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Breast Reconstruction

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What is Breast Implant Revision Surgery?

Breast reconstruction is a surgery to help restore one or both breasts to near normal shape, appearance, symmetry and size following mastectomy, lumpectomy or congenital deformities. Reconstruction may be done at the same time as the breast is removed via mastectomy (immediate reconstruction) or at a later time (delayed reconstruction), or on 2 stages, the first stage with the mastectomy and second later stage (delayed immediate). The type of reconstruction you choose will depend on your body type, lifestyle factors, procedure risks and benefits, and personal preferences. It might also help improve your self-image and regain your self-confidence.

Check the illustrative video here[1].

Before the Surgery… Preparation and Expectations

It is important to consider the following before deciding to undergo a breast reconstruction surgery:

Breast reconstruction generally falls into a few categories:

- implant-based reconstruction
- flap reconstruction
- combined implant and autologous flap
- or fat transfer.

Implant reconstruction relies on breast implants to help form a new breast mound. Flap (or autologous) reconstruction uses the patient's own tissue from another part of the body to form a new breast.

There are a number of factors that should be taken into consideration when choosing which option is best:

- Type of mastectomy
- Cancer treatments
- Patient's body type

Before the surgery, a detailed interview is conducted with our medical team covering the following:

- Review of your medical history and current health situation including a complete physical examination and results of any laboratory tests, such as blood tests. You might also be asked to get a baseline mammography, breast ultrasound or MRI.
- Examine and measure your breasts.
- Photographs of your breasts from different angles and close-up photos of some features.
- Discuss your expectations for breast size and appearance after the surgery.

[1] https://bit.ly/2rzgC62

- A 3D simulation can be done for you for implant based reconstuction to get an idea of the expected results with different implant sizes.
- A later stage can be done to your intact breast for symmetrization as breast lift, reduction or augmentation or for nipple reconstruction and tattooing.

- A reconstructed breast will not have the same sensation or feel as the breast it replaces
- Visible incision lines will always be present on the breast, whether from reconstruction or mastectomy
- Certain surgical techniques will leave incision lines at the donor site, commonly located in less exposed areas of the body such as the back, abdomen or buttocks
- An overview of the surgical intervention, expected risk, recovery stages as well as the expected results.
- Determining where your procedure will be performed and the date of operation.

Important Instructions

- Avoid taking aspirin, anti-inflammatory drugs and herbal supplements, one week before the surgery, as they can increase bleeding.

- Take only those medications approved or prescribed by your surgeon.
- Stop Tamoxifen (selective estrogen receptor modulator) for 2 weeks before surgery and also for 2 weeks after.

- Stop smoking 1-3 weeks before the surgery.

- Arrange for someone to drive you home after the surgery.

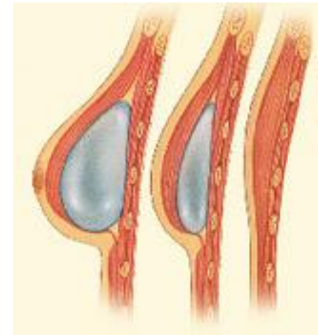
- Arrange for resting at home for at least one week after the surgery.

During the Surgery

- **Anesthesia:** Type of anesthesia will be discussed and determined with our medical team before the surgery. General anesthesia will be needed in the majority of the cases.

- **Procedure Steps:** The techniques used vary according to the choice of the surgery.

- **Implant Based Reconstruction:** If you are undergoing a Nipple- or Skin- sparing Mastectomy, immediate breast reconstruction can be done using breast silicone implant which can be placed on the pectoral (chest) muscle or underneath it. Sometimes, a biological mesh known as acellular dermal matrix (ADM) will be used, to help the implant maintain correct anatomic position, above the pectoralis muscle. Usually there will be excess skin after breast tissue removal and a breast lift will be done to the same breast. For breast lift, the incisions can be around the areola only, lollipop incision which is around the areola and vertically down the breast or an inverted T scar which includes the latter with an added incision at your breast crease.

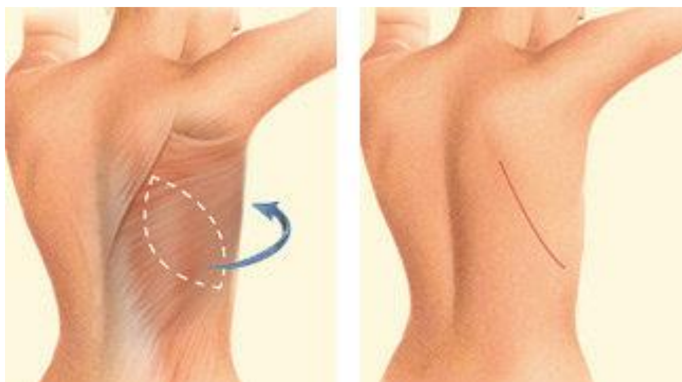


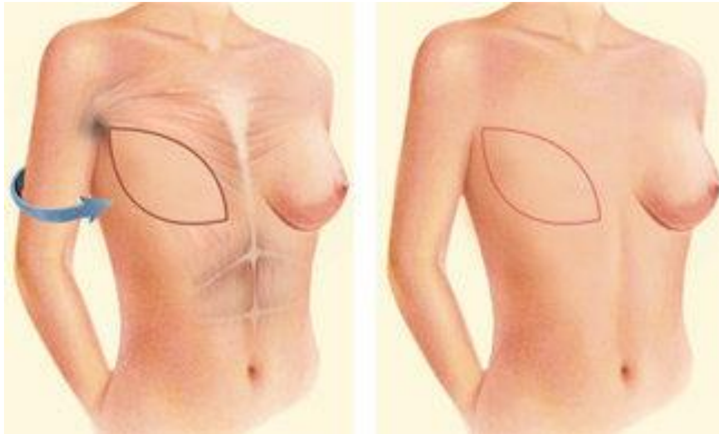
Tissue Expander: If you are undergoing Mastectomy and the remaining skin is inadequate for a suitable silicone breast implant size placement, an immediate delayed reconstruction is done, in which a tissue expander will be placed, usually under the pectoral (chest) muscle at the same setting (immediate) and will be filled weekly with saline through its port over a period of months until the skin expands to allow an implant placement at a later stage (delayed).

Autologous Flap Breast Reconstruction: There is a variety of flaps that can be transferred to your breasts, which can be pedicled (its main blood supply will remain attached), or free flap (in which the flap is cut from its original blood supply and connected to a new blood supply to the breast using microsurgery or microvascular anastomosis)

The Latissimus Dorsi muscle flap: This procedure is performed as a secondary operation immediately during the mastectomy or delayed after radiation. The latissimus muscle is a very large vascular muscle in the back that is attached at the base of the arm, extends onto the chest from the arm past the shoulder blade and attaches close to the spinal column. The latissimus muscle stretches to the tip bone and hallway into the axilla or armpit area and is supplied mostly by artery in the axilla.

The latissimus flap is frequently used when the amount of soft tissue is limited secondary to surgery, the pectoralis muscle is absent, partially removed or damaged secondary to radiation. It entails undermining the skin on the back and releasing some of the skin allowing it to remain attached to the muscle. The main muscle and artery is called pedicle flap. This flap is released from the back, passed through a tunnel that is made underneath the axilla and into the anterior chest to fill the mastectomy defect site. The muscle is placed and sutured to the chest wall. An implant is then placed behind this flap and in front of the chest. One can also use a tissue expander and gradually increase to breast size.





Breast reconstruction with abdominal-based flaps:

Sometimes a mastectomy or radiation therapy will leave insufficient tissue on the chest wall to cover and support a breast implant. In these cases, breast reconstruction usually requires a flap technique (also known as autologous reconstruction). This is the most common method of tissue reconstruction, using lower abdominal skin and fat to create a breast shape. A woman may also choose not to have an implant for personal reasons.

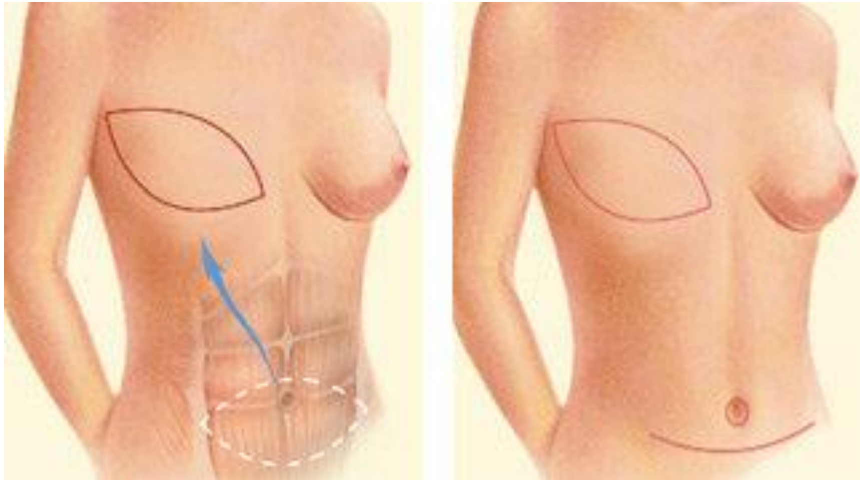
The skin and fat used for this procedure is the tissue between your belly button and pubic bone that you can pinch. Once this tissue is taken to make a breast, you will typically have a scar from hip bone to hip bone and around your belly button.

However, some women may not be candidates for abdominal-based flaps for various reasons:

- Not enough donor tissue in the lower abdomen
- Prior scars that may have damaged important blood vessels
- Previous flaps that have failed and seeking an alternative

Several different flaps use the tissue from the lower abdomen. The difference between each of them is related to blood vessels that supply these flaps. These flaps include the Pedicled TRAM (traverse rectus myocutaneous) flap, the free TRAM flap, the DIEP (deep inferior epigastric artery perforator) flap and the SIEA (superficial epigastric artery) flap.

Because the free TRAM, DIEP and SIEA flaps involve microsurgical tissue transfer, blood flow to the flap is closely monitored in a hospital setting after surgery. If there are concerns about the flap, a reoperation may be necessary to assess the blood flow.



Breast reconstruction with thigh-based flaps:

Gracilis-based flaps are based on the gracilis muscle, located in the upper inner thigh. The gracilis muscle helps bring the leg toward the body, and its function will be lost after this type of surgery. During these procedures, a flap of skin, fat, muscle and blood vessels from the upper thigh is moved to the chest to rebuild the breast. Blood vessels are carefully reattached using microsurgery.

Different names are used to describe the orientation of the resulting donor site incision on the upper inner thigh:

- TUG flap: Transverse Upper Gracilis flap
- VUG flap: Vertical Upper Gracilis flap
- DUG flap: Diagonal Upper Gracilis flap

The choice of incision depends on your unique thigh shape. We will try to conceal the scars in the crease at the top of the thigh, but the scar may end up a bit lower and be visible while wearing a bathing suit. These flaps result in a tighter inner thigh, similar to an inner thigh lift.

Breast Reconstruction using Gluteal-based flaps:

In this case we use skin and fat from the buttocks. SGAP flap stands for Superior Gluteal Artery Perforator, which is located in the upper buttock. During this procedure, a flap of skin, fat and blood vessels is moved to the chest to rebuild the breast. Blood vessels are carefully reattached using microsurgery. Because no muscle is used, an SGAP flap is considered a muscle-sparing flap.

Similarly, the IGAP flap, or Inferior Gluteal Artery Perforator flap, uses tissue near the bottom of the buttocks near the crease. The IGAP is less favorable because the incision ends up near the weight-bearing region during sitting.

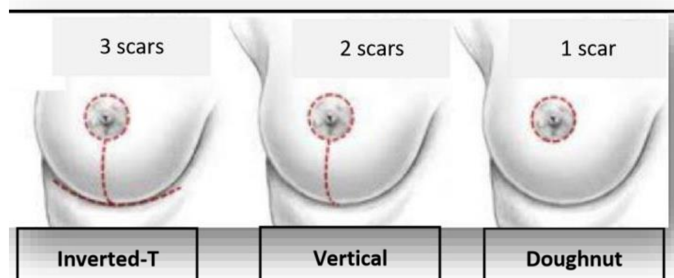
The choice of incision depends on your unique buttock shape and we will try to conceal the scars at the top of the buttocks, which usually result in a tightening effect.

Fat Injection of the Breast: It can be done to give volume and to improve the shape and quality of the skin. It can be used with other procedures with implants or autologous flaps or alone. Repeated procedures of fat injection might be needed to reach the desired shape and volume as the body absorbs a percentage of the fat over a few months following the surgery.

Symmetrization of the other breast: A breast lift, reduction or augmentation can be done to the intact breast to achieve symmetry between it and the reconstructed side. This can sometimes be done at the same setting with the reconstruction, but in the majority of cases it will be done at a later stage.

We will try to achieve symmetry between your breasts, but some variation in breast size and shape might occur. The size of the areola also might be reduced.

- The surgery lasts for 4-8 hours depending on the surgical details and patient's situation.
- A suction drain will be placed to drain any blood after the surgery.



Nipple Reconstruction: Local flaps or skin grafting from the other areola can be done to form a new areola.

After the Surgery

- Medication will be prescribed to help control the pain and antibiotics to reduce the risk of infection.
- A tube might be placed under each arm to drain any excess blood or fluid.
- Soreness and swelling are likely to happen for a few weeks after surgery. Bruising is possible. All will improve gradually with time.
- A longer hospitalization period and close monitoring will be needed for autologous flap reconstruction, especially for free flaps (microsurgery).
- If you notice warmth and redness in your breast or have fever, you might have an infection. Contact our medical team as soon as possible.
- It is recommended to apply silicone gel one month after the operation, for a period of 3-6 months.

Post-Procedure Precautions

1. We recommend wearing an elastic compression bra after the operation and for 1- 2 months, to protect the breasts. It must be comfortable, of good cotton material and not compressive. This is one of the most important factors for the success of the surgery and maintaining the aesthetic shape.

2. Avoid normal underwire or push-up bras for a few months after surgery.

3. Sleep at a 45-degree angle for a week after the operation.

4. Avoid vigorous or aerobic activity or sports for 6 weeks after the surgery.

5. Massage 1-3 weeks after the surgery. You can do it yourself at home or ask our clinic for support. Check massage video here[2].

6. Avoid aspirin and herbal supplements that may increase bleeding. Stick only to the medication prescribed by our medical team.

7. Stop smoking. It slows the healing process and may make you more likely to get an infection.

8. Rest and eat high-fiber foods, such as fruits and vegetables, to avoid constipation.

9. Limit your dietary salt intake to help faster swelling recovery.

Recovery and Results

- While the results of breast reconstruction surgery are immediately noticeable, final results may take months for the swelling to completely go down and the surgical scars to fade.

- If you have added fat to your breast, around half of the injected volume will be resorbed by your body in a few months and the rest will stay.

- After 6 weeks, your ability to participate in physical activities will increase and you will promote a more positive self-image.

- Your incision scars will fade over time but it will never completely disappear.

- The final result is generally permanent, although breast shape and size can change due to factors such as aging and weight gain or loss.

- While your initial reconstruction procedure creates the breast mound, you have the option to undergo subsequent procedures to give your breasts a more natural appearance. These may include revising the reconstructed breast or the opposite breast

[2] https://youtu.be/_1GGRa_q0xU

to achieve a more symmetrical appearance, and procedures to create a nipple and areola. A nipple can be formed using existing breast skin and tissue. Sometimes skin can be taken from elsewhere on the body and used to create the areola. After healing, areolar pigmentation may be achieved by tattooing the reconstructed nipple and the surrounding area.

Follow-up

In the first month after the surgery, follow-up is done by visiting the clinic once or twice a week. In the following month, a visit is made every two weeks. Then monthly follow-up visits (once a month) during the next 6-12 months.

Risk

The decision to have plastic surgery is extremely personal. You will have to decide if the benefits will achieve your goals and if the risks and potential complications of breast reconstruction surgery are acceptable. Our medical team will explain in detail the risks associated with surgery. As with any surgical procedure, you will be asked to sign consent forms to ensure that you fully understand the procedure and any risks or potential complications. Photographs are taken before and after the surgery and for different periods to follow up the progress achieved.

Breast reconstruction risks might include:

- Bruising, which is usually temporary.
- Seroma: collection of fluid that can be aspirated in the clinic
- Hematoma: a small collection of blood
- Delayed healing and Scarring
- Loss of sensation in the breast
- Tissue expander extrusion
- If you have added a breast implant: Capsular Contracture, rarely implant rupture, seroma, breast implant illness might happen over time, or you might need to change the implant after 10 years.
- Flap Necrosis or Failure
- Flap Donor site scarring or healing problems.
- Fat injection: oil cysts, fat necrosis or calcifications
- Differences in the size, shape and symmetry of the breasts.

Medication

R/Tavanic 500mg	One tablet daily for 5 days
R/Ketolac SR	One tablet every 12 hours - after meals – till pain is gone
R/Panadol 500mg	Two tablets every 8 hours
R/Neurontin 300mg	One tablet before sleeping for 5 days
R/Alphintern	Two tablets every 8 hours – half an hour before meals – for 2-3 weeks
R/Controloc 40mg	One tablet before breakfast for 10 days

Cited in:

– **American Society of Plastic Surgeons: https://www.plasticsurgery.org**

– **Mayo Clinic: https://www.mayoclinic.org/**