Breast Reconstruction

An information booklet for women who are thinking about having breast reconstruction surgery

Breast reconstruction is a personal choice. This booklet gives you information to help you decide what’s right for you. Please use it along with information you get when you meet with your plastic surgeon.

Read this booklet to learn more about:

- What breast reconstruction is
- Most common techniques used
- What to expect
- Where to find more information

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Breast reconstruction is surgery that most women can have to make a new breast shape after a mastectomy (removing the entire breast). A woman could also have breast reconstruction as part of treating breast cancer with surgery or as a way to prevent breast cancer when they test positive for BRCA gene.

Although breast reconstruction is optional, it can have many benefits. It can increase your confidence and self-image after mastectomy. You can have breast reconstruction at the same time as you have breast cancer treatment. Or, you can have it while watching for a return of cancer.

The decision is yours. It's important to know that not all types of reconstruction are possible for everyone. Depending on your body type and past treatments, you and your surgeon will decide what type of reconstruction is right for you.

This booklet provides you with important information as you think about your options. You will learn more about:

- how breast reconstruction works
- what types of reconstruction we do
- what most women can expect in terms of recovery and results
Many women ask:

- What does a reconstructed breast look and feel like?
- Will it look the same as before cancer surgery?
- Will it match my other breast?
- Does the nipple have feeling?

There are many types of breast and nipple reconstruction, but none of them will be able to give you back the exact same breast that you had before.

After a mastectomy, only muscle and a thin layer of skin remain. So your surgeon will make a new breast for you.

The breast often feels and looks different from the original breast and you may need to have other surgeries to make it look more like the other breast.

Also, most women have less feeling on the skin of their chest after a mastectomy. Nerves that were removed cannot be replaced and the loss of feeling lasts. But, most women who have breast reconstruction say they feel whole and feminine again. They can also stop wearing a breast prosthesis.
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Who can have breast reconstruction?

Breast reconstruction is possible for most women who had their whole breast removed or just some of the breast tissue and/or nipple removed.

If you have had or need radiation therapy to the breast, it may affect the type of reconstruction you can have and when you can have it.

Some patients need chemotherapy after their mastectomy. This can also affect when you can have your reconstruction.

This picture shows a total mastectomy of the right breast.
3 main steps in breast reconstruction:

1. Creating a new breast shape.

2. Making small changes to the new breast, and possibly changing the other breast to match it (such as doing a lift or reduction). This is optional and happens after a mastectomy of one side.

3. Creating a new nipple and areola in the new breast. This is optional.

Your options for breast reconstruction

3 types of breast reconstruction

1. Using a breast implant filled with silicone gel to make the new breast shape. Read pages 7 to 11.

2. Using your own tissue to make a new breast shape (autologous reconstruction). Read pages 12 to 16.

3. Using your own tissue from your back and an implant to make a new breast shape (Latissimus Dorsi flap and implant). Read pages 17 and 18.

Your plastic surgeon and the surgery team will talk with you about the 3 types of breast reconstruction. They will help you decide which one is best for you.
Things to think about

When to have breast reconstruction

You can have reconstruction at the same time as your breast cancer surgery (immediate) or at a later time (delayed).

Your decision may depend on the type of breast cancer you have and the stage of your breast cancer. You and your breast surgeon will make this decision together. In many cases, immediate reconstruction is a reasonable and safe choice.

Immediate reconstruction

An immediate reconstruction is done at the same time as the mastectomy. Some women find that immediate construction helps them cope better with the negative feelings they have about losing a breast.

Immediate reconstruction has been shown to be safe for many women. If you are interested in this choice, talk to both your breast surgeon and plastic surgeon. If you may need radiation therapy, they may advise you to wait until the radiation treatment is finished.

Delayed reconstruction

Delayed reconstruction can be done a few months or even years after the mastectomy and other cancer treatments are finished. Usually, we wait at least 6 months after the surgery or radiation therapy before doing breast reconstruction. This allows time for the chest skin to heal properly.
1. Using an implant to make a new breast shape

This surgery is done in 2 steps.

Step 1

- The surgeon puts a saline-filled (salt water) tissue expander under the skin and muscle of the chest.
- Part of the skin and some breast tissue is removed.
- Usually the surgeon needs to stretch the skin and chest muscle before putting the permanent breast implant in.
- The temporary implants (called tissue expanders) are slowly inflated using needles with saline.

This picture shows a temporary implant (tissue expander) under the chest muscle to prepare the skin for a permanent breast implant.

A needle with saline (salt water) is put into the tissue expander to slowly stretch the muscle and the skin on the chest.
Step 2

• After 8 to 12 weeks, the surgeon takes out the temporary implant and puts a permanent implant in its place. The expanded skin is now made into the final breast shape.

Between steps 1 and 2, you need to come to the clinic every 2 weeks. During each visit the surgeon inflates your temporary implant with saline. This creates a space (or pocket) to make room for the permanent implant. You do not need to stay overnight at the hospital for this procedure.

You may want to reduce or lift the opposite breast at the same time. Talk to your surgeon about this.

If you had radiation therapy or you need radiation therapy, the surgeon usually does not recommend this option.
How long it takes for the tissue to expand

<table>
<thead>
<tr>
<th>Healing for the incision</th>
<th>Expansion</th>
<th>Rest time for your skin</th>
</tr>
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<td>2 weeks</td>
<td>8 to 12 weeks</td>
<td>at least 3 to 6 months</td>
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When the tissue expander is put in

Exchange for permanent implant

A new technique: One-stage implant reconstruction using Acellular Dermal Matrix

We are now studying a new technique called acellular dermis (AlloDerm®, Lifecell Corp). Unlike the 2 steps involved in implant (expander) reconstruction, this technique involves one surgery using donated human skin.

This picture shows after the Alloderm 1-step implant reconstruction.
Alloderm is approved by Health Canada for breast reconstruction but is available only in a few centres in Canada. We are now asking patients if they want to take part in research that compares how well Alloderm works compared to the 2-step tissue implant (expander) reconstruction. If you are having immediate breast reconstruction, talk to your surgeon about this option.

**About breast implants**

**What are implants?**
Saline implants are plastic shells made of silicone and filled with salt water. Reconstructions using permanent saline implants tend to make the new breast look and feel unnatural. They only last about 10 years, which is shorter than silicone implants. Except for certain cases, we usually do not recommend using saline implants for permanent breast reconstruction.

**Are they safe?**
Although there were questions about the safety of silicone gel implants in the 1980s, many trustworthy studies published since then have found them to be safe. Both saline and silicone gel implants are safe and can be used in Canada. Also, the chance that an implant would be rejected by the body is very low.
What are the common side effects?

**Pressure or tightness in the chest**
- You may feel pressure or tightness in your chest when the surgeon adds the fluid by needle. Remember: the amount of fluid in your permanent implant will be less than the amount in your tissue expander.

**Capsular contracture**
- The breasts slowly get harder with the silicone or gel implants. This happens because the body usually forms a layer of scar tissue around a foreign object (the breast implant). This is called capsular contracture.

  In most women, the scar tissue stays soft. But 1 in 10 women (10%) have thicker skin than usual and a hard and painful breast. In these cases, surgery may be needed to help with the symptoms.

**Other complications:**
- infection (about 4 out of every 100 women)
- implant not in the right position (about 3 out of every 100 women)
- wrinkling skin (about 2.5 out of every 100 women)

In general, a new breast created by an implant will feel harder than a natural breast. It will always feel different than a natural breast.
2. Using your own tissue to make a new breast shape (Autologous)

Your surgeon may be able to use your own body tissue to make a new breast. This is called a **flap reconstruction**.

The surgeon can do the reconstruction by:

- Using skin, fat and muscle from your abdomen (DIEP flap)
- Using a flap from your abdomen (TRAM flap)
- Using fat and skin from the buttock (Gluteal free flap)
- Using fat, skin and muscle from the thigh (TMG)

**DIEP flap**

This new way of doing breast reconstruction uses your own skin and fat in the abdomen (stomach area) to make a new breast shape. We use blood vessels and the fat and skin from your lower abdomen.

The advantage of this surgery is that the muscles from your abdomen stay together. This keeps the abdominal wall stronger after your surgery.
TRAM flap

TRAM flap uses the abdominal fat, skin and some of the abdominal muscle to create the new breast shape. The decision to take a little or all of your muscle is made during your surgery and depends on your body type.

During the free TRAM or DIEP flap, the surgeon takes skin, fat (with or without muscle) and moves it to the chest to make a new breast shape.
What are the risks?
In every 1 to 3 patients out of 100, the abdomen tissue that is moved to the chest does not reconnect. If this happens, the reconstruction does not work. This means you will need to do another type of breast reconstruction later on.

These flap surgeries may not work for you if you smoke, are very overweight or you have diabetes or clotting disorders.

What to expect:

Look and feel of the new breast
- The new breast shape has a natural feel and look.
- The new breast lasts forever.
- The new breast will be fully built into your body so as your body weight changes, it will change too — just like a natural breast.

Scar
- The scar goes from side to side above your pubic hairline.
- This surgery removes extra skin and fat from your stomach, but it will not make your stomach flat. The reason for this surgery is to reconstruct the breast after cancer surgery, and not flatten the stomach.

Recovery
It takes about 8 weeks to recover from DIEP or TRAM.
- While most of the pain goes away in the first 2 weeks, the feeling of being very tired lasts for the full 8 weeks.
- It's common for the skin in the stomach area to feel full, tight or numb. These symptoms will get better over time, but it may take up to 6 months or more.
What are the risks for DIEP or TRAM?

Bulge or hernia

- In about every 5 out of 100 women (5%), especially those who need both breasts to be reconstructed, there is a higher chance of getting a bulge or hernia in your abdomen after the abdominal flap procedure. The risk of this is higher for the TRAM flap than the DIEP flap.

- Your surgeon will tell you what to expect in case of a bulge or hernia.

Fat necrosis

- Sometimes after a DIEP or TRAM flap, fat necrosis can happen in the new breast. That is when the fat from the flap does not get enough blood and forms a scar. It will look and feel like a hard lump under the breast skin. This can be scary for some patients who think that their breast cancer has come back.

- Your plastic surgeon can usually tell the difference between fat necrosis and cancer recurrence when they examine you. If there is any doubt, you will have a needle biopsy or a breast x-ray to make sure.
Gluteal free flap

Your surgeon may not be able to use the flap in your abdomen if you don’t have enough fat or you have scarring from past surgeries.

This type of reconstruction has limits on the size of breast. But, the new breast shape will be softer and have a more natural shape than an implant.

Taking tissue from the buttock leaves a dent in that area that you can notice when you wear clothes. It also leaves a scar.

TMG (Thigh free flap)

Your surgeon uses microsurgery (surgery done with a high powered microscope) to take the Transverse Myocutaneous Gracilis (TMG) flap from the inner thigh to create a smaller sized breast. The blood vessels are reconnected to provide the blood supply to the transplanted tissue or newly created breast. There is almost no change in shape in the inner thigh after this surgery.

In both the buttock and thigh flaps, the surgeon cannot take a lot of skin, so these surgeries are mostly used for immediate breast reconstruction.

The buttock and thigh flaps are very difficult so the chance that they won't work is higher. In about every 3 to 7 people out of 100, all of the tissue will be lost is greater in a TRAM or DIEP flap.
What is the latissimus dorsi flap?

The latissimus dorsi flap is a muscle in your back, under your shoulder blade.

What happens during this reconstruction surgery?

This type of breast reconstruction uses a smaller tissue expander or implant with your own tissue to make a new breast shape. This is because of the smaller size of your back tissue.

Your surgeon takes part of this flap from the upper back and moves it underneath the skin to the chest. But there is usually not enough flap to make the new breast shape by itself.

The surgeon then uses either a tissue expander or implant to stretch the muscle and skin from the back. Later you can replace the tissue expander with a permanent implant.
This picture shows the new breast shape after using tissue from the back (latissimus dorsi) with implant reconstruction.

This type of surgery may work for you if you had:
- a mastectomy on one of your breasts and radiation
- your surgeon says you should not have a TRAM, DIEP, TMG or gluteal flap

You should not have this surgery if you do a lot of activities where you have to move your arms over your head.

How to choose what type of reconstruction is right for you

The type of reconstruction you choose depends on:
- Size and shape of your breasts
- One or both breasts removed
- How much body tissue you have in other parts of your body such as your abdomen, thigh, and buttock
- Whether you had radiation therapy or need it.

Your plastic surgeon will recommend one or more options based on these factors. It is important that you understand the benefits and drawbacks of each method. The table on page 19 compares the different types of implant and tissue reconstruction.
Comparing different types of breast reconstruction

<table>
<thead>
<tr>
<th></th>
<th>Implant and expander</th>
<th>Autologous tissue</th>
<th>Latissmus Dorsi and expander</th>
</tr>
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<tbody>
<tr>
<td><strong>Surgery</strong></td>
<td>2 shorter surgeries (both last 2 hours).</td>
<td>1 longer procedure (4 to 8 hours).</td>
<td>2 surgeries (3 hours and 2 hours).</td>
</tr>
<tr>
<td><strong>Time in hospital</strong></td>
<td>Day surgery or overnight stay.</td>
<td>About 5 days</td>
<td>2 night stay for first surgery. Day surgery for second procedure.</td>
</tr>
<tr>
<td><strong>Recovery</strong></td>
<td>2 to 4 weeks after putting in the tissue expander.</td>
<td>6 to 8 weeks</td>
<td>3 to 4 weeks after the 1st surgery. 2 weeks after the second surgery.</td>
</tr>
<tr>
<td><strong>Scars</strong></td>
<td>Mastectomy scar only.</td>
<td>Mastectomy scar and scar where tissue was removed.</td>
<td>Scar on back. Flap insert at mastectomy scar.</td>
</tr>
<tr>
<td><strong>Shape and feel</strong></td>
<td>No natural sag. Gets firmer over time.</td>
<td>Very natural feel, soft.</td>
<td>More natural than implants alone.</td>
</tr>
<tr>
<td><strong>Opposite breast</strong></td>
<td>More changes needed to match the implant.</td>
<td>Fewer changes needed to match the other side.</td>
<td>Fewer changes needed to match the other side.</td>
</tr>
<tr>
<td><strong>Problems</strong></td>
<td>Breast feels more firmer and looks less natural over time.</td>
<td>Surgery doesn't work for 1 to 3 people out of 100 (1 to 3%). Weak abdomen. Bulge, hernia.</td>
<td>Less strength when you do overhead activities. Can be a collection of fluid where tissue removed (seroma).</td>
</tr>
</tbody>
</table>
Other options

Matching the opposite breast

A reconstructed breast will not look exactly like your natural breast. If you have large breasts, you may need surgery to make your opposite breast smaller so it can match the reconstructed breast.

If you have smaller breasts that sag, you may need surgery to lift the natural breast. Or, you may need an augmentation with an implant to make the breasts match better. Both reductions and lifts leave permanent scars on your breasts.

Your plastic surgeon will talk to you about the exact location of the scars and the type of surgery you will need to balance the breasts.

Reconstructing the nipple and areola

A surgeon can usually make a nipple and areola (the area around the nipple) from the tissue and fat of the reconstructed breast. This is done about 4 months after you breast reconstruction so the reconstructed breast can “settle”. If you have it done earlier, the nipple and areola may not be in the right place.
**What to expect:**

- Usually, you only need local anesthesia (freezing medicine on the area of skin being operated).
- Usually, it is not painful.
- You do not need to stay overnight at the hospital.

The last step is a tattoo procedure to match the colour of your natural nipple and areola. You can do this either in our hospital or by a medical tattoo artist 10 weeks after your nipple and areolar reconstruction.

This is a picture of the reconstructed nipple and areola using a local flap and tattoo.

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Making your choice

Breast reconstruction is an elective surgery. This means it is not an emergency but it has been planned. You may have breast reconstruction to improve your self-image and confidence after a mastectomy.

If you are thinking about breast reconstruction, please make an appointment with one of our plastic surgeons to find out what options are available. Also, talk with your breast surgeon to find out if you are able to have breast reconstruction at the same time as mastectomy.

The decision to have breast reconstruction is personal. There are benefits, but you must be completely sure before you begin. If you are not sure now, remember that you can always choose to have breast reconstruction later.

Where to get more information

For more information about your reconstruction, please go to these websites:

University Health Network (UHN) Breast Reconstruction Program
www.myreconstruction.ca

BreastReconstruction.org
www.breastreconstruction.org
For more trusted information about breast cancer and breast reconstruction, go to:

Patient and Family Library
Main Atrium, Princess Margaret Cancer Centre

📞 Phone: 416-946-4501 extension 5383
🌐 Website: www.library.theprincessmargaret.ca

You can help make a difference

Donating to our Program

Some of our patients ask if they can make a donation to support the Breast Restoration Program. Donations are very important to us. Your generous donations go towards funding our clinic and research program to improve the level of care for our breast reconstruction patients. You can make a donation through the Princess Margaret Hospital Foundation.

Please contact:
Shannon Stuart, Associate Director, The Princess Margaret Hospital Foundation
📞 Phone: 416-946-2353
📧 Email: shannon.stuart@pmhf.ca
🌐 Website: www.pmhf.ca
Taking part in research

We know that having your breasts reconstructed affects how you feel about yourself and your body. Our research focuses on understanding how breast reconstruction affects your satisfaction and quality of life. You may not benefit directly from the research, but we hope that what we learn will help us to improve patient care and help other women and breast cancer survivors who choose breast reconstruction surgery.

For questions about any of our studies, please contact:
Kate Butler, Clinical Research Coordinator

📞 Phone: 416-340-4800 extension 2343
✉️ Email: kbutler@uhnres.utoronto.ca
Breast Cancer Survivorship Program

You can meet with a health care professional to develop a “Survivorship Care Plan”. This personalized plan has information about breast cancer treatment and support that is especially made for you.

Breast Cancer Survivorship Clinics

Lymphedema Clinic:
Lymphedema is a condition causing swelling in the arm and surrounding area. It can happen after the lymph nodes are removed, with or without radiation. This clinic teaches patients about how to manage their lymphedema to reduce the chance of pain and changes to the body.

Function & Mobility Clinic:
For patients who have trouble moving their arm(s) and doing exercise after breast cancer treatment.

Neurocognitive Clinic:
For patients having changes in how they think and deal with the challenges of memory loss or attention span.

Fatigue Clinic:
For patients feeling tired and having trouble finishing tasks because of low energy after breast cancer treatment.
Where to find us
Princess Margaret Cancer Centre
610 University Avenue
2nd floor, beside the Breast Clinic

Hours
Monday to Thursday 9:00 am – 5:00 pm
Friday 9:00 am – 12:30 pm
For more information, go to www.survivorship.ca

Meet your UHN Breast Restoration Program team

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