South West
Regional Cancer Program
in partnership with Cancer Care Ontario

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:

- Breast reconstruction
- Types of reconstruction
- What to expect
- Where to find more information

Contents

Breast reconstruction

Breast reconstruction is surgery that most women can have to make a new breast shape after a **mastectomy** (removal of the entire breast) or **lumpectomy** (partial removal of the breast). A woman can have breast reconstruction as part of treating breast cancer with surgery or as a way to prevent breast cancer when they have strong risk factors for developing breast cancer.

Although breast reconstruction is optional, it can have many benefits, such as, increasing your confidence and self-image after mastectomy. In many cases, you can have breast reconstruction at the same time as you have breast cancer removed, or you can have it in a delayed fashion when your breast cancer treatment has been completed.

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.

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.

Immediate reconstruction

An immediate reconstruction is done at the same time as the mastectomy. Some women find that immediate reconstruction 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 need radiation therapy, they may advise you to wait until the radiation treatment is finished.

Delayed reconstruction

Delayed reconstruction can be done months or even years after the mastectomy and other cancer treatments are completed. Usually, surgeons 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.

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?

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

After a mastectomy, only muscle and a thin layer of skin remain. Following breast reconstruction, the breast often feels and looks different from the original breast and you may need to have other revision 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 with the breast cannot be replaced and sensation loss is often permanent.

In general, most women who have breast reconstruction say they feel whole and feminine again. They can also stop wearing a breast prosthesis.

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

Your options for breast reconstruction

Three types of breast reconstruction

1. Using a breast implant – read pages 6 to 12

2. Using your own tissue to make a new breast shape (autologous reconstruction) – read pages 12 to 14.

3. Using your own tissue from your back and an implant to make a new breast shape (latissimus dorsi flap and implant) – read page 15.

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

About breast implants

What are implants?

Implants are artificial prosthetics that are made out of silicone shell and filled with either saline or silicone. They are designed to have a shape and similar texture to a breast.

Types of implants

There are two types of breast implants, saline and silicone (gel). You and your surgeon will decide which is right for you.

Saline implants have an outside shell made of silicone and are filled at the time of surgery with salt water (saline).

Silicone implants also have an outside shell made of silicone but come pre-filled with a gel form or silicone that has a gummy bear consistency.

Over time, implants can rupture or get tears in the outside shell. If you have a tear in a saline implant, your body will absorb the water and the implant will deflate. If you have a silicone gel implant, a tear may cause the implant to change shape but, due to the gel consistency, the silicone does not leak. There is no expiry date on implants and typically they are not replaced unless pain or abnormal breast contour occurs.

Are implants safe?

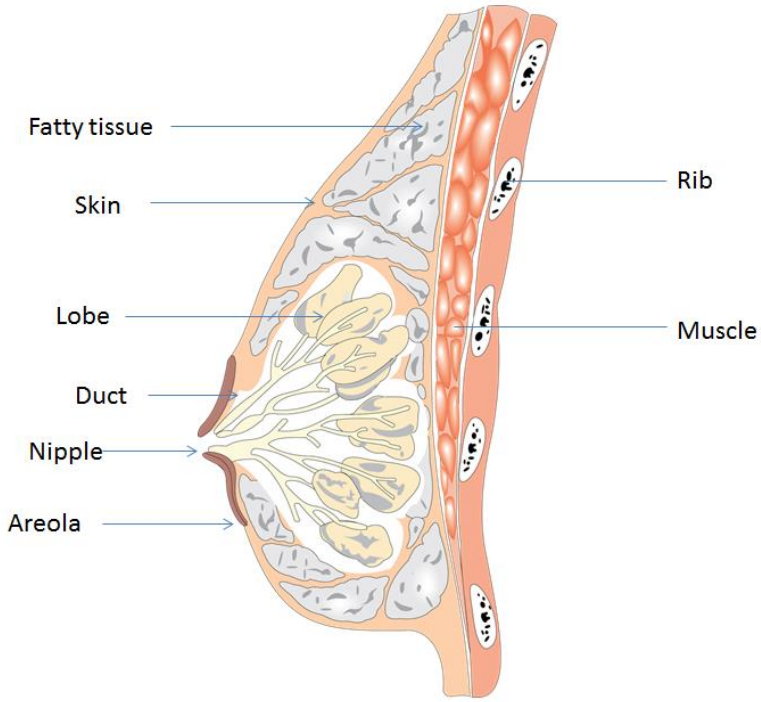
Although there were questions about the safety of silicone gel implants in the 1980s, many trustworthy studies published since then have found them to be safe. Both saline and silicone gel implants are safe and can be used in Canada. Also, the chance that an implant would be rejected by the body is very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

Anaplastic large cell lymphoma (ALCL)

This is a rare lymphoma that, to date has only been noted to occur in patient with a history of a textured breast implant device. When caught early, it is curable in most patients. Breast implant-associated anaplastic large cell lymphoma is not a cancer of the breast tissue itself. Your surgeon will have further discussion with you about the risks and treatments.

Using breast implants for reconstruction

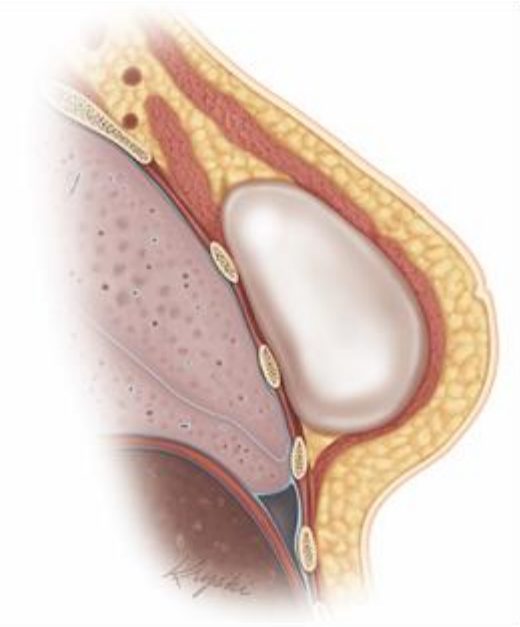
Anatomy of the breast



Creating the pocket to accept the breast implant

During the mastectomy, the fatty tissue, lobes and ducts are removed leaving the skin and muscle.

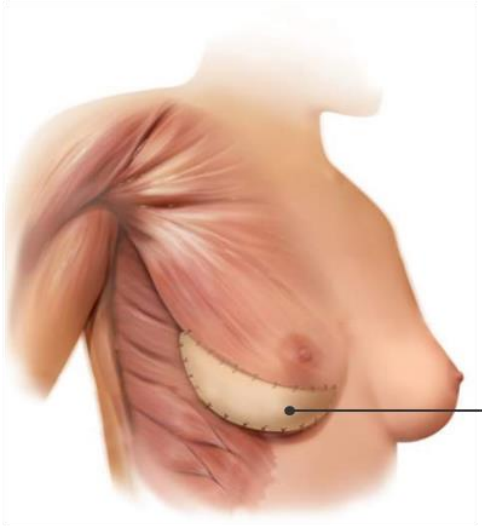
Re-creation of a breast with an implant requires the muscle and skin to be lifted up, which creates the pocket. To complete this, there needs to be enough muscle and skin to cover the implant safely, allowing for a one-stage direct-to-implant reconstruction. However, if there is a lack of muscle and skin or the skin is too bruised after mastectomy, then tissue expanders may be required to slowly stretch the muscle and skin, requiring a two-stage process.



Nipple and breast sensation are often altered after implant surgery and most patients have no sensation, which may be permanent.

One stage direct-to-implant

This is a newer technique where the breast is reconstructed in one stage with an implant. It often allows the nipple to be saved as well. Not all patients are candidates for this surgery due to breast size or the type of breast cancer they have. This reconstruction requires an implant as well as a product called acellular dermal matrix, which is made out of donated human skin.



This picture shows acellular dermal matrix placement in one-step implant reconstruction.

In some cases, surgeons may use your own skin from the lower part of the breast to serve a similar purpose as the acellular dermal matrix. Your surgeon will talk to you about this if it is an option. This procedure is called "autoderm".

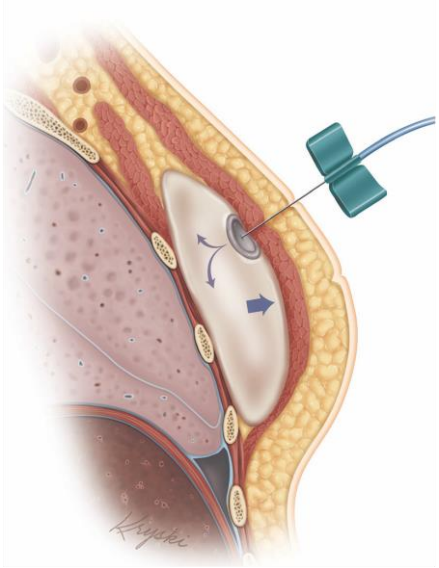
Two-stage tissue expander and implant

What is a tissue expander?

Tissue expanders are temporary adjustable implants that are placed behind the muscle of the breast to stretch the skin and muscle in order to create enough space to accept the final breast implant.

Step 1

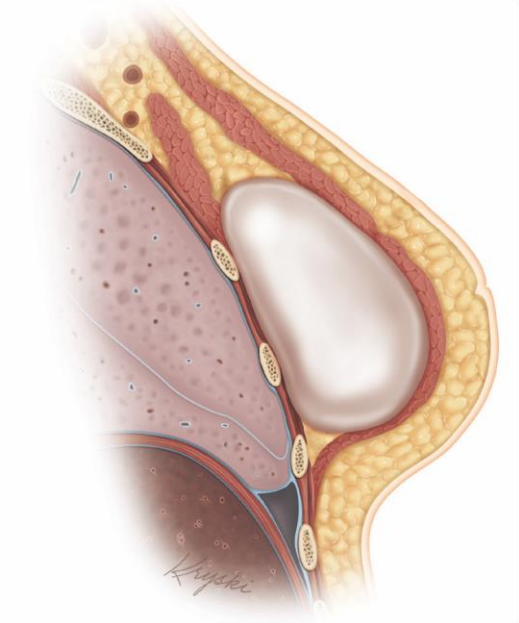
- The surgeon puts a tissue expander under the skin and muscle of the chest. This can be done with immediate or delayed surgery.
- The tissue expanders are slowly inflated with saline (salt water) using a needle, which stretches the skin and chest muscle.



This picture shows a tissue expander under the skin and chest muscle. A needle with saline (salt water) is put into the tissue expander to slowly stretch the muscle and the skin on the chest every 1-2 weeks until adequate volume is achieved.

Step 2

- Once the final volume is achieved, another surgery is planned to remove the tissue expander and replace it with a permanent implant. The expanded skin is now made into the final breast shape.



This picture shows the final, new breast shape.

Between steps 1 and 2, you will need to come to the clinic every 1-2 weeks. During each visit, the temporary implant is inflated with saline. This creates a space (or pocket) to make room for the permanent implant. This is completed in the clinic as an outpatient and takes about 15 minutes.

How long does it take for the tissue to expand?

What are the common side effects?

Pressure or tightness in the chest

- You may feel pressure or tightness in your chest when the surgeon/nurse adds fluid to the expander. This typically lasts for only 24 hours after each expansion visit.
- It's important to remember that the amount of fluid in your permanent implant will be less than the amount in your tissue expander.

Capsular contracture

- The breasts may slowly get harder with the breast 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%) form very thick scar tissue and this may squeeze the implant to the point that it becomes hard and possibly painful. In these cases, surgery may be needed to help with the symptoms.

Dynamic breast

- This may occur when the chest muscles are contracted. The implant may be seen moving in an upward and outward movement with muscle contraction.

Other complications:

- Infection (about 4 out of every 100 women). In rare circumstances, the implant has to come out if the infection becomes severe.
- Implant not in the right position (about 3 out of every 100 women)
- Wrinkling of the skin (about 2.5 out of every 100 women)
- Red breast syndrome characterized by non-infectious redness associated with the use of acellular dermal matrix after post-mastectomy reconstruction

In general, a new breast created by an implant will feel harder than a natural breast. It will always feel different from a natural breast.

What to expect with recovery

It takes about 6 weeks to recover after implant reconstruction. It generally takes 3-6 months to feel like you again.

Using your own tissue to make a new breast shape (autologous)

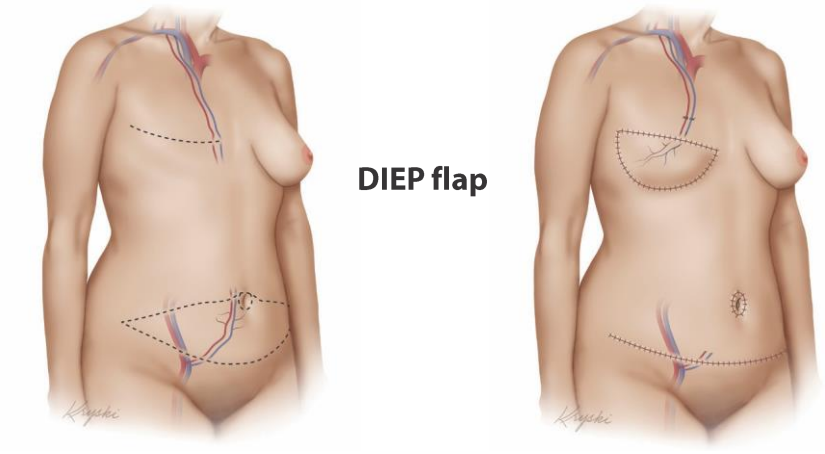
Your surgeon may be able to use your own body tissue to make a new breast. This is called a **flap reconstruction**. The surgeon can do the reconstruction by:

- Using skin, fat and blood vessels from your abdomen (DIEP flap)
- Using skin, fat and muscle from your abdomen (TRAM flap)
- In some specific circumstances, flaps can be taken from other areas

DIEP flap

This way of doing breast reconstruction uses your own skin and fat in the lower abdomen to make a new breast shape. Surgeons use blood vessels and the fat and skin from your lower abdomen and connect those to blood vessels in the chest to keep the tissue alive.

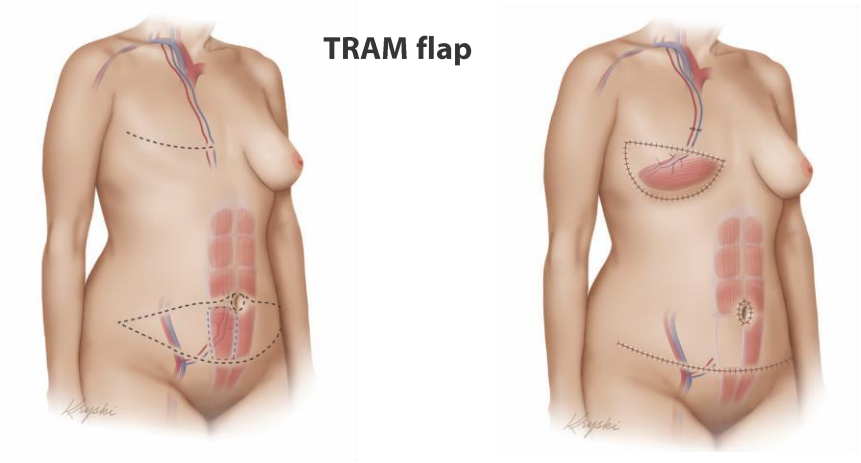
The advantage of this surgery is that the muscles from your abdomen stay intact. This keeps the abdominal wall stronger after your surgery.



DIEP flap

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. The TRAM flap may be done by connecting blood vessels (called a free TRAM flap as in the DIEP flap surgery) or by leaving the skin and fat connected to the muscle and tunneling it up to the breast (pedicled TRAM flap).



TRAM flap

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 of DIEP or TRAM?

Bulge or hernia

- In about 3 out of 100 women (3%), 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. This 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. The hardness associated with fat necrosis typically resolves with time. 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 but may send you for a breast ultrasound for confirmation.

Flap failure

- This is a very uncommon but very serious complication occurring in 1 to 3% of women. The blood supply to the flap does not work in its new location and has to be removed.
- A different and a new type of reconstruction may be discussed at a later date.

These flap surgeries may not work for you if you smoke, are very overweight, if you have a small abdomen without extra fat, or 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 will fluctuate with changes in body weight.
- New breast, once established, should last forever.

Scar

- The scars affect both the reconstructed breast and the abdomen as shown in the pictures on page 12-13.
- This surgery removes extra skin and fat from your stomach, but it does not give you the same results as a tummy tuck. The reason for this surgery is to reconstruct the breast after cancer surgery, and not flatten the stomach.

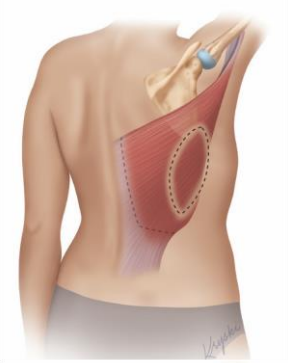
Recovery

It takes about 8 to 12 weeks to recover from DIEP or TRAM.

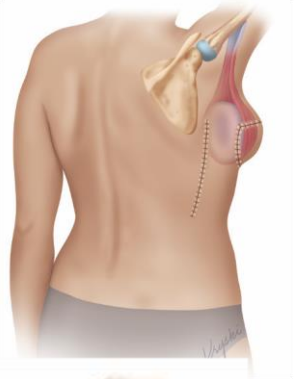
- While most of the pain goes away in the first 2 weeks, the feeling of being very tired may last 8-16 weeks.
- It's common for the skin in the stomach area to feel full, tight or numb. These symptoms will get better over time, but it may take up to 6 months or more.

Latissimus dorsi flap

The latissimus dorsi flap is a muscle in your back, under your shoulder blade. This type of breast reconstruction uses a smaller tissue expander or implant along 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.



The flap is not usually large enough to make a new breast shape. The surgeon then inserts a tissue expander or implant behind the flap to enhance the size of the reconstructed breast. If a tissue expander is used it will be expanded to the desired size over time. In a second operation it will be replaced with the 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 have had a mastectomy and radiation.
- Your surgeon says you should not have a TRAM or DIEP flap

How to choose what type of reconstruction is right for you

The type of reconstruction you choose depends on:

- The size and shape of your breasts
- If one or both breasts are removed
- How much body tissue you have in other parts of your body (abdomen)
- Whether you had radiation therapy or need it.
- Personal health risks

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 the next page compares the different types of implant and tissue reconstruction.

Comparing different types of breast reconstruction

	Implant and/or expander	Autologous tissue	Latissimus Dorsi and expander
Surgery	1 or 2 surgeries (both last 2 hours)	1 longer surgery (6-8 hours one sided, 10-12 hours both sides	2 surgeries (3 hours and 2 hours)
Time in hospital	Day surgery or overnight stay	About 4 days	2 night stay for first surgery, day surgery for second procedure
Recovery	2 to 4 weeks after tissue expander, Implants 4 to 6 weeks	6-8 weeks for most activities, up to 12 weeks for strenuous activities	3 to 4 weeks after the first surgery, 2 weeks after the second surgery
Scars	Mastectomy scar only	Scar on stomach and flap insert at mastectomy scar	Scar on back and flap insert at mastectomy scar
Shape and feel	No natural descent of tissue, potentially gets firmer over time	More "natural" feel, soft	Similar to implants alone
Opposite breast	More changes needed to match the implant	Fewer changes needed to match the other side	Potential changes needed to match the other side
Problems	Breast may feel more firm over time	Surgery doesn't work (flap failure) for 1 to 3 people out of 100 (1 to 3%), weak abdomen, bulge, hernia	Scar on back, seroma (fluid collection at back)

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 with ptosis (sagging of the breast tissue), 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 3-6 months after your 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 on).
- It is not usually 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.

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

Oncoplastic breast surgery

Traditionally, breast cancer surgery has focused on lumpectomy or mastectomy. Increasingly, there has been a focus on oncoplastic surgery as an alternate approach in the surgical management of breast cancer. Oncoplastic surgery allows the contour and aesthetic appearance of the breast to be maintained despite significant amounts of tissue being removed from the breast. This involves surgical techniques that allow tissues to be replaced or realigned, and other tissues to be reduced. The goal is to have an acceptable breast appearance while at the same time safely removing the cancer. It is used in a select group of women and can prevent the need for mastectomy.

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. You may also choose to not have breast reconstruction at all. The choice is yours!

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.

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