



Recovery After Surgery: Breast reconstruction

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Medicine to the Highest Power

Breast reconstruction provides---

- Psychological
- Social
- Emotional
- Functional improvements, including improved self-esteem, sexuality, and body image



- Number of breast reconstructions performed annually increased from 78,832 in 2000 to 95,589 in 2013 (American Society of Plastic Surgeons)
- Although the rate of breast reconstruction has increased, the number of women who undergo reconstruction after mastectomy remains low



Patient Selection-Breast reconstruction

- Following a unilateral or bilateral mastectomy
- After breast conservation therapy (BCT) with a less than ideal cosmetic result



IMMEDIATE VS DELAYED



Immediate reconstruction

Breast reconstruction is often performed immediately after mastectomy.

The advantages of immediate reconstruction include streamlined care, reduced cost, superior cosmetic results, and psychosocial benefits.

Immediate reconstruction may be considered in patients who are undergoing mastectomy for prophylaxis, ductal carcinoma in situ, or for invasive breast cancers less than 5 cm in size that are clinically axillary node-negative, with a negative premastectomy sentinel node biopsy.



Delayed reconstruction

- For women who are likely to need postmastectomy RT (breast tumor size ≥ 5 cm, positive lymph nodes)
- Autologous tissue is typically preferred rather than an implant following radiation treatments since this approach provides an acceptable outcome with fewer post-radiation complications.



Limitations & Negative predictors

- **IDDM, COPD, smoking, and connective tissue disease** –NEGATIVE IMPACT
- **Past surgeries**- adverse effects on the blood supply to autologous tissues at donor sites.
- **Smokers**--higher rates of mastectomy skin flap necrosis (19 versus 9 percent), donor site complications (26 versus 14 percent), and TRAM flap necrosis (4.4 versus 0.8 percent)
- **Higher body mass index (BMI)** was associated with a high risk of total flap loss, major postoperative complications, and delayed abdominal wound healing

Although patient satisfaction with postmastectomy reconstruction remains high in obese patients, these patients should be counseled preoperatively regarding their higher complication rates

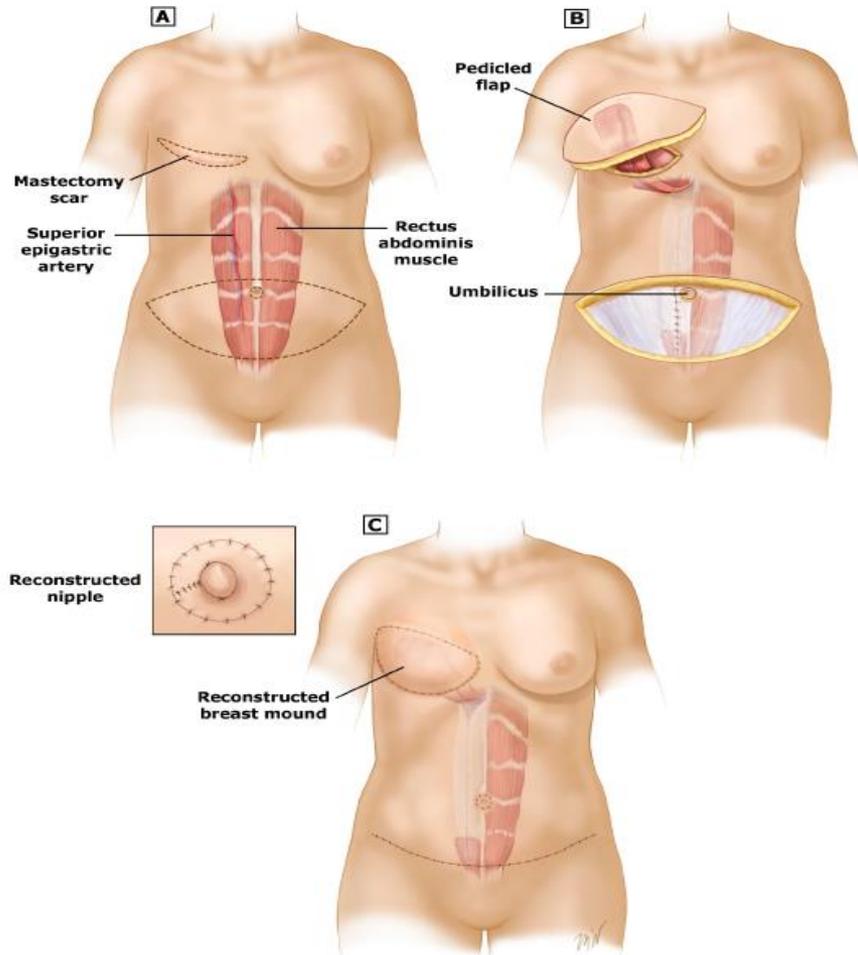


Autologous reconstruction- eligibility criteria

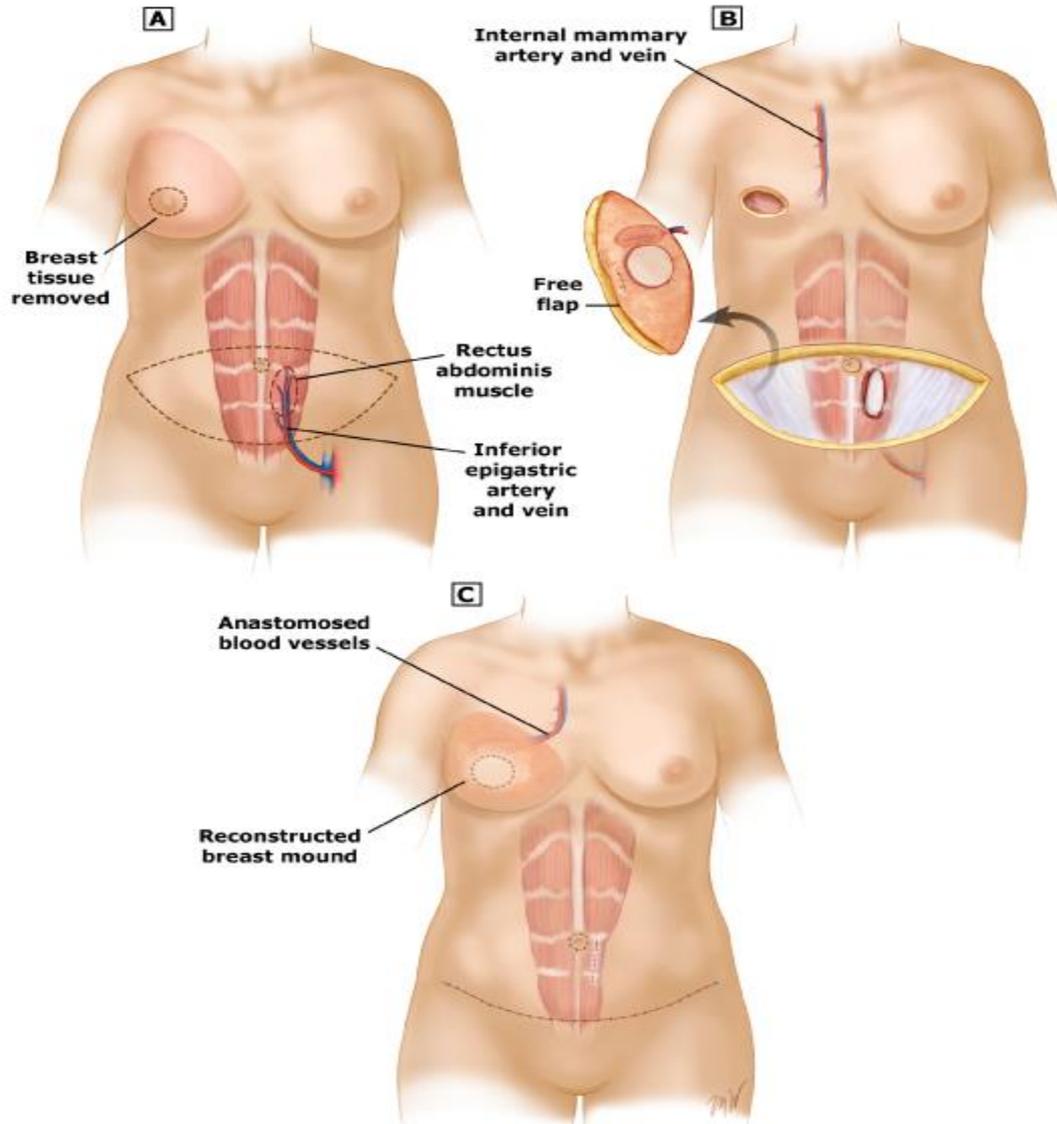
- Ample tissue at the desired donor site, be it the abdomen, posterior thorax, gluteal region, or thigh
- BMI >30
- Personal history of previous radiation to the breast
- Multiple scars on the breast
- Bilateral mastectomies and any of the above characteristics



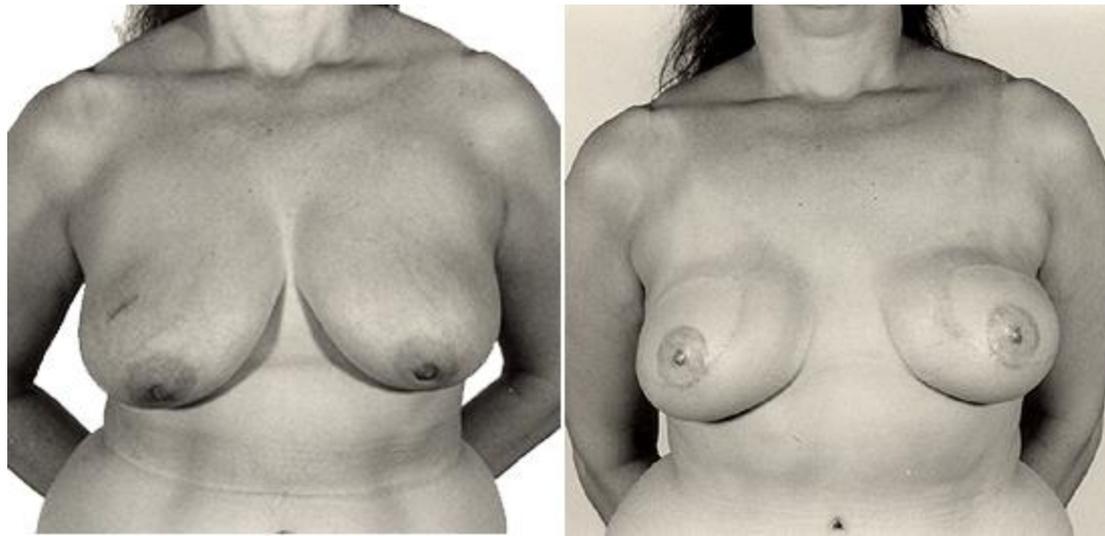
Pedicled TRAM flap



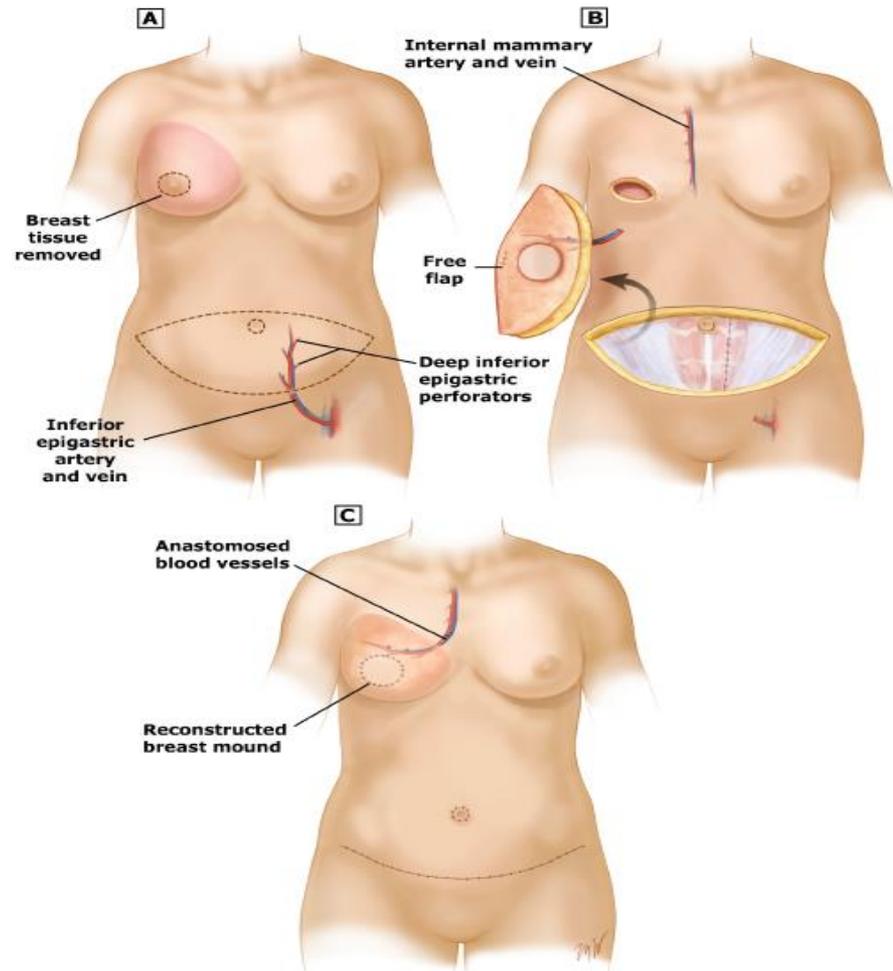
Free TRAM flap after skin sparing mastectomy



Bilateral TRAM reconstruction



DIEP perforator flap



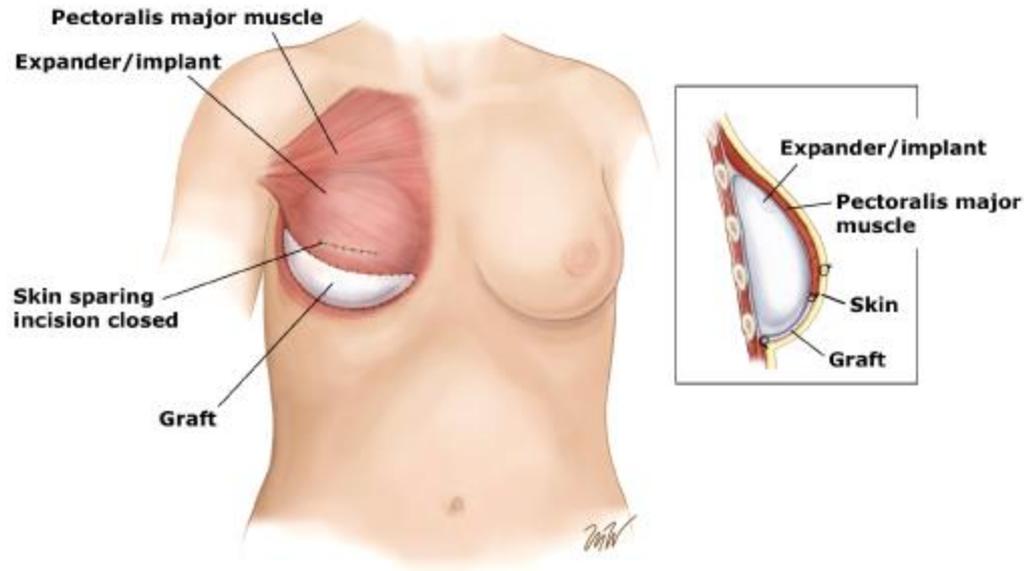
Ideal patient characteristics for prosthetic reconstruction

- BMI <30
- Personal desire for shorter recovery time
- Bilateral mastectomies and BMI <30



Implant breast reconstruction

Implant breast reconstruction



Tissue expanders — a silicone shell that is incrementally filled with saline through either an integrated or remote port. Modern expanders are shaped anatomically to preferentially expand in the lower pole of the breast. Many tissue expanders currently in use have suture tabs located along the peripheral base of the device in order to accurately place and stabilize the position on the chest wall.

For expanders with integrated ports, a magnetic finder (compass) is used to locate the proper injection site under the skin. A needle is then inserted into the skin through the port and sterile saline is infused into the expander.

This procedure is repeated every one to two weeks, until the desired volume of expansion is achieved.



Tissue expansion should not be attempted during radiotherapy.

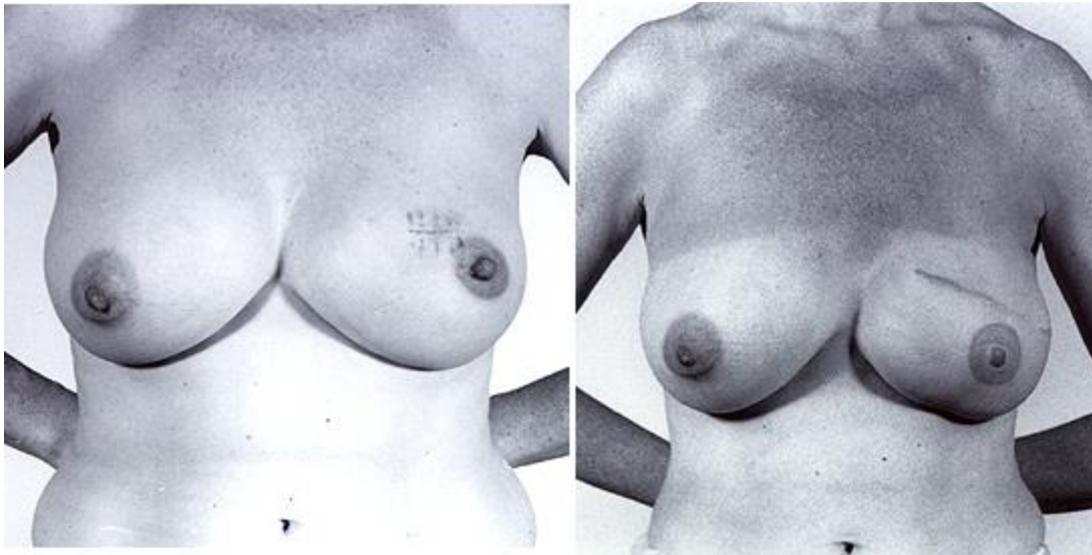
Several months after the last expansion (to allow for maximal skin growth), the patient is returned to the operating room for the second stage of the reconstruction.

The expander is removed, and the reconstructive implant is placed.

The implant (a silicone shell) may be filled with silicone or saline. In addition, necessary revisions are performed at this time, and a nipple may be reconstructed



Single stage implant reconstruction



Reconstruction of the nipple areolar complex



This is typically performed during the second stage of breast reconstruction, but can also be performed in an office setting. The goal of nipple and areolar reconstruction is to achieve symmetry of position of the nipple-areolar complex in the contralateral breast with comparable appearance and color



COMPLICATIONS

- Infection
- Capsular contracture (in which a scar forms around the implant and contracts, resulting in pain and loss of breast contour), and deflation.
- Contracture rates may be lessened by the use of implants with a textured shell rather than a smooth shell, by placement of the implant in a submuscular rather than subcutaneous location, and by avoiding use of this technique in women who need RT



Outcomes

- Psychosocial function and quality of life
- Patient satisfaction
- Physical functioning
 - TRAM procedure
 - Perforator flaps



POSTTREATMENT SURVEILLANCE OF THE RECONSTRUCTED BREAST

- **Physical examination** remains the cornerstone of detection of recurrent breast cancer after reconstruction and other modalities such as mammogram, ultrasound, or MRI are used as adjuncts to clarify any physical findings
- **Mammography is technically feasible following autologous myocutaneous flap reconstruction**, particularly following TRAM or perforator flap reconstruction, because abdominal adipose tissue forms the bulk of the reconstructed breast



SUMMARY

- Types: prosthetic devices (eg, tissue expanders, saline implants, silicone implants) and autologous tissue reconstruction
- The choice is dependent on body habitus, associated comorbidity, the size and configuration of the contralateral breast, prior surgical procedures, the quality of the chest wall skin, and patient choice.

