer diagnosis, BRCA/gene mutation, or other illnesses/conditions that may require a mastectomy/lumpectomy, the cost of initial breast reconstruction surgery, as well as any revisions that are required, are covered by MSP. Elective surgeries and unnecessary revisions are not covered by MSP and will be at the cost of the individual.

Compression garments required after surgery are not covered by MSP, however many extended health benefit plans will provide some coverage. Please check the details of your extended health to determine if you are eligible for reimbursement; our surgeons are happy to provide a "prescription"/note if needed indicating the necessity of the garment after surgery so you can submit the claim.

If you are unsure whether or not something will be covered by MSP, we advise discussing with your surgeon as they are able to advise which surgeries are covered by MSP and which are not.

Drain Record-Keeping Sheet

Date	Drain #1	Drain #2	Drain #3	Drain #4
	Time: mL: ______ ______ ______ ______ 24HR total: ______	Time: mL: ______ ______ ______ ______ 24HR total: ______	Time: mL: ______ ______ ______ ______ 24HR total: ______	Time: mL: ______ ______ ______ ______ 24HR total: ______
	Time: mL: ______ ______ ______ ______ 24HR total: ______	Time: mL: ______ ______ ______ ______ 24HR total: ______	Time: mL: ______ ______ ______ ______ 24HR total: ______	Time: mL: ______ ______ ______ ______ 24HR total: ______
	Time: mL: ______ ______ ______ ______ 24HR total: ______	Time: mL: ______ ______ ______ ______ 24HR total: ______	Time: mL: ______ ______ ______ ______ 24HR total: ______	Time: mL: ______ ______ ______ ______ 24HR total: ______
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Date	Drain #1	Drain #2	Drain #3	Drain #4
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Date	Drain #1	Drain #2	Drain #3	Drain #4
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Making better
decisions together
with patients
and families

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