Breast reconstruction after mastectomy

This handout describes breast reconstruction in general terms. Every woman is unique. You and your surgeon will work together regarding the options that are best for you.

- An implant or prosthesis is used with an expander to form the breast.
- Your own tissue is used to form the breast. This is called **Autologous Breast Reconstruction**. Technical names for this type of surgery include:
  - TRAM — **T**ransverse **R**ectus **A**bdominus **M**yocutaneous flap
  - DIEP — **D**eep **I**nferior **E**pigastric **P**rocedure
  - LAT — **Lat**issimus Dorsi flap

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Why breast reconstruction?

About 8 out of 10 women (over 80%) who have had breast reconstruction are usually pleased with the results and tell us how good they feel about it. Breast reconstruction can be done at the same time as your mastectomy or at a later date (several months or years later). The choice to have breast reconstruction after mastectomy is yours.

If breast reconstruction is something you are thinking about, please discuss with your surgeon the various options that are available. If you choose to have breast reconstruction, you and your surgeon will decide on what type would be best for you.

Will I have to pay for breast reconstruction?

If you have a valid OHIP number there is no cost for any breast reconstruction. This includes surgeries such as breast reduction, breast lift or augmentation (increase size) that may be needed to balance the other breast after a mastectomy.

Women who are from out of the province or country should check if their insurance will cover the costs.

What if I do not want breast reconstruction?

Some women prefer not to have breast reconstruction. Some may prefer to wear a prosthesis (soft, artificial breast) within their bra and undergarments. Some women may choose not to wear a prosthesis.

You can also change your mind, you may not want reconstruction now, but choose to undergo breast reconstruction a few years from now. The choice is yours.

What about my other breast?

There are options. Most women leave the breast as is. Some women have the breast without cancer removed (prophylactic mastectomy) and most follow with breast reconstruction.

Other women have surgery on the remaining breast to match or balance the other side. This surgery can be a breast lift, breast reduction or breast enlargement. These surgeries are usually done at a later date.

As an example of surgery done at a later date: during implant reconstruction, the balancing surgery is done at the time when the expander is removed and the implant inserted (see page 6 about the expander).

I am worried about the cancer coming back. Can I have a mammogram with a reconstructed breast?

Usually mammograms are not done on a reconstructed breast. A physical exam and asking you what you feel or notice with the reconstructed breast is needed.

An MRI/ultrasound to check for cancer may be recommended in certain situations. However, routine MRI after reconstruction is not recommended.

Comparing the types of breast reconstruction

The surgery	Implant with expander	Your own tissue (autologus)
Stages	Staged 3 to 6 months apart. Two surgeries under general anesthesia. Less complex surgery. Several visits to the surgeon's office for filling of expander.	Done all at once, more complex surgery. Usually one surgery under general anesthesia.
Length of surgery	2 to 3 hours for each surgery.	6 to 8 hours
Scars	No new scars – the surgery is done through the same incision as the mastectomy.	Across the breast (the mastectomy scar curves across the new breast) and across the abdomen.
Time in hospital	Home the next day.	Usually 4 days.
Home care, visiting nursing	Drains are inserted in the breast area to remove fluid.	More drains are needed, and tend to stay in longer.
Recovery	Usually off work about 6 weeks with each surgery. One or 2 days off with each expansion (you will be sore).	Usually off work at least 3 months. No lifting greater than 2.2 kg (5 lbs) for at least 6 weeks.
Radiation Treatments	Radiation does damage skin, makes it less elastic and more difficult for the expander to expand the mastectomy (chest) skin. Radiation causes scarring and there is a greater risk of hard, painful tissue around the implant (capsular contracture).	Radiation does damage the skin. The tissue may become deformed with hard areas. Preferred method of reconstruction if had radiation treatments, but may not have the results you want.

The surgery	Implant with expander	Your own tissue (autologus)
Chemotherapy	Does not affect the quality or safety of reconstruction.	Does not affect the quality or safety of reconstruction.
Chest and abdominal muscle strength	Chest muscles may be weak at first. Usually will gain most but not all of strength back. No change with abdominal muscles.	With the DIEP, abdominal muscles not removed but may be weakened. With TRAM, abdominal muscles are moved and will be weaker.
Back muscles	Sometimes used with expander.	With LAT, may weaken ability to climb.
Breast appearance	Implant is a foreign body, tends to be less natural looking.	Use own tissue, more natural looking. Some women benefit from a tummy tuck.
Length of time new breast lasts	Possibly forever, unless an infection or the implant ruptures; capsular contracture (scar tissue around implant) may also develop over time.	Usually forever.
Antibiotics	Yes, antibiotics are needed. Antibiotics are also needed for any future invasive procedures such a dental work and colonoscopies.	No, antibiotics are not routinely needed.

All surgery carries some risk, and even though there are risks with these surgeries, they are considered safe. Many of the risks are not very common or are well tolerated.

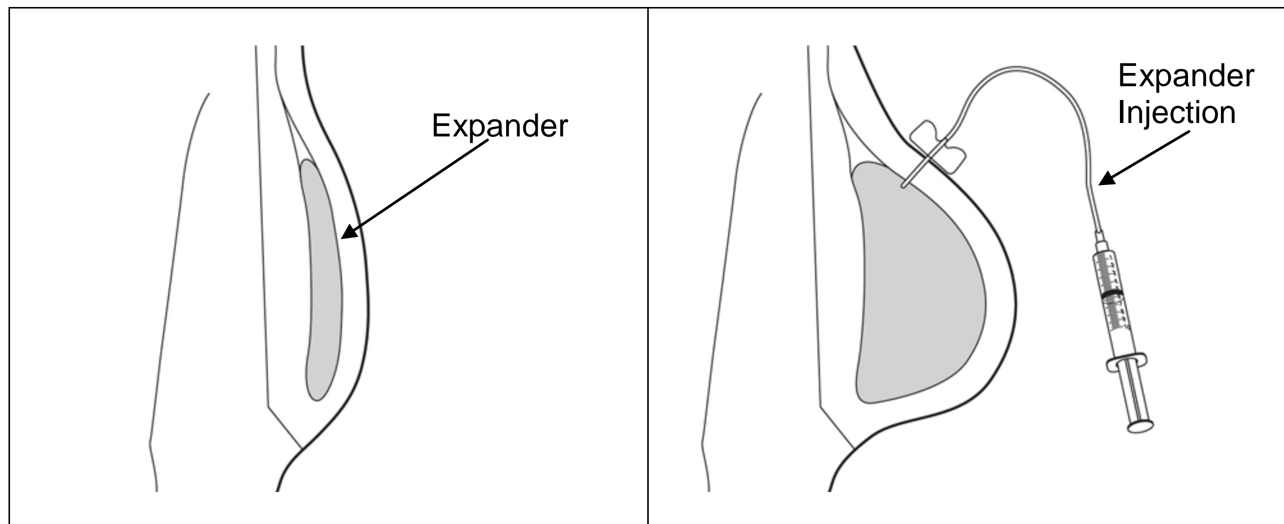
Implant reconstruction

The implant is made to look and when touched feel like a breast.
It is filled with silicone gel (feels like a gummy bear) or saline (salt water) solution.

Most women choose silicone implants as they look and feel like normal breasts. The silicone is a gel and there is no leakage. The breast can last up to 20 years.

Saline implants are equally safe and effective.

To make room for the implant the tissue under the chest wall muscles and skin needs to expand. This is done using a tissue expander. It is like a flat balloon which is slowly filled with fluid. Once the tissue expander is a bit larger than the size of the implant, the expander is removed and replaced with the implant.



The new breast themselves can develop feeling with time. You may experience a sensation of pressure when recovering after reconstruction. This pressure sensation goes away with time.

This surgery is done in stages over a 3 to 6 month period.

Stage 1	During surgery with general anesthesia, the expander is placed under the chest wall muscles.
Stage 2	2 to 4 weeks later, the expander is injected with about 60 to 120 ml of saline in the surgeons office. No anesthesia is needed. This is done every 2 to 3 weeks until it is a bit larger or equal to the desired size. The amount of fluid injected is based on your comfort and size.
Stage 3	Once the expander is a bit larger than the desired size, it is removed and replaced with the implant. This is done during surgery with general anesthesia. This is usually several months after the first surgery and depends on your cancer treatments and operating room availability.

Care after surgery

Pain – You will need pain medication such as Tylenol with codeine.

Infection –You will need to take antibiotics until your drains are removed.

Water – Do not get the drain areas wet. No shower until all drains have been removed for at least 48 hours. You can have a sponge bath. No swimming until the incisions and drain sites are fully healed.

How long will I be off work?

You will be off work about 6 weeks with each surgery. When you visit the surgeon's office for the injection of the saline filling, you can be sore for 1 to 2 days after the expansion. Most women go right back to work after each expansion. Some are not sore, but others are a bit sore 1 to 2 days after the expansion.

Will my chest muscles be weak after surgery?

At first, your muscles will be weaker. Your muscle strength should improve in the months after surgery. You may not get your full muscle strength back, but you should be able to return to work and your regular activities and exercise.

If you participate or compete in strenuous sports or exercise you may not recover your full strength. There is a small possible chance that damage to the nerves may cause a permanent weakness of the muscle.

How long will the implant last?

Maybe forever, but not always. A lot depends on your situation. There are rare reasons when it needs to be removed .An example of this is when there is an infection and antibiotics do not work, or if the implant breaks through the muscle and skin. This is called wound dehiscence.

The risks associated with implant reconstruction include:

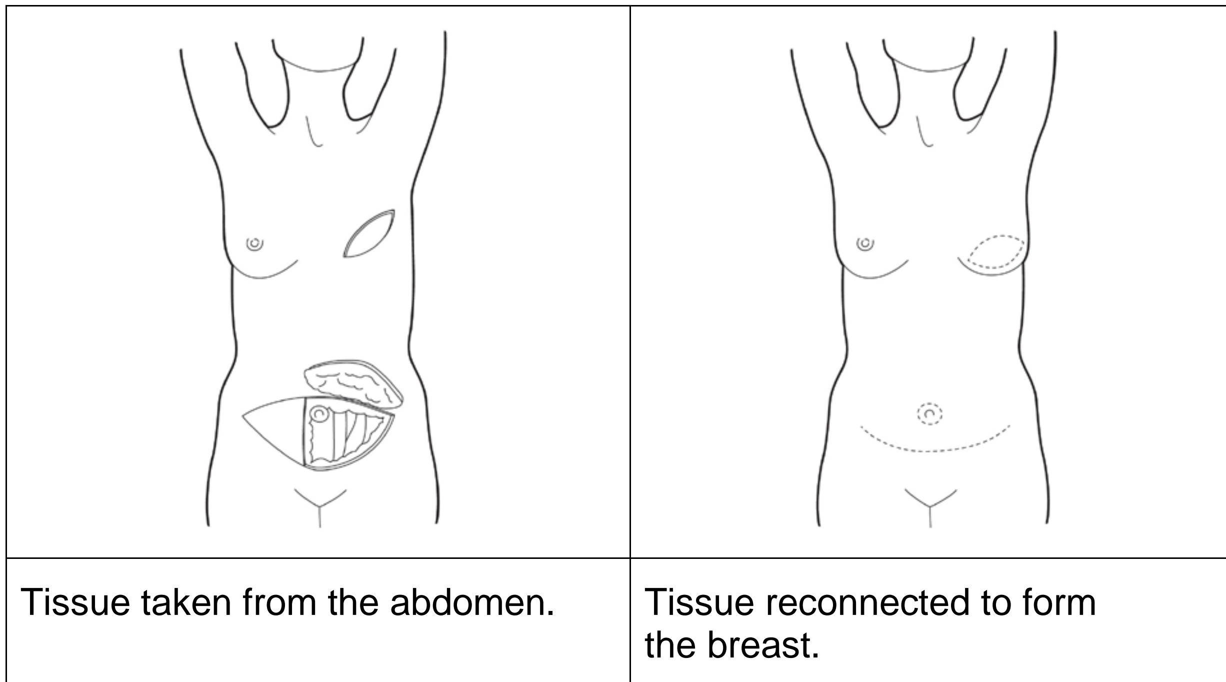
- Discomfort and pain.
- Blood clots in the legs.
- Blood clots to the lungs (rare).
- Bleeding, which may need urgent surgery.
- Sensation to the breast may be temporarily absent. In most women sensation returns. In a small group of women sensation is lost permanently and does not return after surgery.
- Infection, the expander/implant may need to be removed.
- Capsular contracture. This is a condition when the tissue around the implant becomes scarred, hard and painful. The implant may need to be remove if painful.
- Implant breaks through the muscle wall and skin.
- Saline implants may deflate.
- Silicone gel implants – microfractures (very tiny cracks) may develop.
- The implants may not look natural.
- Folds of the implant can be seen through the skin.
- Implant may move, a shift resulting in a change in the appearance of the true reconstructed breast.
- The implant is not the same size as the other breast.
- You are not pleased with the results.

Autologous reconstruction – Using your own tissue to form the breast

This type of breast reconstruction uses your own tissue to form the breast. Tissue from the lower part of your stomach or abdominal area is used. You and your surgeon will decide on the type of surgery that is best for you.

DIEP reconstruction

The tissue is completely disconnected from the abdomen and then reconnected to the chest. Muscle is not removed during this type of surgery but may be injured. This procedure needs microsurgery and takes longer to do.



Tissue taken from the abdomen.

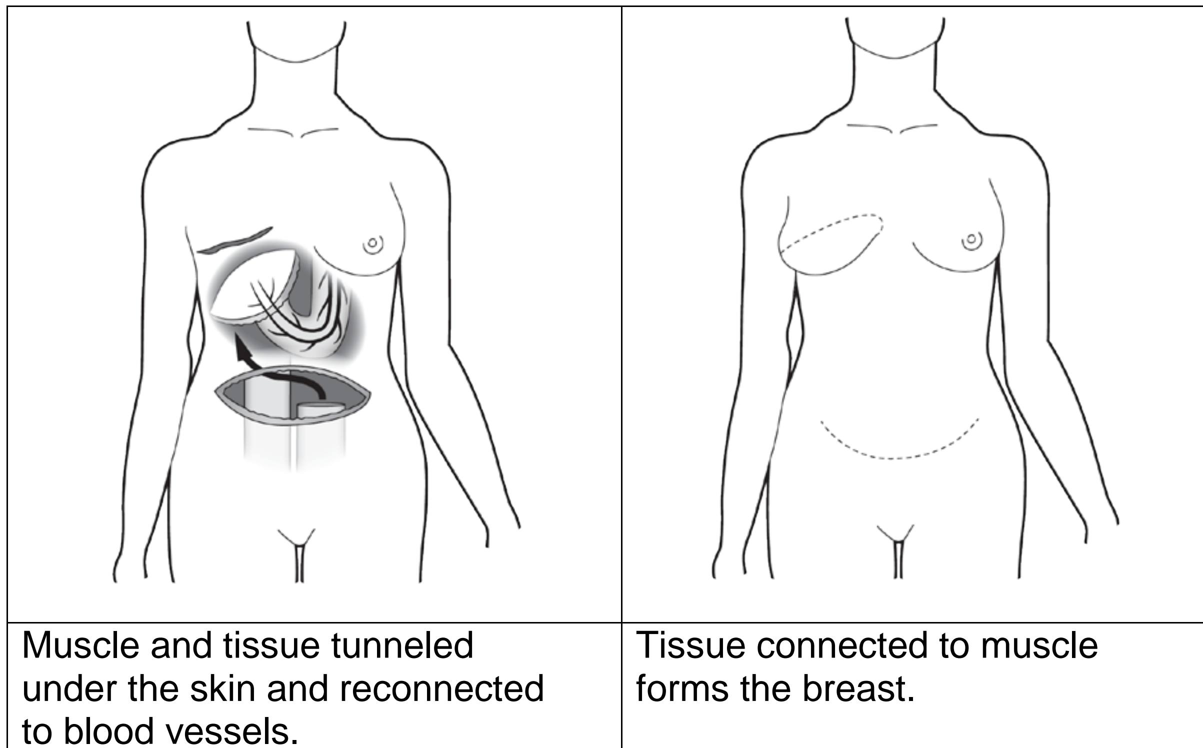
Tissue reconnected to form the breast.

LAT – Latissimum Dorsi Flap

Uses the back muscle instead of the abdominal muscle.

TRAM flap reconstruction

The tissue remains connected to a part of the abdominal muscle and swung into the chest. This surgery takes less time but the muscles of the abdomen are changed and are weaker.



Muscle and tissue tunneled under the skin and reconnected to blood vessels.	Tissue connected to muscle forms the breast.

Care after surgery

You are in the hospital for 3 to 4 days. During this time your breast will be checked often to make sure the blood vessels are connected and that blood is getting to the new breast.

You will have several drains along the new breast and in your abdomen. They will stay in for a few days and up to 3 weeks. A home care nurse will come to your house to check on and remove the drains. You cannot shower with these drains in place.

You will feel tight around your abdomen, but should be able to get up and walk the day after surgery.

A binder will be applied to your abdomen for comfort. You may want to wear another type of supportive garment.

You will have a catheter or tube in your bladder to drain urine. This will be removed the day after surgery, or when it is safe to do so. This will be decided with your health care team while you are in hospital.

Pain – You will go home with pain medication such as Tylenol with codeine.

Infection – You will need to take antibiotics until your drains are removed.

Water – You cannot shower until your drains are removed. (Dr. Avram's patients who have had abdominal free flap reconstruction may shower if they have drains).

I have had surgery on my abdomen. Can I still have my breast reconstructed with my abdominal wall tissue?

Probably. Women with abdominal scars have had successful surgery. However, your surgeon needs to review your medical history and exam the scars to see if this surgery can be done.

If I cannot have surgery using my abdominal wall tissue, what options do I have?

There are other areas of the body that tissue can be used. These surgeries take longer and should be discussed with your surgeon.

How long will I be off work?

About 3 months. The time varies depending on your recovery and the work you do. This time frame does not apply to further surgeries needed such as nipple reconstruction or tattooing.

Other restrictions

You cannot lift anything greater than 5 pounds or 2.2 kgs for 6 to 8 weeks after reconstructive breast surgery.

The risks associated with using your own tissue include:

- Bleeding.
- Infection or wound healing problems at the area of the new breast or from where the tissue was taken.
- A clot or kink in the newly connected blood vessels. Urgent surgery is needed to fix the problem, this usually happens within the first 24 hours after surgery.
- There is not enough blood flowing to the new breast, so part of the breast fails or dies. This can happen to part or all of the breast.
- Damage to the abdominal muscle wall causing weakness, a bulge or hernia.
- Areas of hardness in the new breast from fat tissue dying.
- Breast are not the same size.
- You are not pleased with the result.
- Blood clot in legs.
- Blood clot to the lungs (rare).
- Pneumonia (lung infection).
- Heart attack, rare but usually with women with diabetes and/or lung problems, heart or blood vessel disease.

Questions about cancer treatments and breast reconstruction

I will need chemotherapy after the mastectomy. Can I have breast reconstruction?

Yes. The need for chemotherapy should not affect the quality or safety of your breast reconstruction. Also, reconstruction should not interfere with your chemotherapy. If there is a complication from the reconstruction such as infection or skin problems, chemotherapy may be delayed. However, significant delays are uncommon.

How does radiation affect reconstruction?

Radiation can affect both types of reconstruction. Radiation causes permanent damage to the chest wall tissues. This results in a breast that may not look as good as you would like and an increased risk of infection as well. The implant can become hard, and painful. The breast formed with your own tissue may become deformed or develop hard areas.

Breast reconstruction with your own tissue is the preferred method if you have radiation. However, reconstruction with implants can also be successful.

I had a lumpectomy and radiation many years ago. My surgeon has now recommended a mastectomy. Can I still have reconstruction?

Yes. Both types of reconstruction may be considered.

I had a mastectomy and radiation many years ago. Can I still have reconstruction?

It depends on your own situation. Your surgeon may encourage the use of your own tissue for reconstruction.

Reconstruction with implants may be successful, but tissue expansion may not work in tissue that is thin and has been radiated.

How does reconstruction affect radiation treatment?

In some women, it is known even before the mastectomy is done that radiation treatment will be needed afterwards. In these situations, reconstruction at the same time as your mastectomy is generally not recommended.

This is because the radiation can cause scarring that may make your reconstruction less satisfactory to you. The reconstruction may also delay your breast cancer radiation or affect the quality of the radiation treatment.

If there is a chance of needing radiation after your mastectomy, please take this into consideration before making a decision to have reconstruction at the same time as your mastectomy.

If you want to discuss this with a cancer radiation specialist (Radiation Oncologist) before making a decision about reconstruction, your surgeon will arrange this.

If you do have radiation treatment after your mastectomy, you can still have a reconstruction later on.

Are there breast cancer situations where reconstruction is not possible?

Generally, reconstruction is possible after any mastectomy.

There are some situations that reconstruction at the same time as mastectomy is not indicated. These situations include:

- if radiation treatment is needed
- if there is cancer in the lymph nodes
- if the tumour is quite large
- if the cancer is a type called "inflammatory breast cancer",

If you want reconstruction at the same time as the mastectomy in any of these situations, please discuss this with your oncologist before making this decision. If you don't have reconstruction at the same time as your mastectomy, you may still be able to have reconstruction later on.

What is breast augmentation?

Breast augmentation is surgery to increase breast size and enhance the shape of the breast.

Silicone gel or saline filled implants are used to achieve the desired shape and size. Both types of implants have an outer silicone shell or lining.

What type of implant is best for me?

Many women already know the type they want. If you are not sure, there are a few things to consider.

Saline-filled implants

Advantages	Disadvantages
• No silicone filler • Smaller incisions	• Less natural feel • Rippling (visible folds of the implant shell) • Rupture, just deflates

Silicone gel implants

Advantages	Disadvantages
• More natural feel • Less rippling • Tear drop shaped implants	• Longer incision needed • Potential for microscopic (very tiny) silicone leak

Where will my incisions be?

The most common incision is along the lower end of the breast. The incision is usually hidden by the overhanging breast.

An option is an incision along the edge of the areola (the darker skin around the nipple), the armpit or belly button. These incisions make more difficult surgery, with an increased risk of bleeding and placement of the implant.

What are the risks of breast augmentation

- Bleeding – may need urgent surgery.
- Infection – may need to remove the implant.
- Capsular contracture (scarring, hard and painful tissue) so the implant may need to be removed.
- Scars – may become thick.
- Saline implants deflate.
- Microscopic silicone gel leaks.
- Unnatural breast appearance.
- Loss of nipple/areola sensation.
- Implant may move, shift or rotate.
- Breast are not equal in size and/or shape.
- Pain and discomfort.
- The implant breaks through the muscle and skin.
- Blood clot in the legs.
- You are not pleased with the results.

Juravinski Cancer Centre
699 Concession Street
Hamilton, Ontario L8V 5C2
905-387-9495

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