Breast Reconstruction

HOPE | BALANCE | EMPOWERMENT | CHOICE

www.BreastReconUSA.org

What is Breast Reconstruction?

The goal of breast reconstruction is to restore the breast(s) to near normal shape, appearance, symmetry and size following mastectomy, lumpectomy or other trauma. If you have realistic goals for restoring your breast/body image, this procedure may be a good option for you. Breast reconstruction typically involves several procedures performed in stages and can either begin at the time of mastectomy or be delayed until a later date. Breast reconstruction is a process that may take several months to a year to complete.

While plastic surgeons continue to develop many new and advanced reconstruction techniques, nearly 70 percent of women eligible for breast reconstruction are not told about all of their options. Because of this alarming statistic, the American Society of Plastic Surgeons (ASPS) created this brochure to provide basic information for patients. In it, you'll find details about the breast cancer care team, types of reconstruction and secondary procedures, as well as insurance coverage. Also included are clinical photos, patient stories and additional resources.

In making one of the most personal choices, breast cancer patients considering breast reconstruction should know that they have a voice and a choice.

BREAST RECONSTRUCTION CANDIDATES

Breast reconstruction is a highly individualized procedure. Although surgery can give you a relatively natural-looking breast, a reconstructed breast will never look or feel exactly the same as the breast that was removed. It may take some time to accept the results of breast reconstruction.

Breast reconstruction is a good option for you if:

- You are able to cope well with your diagnosis and treatment
- You do not have additional medical conditions or other illnesses that may impair healing
- You have a positive outlook and realistic goals for restoring your breast and body image

It's important that you feel ready for the emotional adjustment involved in breast reconstruction. If you choose to go forward with breast reconstruction, you should do it for yourself, not to fulfill someone else's desires or to try to fit any sort of public image.

Your Reconstruction Options

Every woman should be made aware of her breast reconstruction options.

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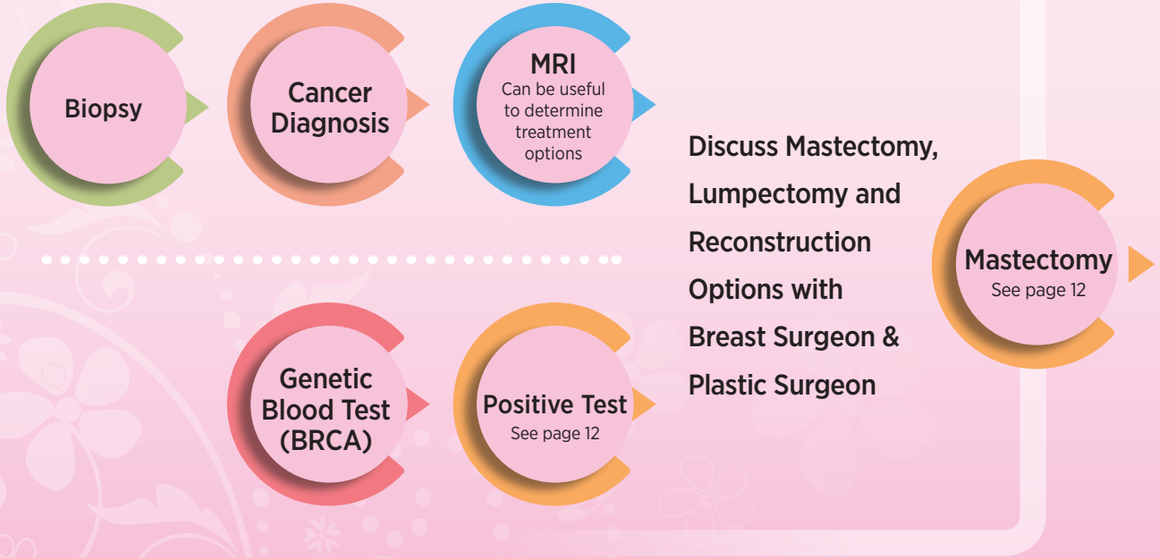
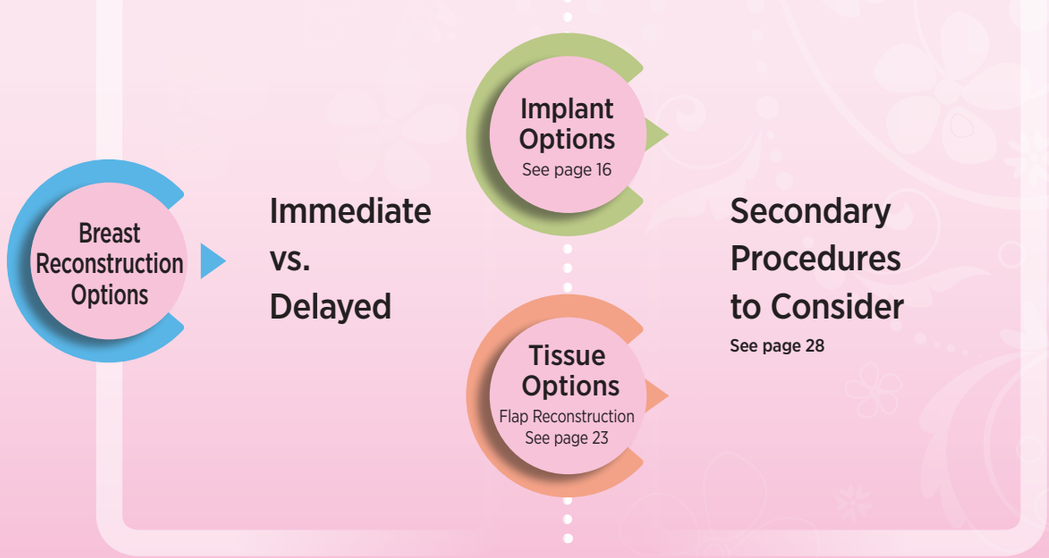
Pathway to Reconstruction





Your Team, Your Plastic Surgeon

If you receive a positive test that diagnoses breast cancer, your treatment plan should include a full team of medical professionals to provide optimal care.

This team should include:

- Primary Care Physician/Gynecologist
- General Surgeon/Breast Surgeon
- Plastic Surgeon
- Oncologist
- Radiologist
- Radiation Oncologist
- Breast Care Navigator
- Fertility Specialist

If all of these specialists are not involved in your care, find out why.

Plastic surgeons are trained specifically in reconstructing tissue and are a vital part of the breast reconstruction team.

Credentials are an important indicator of quality and competency. All ASPS Member Surgeons:

- Receive board certification by the American Board of Plastic Surgery® (ABPS) or, in Canada, by The Royal College of Physicians and Surgeons of Canada®
- Complete at least six years of surgical training following medical school with a minimum of three years of plastic surgery residency training
- Pass comprehensive oral and written exams
- Graduate from an accredited medical school
- Complete continuing medical education, including patient safety each year
- Perform surgery in accredited, state-licensed, or Medicare-certified surgical facilities

ASPS Member Surgeon®

ASPS Member Surgeons are your partners in cosmetic and reconstructive plastic surgery. Look for the ASPS Member Surgeon logo.

About Your Consultation

During your consultation, a plastic surgeon will:

- Evaluate your general health status and any pre-existing health conditions or risk factors
- Examine your breasts and take measurements of their size and shape, skin quality and location of nipples and areolae
- Take photographs for your medical record
- Discuss your options and recommend a course of treatment
- Discuss likely outcomes of breast reconstruction and any risks or potential complications

Questions to ask your plastic surgeon:

1. Am I a good candidate for this procedure?
2. What surgical technique is recommended for me?
3. What are the risks and complications?
4. Where and how will you perform my procedure?
5. How long of a recovery period can I expect and what kind of help will I need during my recovery?
6. What will be expected of me to get the best results?
7. How are complications handled?
8. What are my options if I am dissatisfied with the outcome?
9. Are you certified by the American Board of Plastic Surgery? Were you trained specifically in the field of plastic surgery?
10. Do you have before-and-after photos I can see? What results are reasonable for me?

Preparing for Your Breast Reconstruction

Before your surgery

Before surgery, your physician will examine your overall health status. Tell your doctor about your current medications, including prescription drugs, over-the-counter medicines, vitamins and herbal supplements. Be sure to exercise, rest and eat well so you will be as healthy as possible before surgery.

In preparing for breast reconstruction surgery, you may be asked to:

- Get lab testing or a medical evaluation
- Take certain medications or adjust your current medications
- Stop smoking (smoking delays wound healing and will increase your chance of developing infections after surgery)
- Avoid taking aspirin, anti-inflammatory drugs and herbal supplements as they can increase bleeding

Breast reconstruction surgery is typically performed in a hospital setting, may include a short hospital stay and will likely use general anesthesia. Some follow-up procedures may be performed on an outpatient basis, and local anesthesia with sedation may be used.

You'll need help

If your breast reconstruction is performed on an outpatient basis, be sure to arrange for someone to drive you to and from surgery, and to stay with you for at least the first night following surgery.

Risks & Safety

The decision to undergo breast reconstruction surgery is extremely personal. You'll have to decide if the benefits will achieve your goals and if the risks and potential complications are acceptable.

Your plastic surgeon will explain in detail the risks associated with each procedure related to breast reconstruction. The decision to pursue breast reconstruction does not change your risk of breast cancer recurrence.

The possible risks of breast reconstruction include, but are not limited to, bleeding, infection, poor healing of incisions and anesthesia risks. You should also know that:

- Flap surgery includes the risk of partial or complete loss of the flap and a loss of sensation at both the donor and reconstruction site.
- The use of implants carries the risk of breast firmness (capsular contracture) and implant rupture.

Breast implants do not impair breast health. Careful review of scientific research conducted by independent groups such as the Institute of Medicine has found no proven link between breast implants and autoimmune or other systemic diseases.

After surgery

Following your breast reconstruction surgery for flap techniques and/or the insertion of a breast implant, gauze or bandages may be applied to your incisions. An elastic bandage or support bra will minimize swelling and support the reconstructed breast. A small, thin tube may be temporarily placed under the skin to drain any excess blood or fluid.

It can be overwhelming to leave the hospital and manage your care. There are many pain management options to reduce your discomfort and pain after surgery. Discuss these options with your surgeon.

You will be given specific instructions that may include: How to care for your surgical site(s) following surgery, medications to apply or take orally to aid healing and reduce the risk of infection, specific concerns to look for at the surgical site or in your general health and when to follow-up with your plastic surgeon.

Be sure to ask your plastic surgeon specific questions about what you can expect during your individual recovery period, and write down your answers in a safe place.

- What physical, emotional and behavioral challenges will I experience while recovering?
- What medication will I be given or prescribed after surgery?
- Will I have dressings/bandages after surgery? When will they be removed?
- Will there be drains? For how long?
- When can I resume normal activity and exercise?
- When can I bathe or shower?
- When do I return for follow-up care?

Depending on your cancer diagnosis and type of treatment, your recovery time may vary. Be patient with yourself. Healing will continue for several weeks while swelling decreases and breast shape/position improve. Your scars will fade, but they will never disappear. Over time, some sensation may return to the reconstructed breast.

Take care of yourself

Following your surgeon's instructions is key to the success of your surgery. Attend follow-up visits as scheduled. It is important that the surgical incisions are not subjected to excessive force, abrasion or motion during the time of healing. Your doctor will give you specific instructions on how to care for yourself.

Types of Mastectomy

Mastectomy is a major factor in determining the type of procedure and aesthetic result of the reconstructed breast.

Therefore, the design of the mastectomy needs to be carefully tailored to the individual patient and the type of breast reconstruction she will have.

Talk to your breast surgeon and plastic surgeon about the following mastectomy options to see which is right for you:

- Traditional
- Skin-sparing
- Nipple-areola-sparing
- Breast lift/reduction pattern

Genetic Testing and Prophylactic Mastectomy

Genetic mutations known as BRCA1 and BRCA2 harbor an increased risk for developing breast and ovarian cancer. For people who carry a BRCA gene mutation, the increased lifetime risk for developing breast cancer may be as high as 85 percent. A simple blood test is used to determine whether or not a patient is a carrier.

Risk factors:

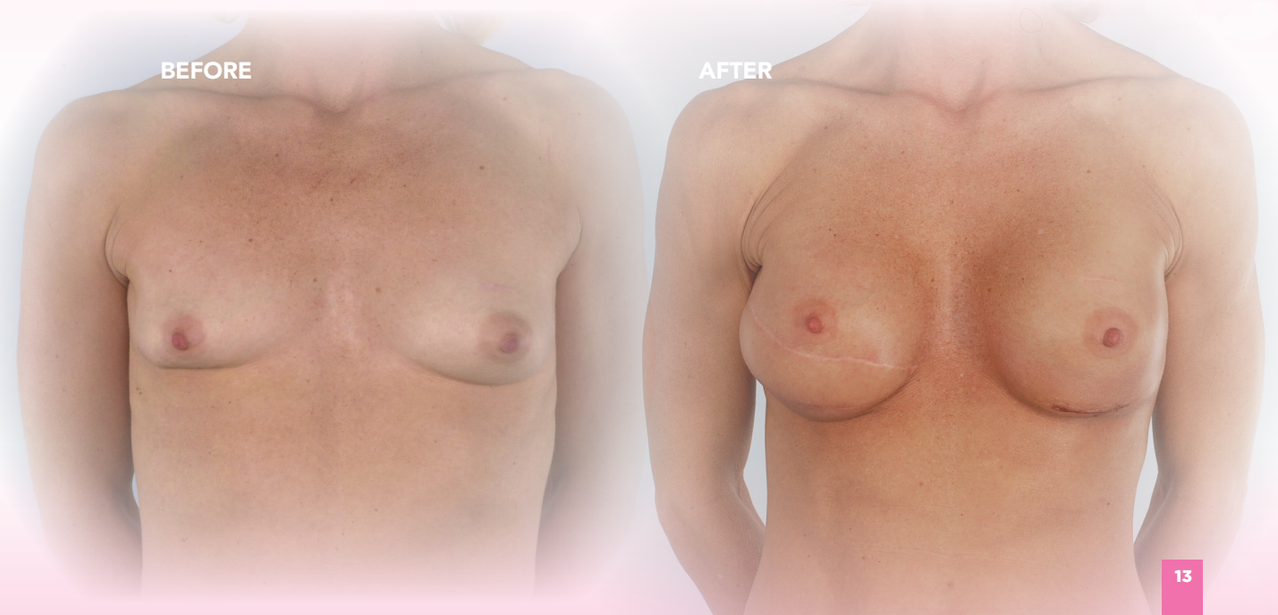
- Having another family member who has tested positive for a BRCA gene mutation
- Having had early onset breast cancer (diagnosed before age 45)
- A family history of early onset breast cancer
- A family history of ovarian cancer
- Being of Eastern European or Ashkenazi Jewish heritage

Should a patient carry one of the BRCA gene mutations, bilateral (both sides) prophylactic (preventive) mastectomies may be recommended. Patients who do not have a cancer diagnosis but are carriers can achieve a greater than 90 percent reduction in breast cancer risk by having prophylactic mastectomies. Patients choosing not to have preventive surgery may be screened through MRI, ultrasound and mammography every three to six months.

Lumpectomy and Reconstruction

Patients who undergo breast-conserving surgery and radiation therapy often have noticeable deformities after the swelling subsides. The most common concerns are indentation of the breast, breast asymmetry, firmness and changes in skin pigmentation.

Correction of such deformities is possible using different reconstruction techniques. Patients should consult with a plastic surgeon prior to lumpectomy to discuss their reconstruction options.



Types of Breast Reconstruction

One of the first decisions you will make with your plastic surgeon is what type of breast reconstruction you will undergo. Reconstruction is performed on either an immediate or delayed basis and generally falls into two categories: implant reconstruction or reconstruction using a patient's own tissue, which are often referred to as "flap" procedures. Factors to consider when choosing the right reconstructive option are type of mastectomy, cancer treatments and your body type.

Immediate vs. Delayed Reconstruction

This decision should be made with your plastic surgeon prior to your mastectomy and is usually based on your risk factors and information from your biopsy.

Immediate Reconstruction

This type of reconstruction begins at the time of the mastectomy and has become the standard of care for most patients. Not all women are candidates for immediate reconstruction. This is a decision made in conjunction with your oncologist, breast surgeon and plastic surgeon to help determine what is best for you and the specific treatments that you require.

Advantages: Immediate post-mastectomy reconstruction offers the psychological and aesthetic advantage of waking from the mastectomy procedure with a lesser deformity and reconstruction already well underway.

Disadvantages: Many women find the primary drawback of immediate reconstruction to be the longer surgery and recovery times. Also, subsequent radiation treatment can compromise the reconstructed result requiring revision surgery.

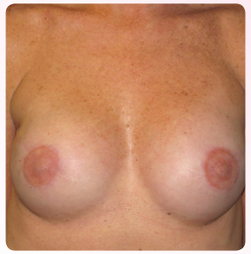
Delayed Reconstruction

In some patients, there may be signs of advanced disease, or radiation may be required as part of the treatment plan before any surgery is performed. If this is the case, a patient may want to delay reconstruction until after all treatments have been completed.

Advantages: Many women feel that delaying reconstruction gives them time to focus on treatments and research the type of reconstruction that best suits their needs.

Disadvantages: Some patients find that being without a breast for an extended or unknown period of time can be emotionally difficult.

Types of Implant Reconstruction



Post-Mastectomy Expander/Implant: During this staged approach, a tissue expander (temporary device) is placed first to create a pocket that will eventually contain the definitive silicone or saline implant. At the time of expander placement, some surgeons may use an acellular dermal matrix to assist with reconstruction. Expansion will be started a few weeks post-op, after the patient has healed, as an in-office procedure.

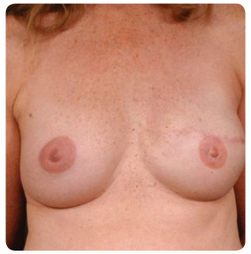
Once expansion is complete, the expander will be exchanged for the permanent implant during an outpatient procedure.

Hospital Stay (Mastectomy/Expander): 1-2 days

Recovery Time (Mastectomy/Expander): several weeks

Hospital Stay (Implant Exchange): outpatient

Recovery Time (Implant Exchange): 1-2 weeks



Direct-to-Implant: Post-mastectomy reconstruction with a direct-to-implant or "one-step" approach allows for a single-stage reconstruction of the breast mound in select patients.

The use of acellular dermal matrix during reconstruction has facilitated this technique. This approach allows for a permanent implant to be placed immediately following mastectomy, foregoing the need for a tissue expander. Although an expander may be avoided, some patients may still require a secondary procedure.

Hospital Stay: 1-2 days

Recovery Time: 4-6 weeks

You are an ideal candidate for either of these procedures if you:

- Have no available flap options
- Do not desire a flap operation
- Do not have compromised tissue at the mastectomy site
- Have no history of radiation to the breast or chest wall
- Are having prophylactic mastectomies
- Want bilateral reconstruction
- Are having immediate reconstruction after nipple-sparing mastectomy

Options for Breast Implants

Saline implants are filled with sterile salt water. The amount of saline affects the shape, firmness and feel of the breast. If a saline implant shell leaks, it collapses and the saline is absorbed and naturally expelled by the body. Silicone implants are filled with an elastic gel that feels and moves much like natural breast tissue. If the implant leaks, the gel may remain within the implant shell, or it may escape into the breast implant pocket. You may need to visit your plastic surgeon regularly to make sure the implants are functioning properly.

Prepectoral vs. Subpectoral

Implants or tissue expanders may be placed under the pectoralis muscle or over the muscle. In the subpectoral approach, the muscle may provide an additional layer of protective coverage over the breast implant. However, this technique sometimes leads to pain and tightness over time. In some women, contraction of the pectoralis muscle may cause animation or movement of the implant. Subtle animation deformity can be bothersome for women who routinely perform upper-body exercise.

In prepectoral reconstruction, the implant or tissue expander is often wrapped in an acellular dermal matrix (ADM) from donated human skin to hold the implant in place on top of the pectoralis muscle. This may lead to less postoperative pain and eliminate animation deformity of the implant, but the mastectomy skin flaps must be thick and healthy enough to provide good blood flow for healing. If the mastectomy flaps have adequate blood flow but are thin, the implant becomes more visible with rippling or wrinkling.

Additional fat grafting can increase the thickness of mastectomy flaps to minimize the visibility and palpability of implants. Ask your plastic surgeon and breast surgeon which option may be best for you. Shared decision-making can help patients thoroughly understand the implications of each reconstructive technique and arrive at realistic expectations for surgical outcomes.

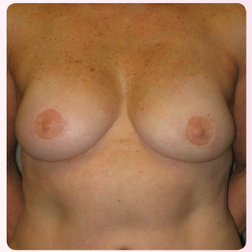
Types of Tissue Expanders

Tissue expanders are temporary prosthetic devices that are placed at the time of mastectomy (immediate reconstruction) or later (delayed reconstruction) to stretch and define the soft-tissue pocket that will eventually contain breast implants or flaps. Expanders act like adjustable balloons under the mastectomy skin.

An expander may contain a smooth or textured silicone shell and usually has a port that allows the surgeon to add increasing amounts of liquid (salt water solution) in the clinic over time until the skin gradually stretches to accommodate the implant. The total number of expansions and interval between expansions vary among patients and surgeons. Some expanders are filled with carbon dioxide using patient-controlled dosage remotes at home.

Reconstruction is a physically and emotionally rewarding procedure for a woman who has lost a breast due to cancer, trauma or other conditions. The creation of a new breast can dramatically improve your self-image, confidence and even quality of life.

Types of Flap (Autologous) Reconstruction



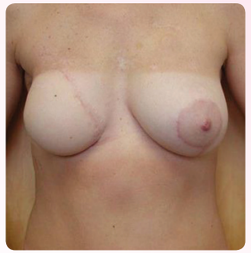
Hospital Stay: 3-5 days
Recovery Time: several weeks

Abdominal Free Flap: With the advances in microsurgery, several procedures have become more common, including deep inferior epigastric perforator (DIEP) free flap and superficial inferior epigastric artery (SIEA) free flap.These microsurgical procedures can provide women with a very natural breast reconstruction using abdominal skin and fat. Because these procedures do not use the actual abdominal muscles or only a small portion of the abdominal muscles, they may allow for results with fewer donor site complications. Ultimately, the choice of flap depends on the patient's individual anatomy. These procedures should only be performed by plastic surgeons who perform microsurgery routinely and in institutions with experience in monitoring these flaps after surgery.

You are an ideal candidate if you:

- Desire reconstruction using your own tissue and want to minimize muscle loss in the abdomen
- Have had prior abdominal wall surgery that cut the abdominal wall muscle in the upper abdomen and desire using your own tissue
- Do not want or are not a candidate for implant reconstruction
- Have enough lower abdominal wall tissue to create one or both breasts
- Have previously had chest wall radiation
- Have had failed implant reconstruction
- Are having immediate reconstruction at the time of skin-sparing mastectomy
- Are having delayed reconstruction following prior mastectomy

DONOR SITE: ABDOMEN



Pedicled TRAM Flap:

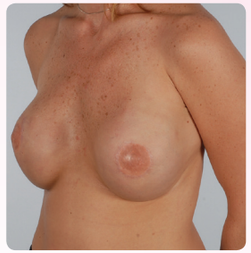
In the pedicled transverse rectus abdominis myocutaneous (TRAM) flap, muscle, fat and skin are used to recreate breast shape. Because the patient's own tissue is used, the result is a very natural breast reconstruction. Also, the patient will benefit from a flatter abdominal contour. The scar on the abdomen is low and extends from hip to hip. The pedicled TRAM flap can be used for reconstructing one or both breasts. In a patient undergoing unilateral reconstruction, flap options can potentially offer better symmetry than using an implant.

Hospital Stay: 2-5 days
Recovery Time: several weeks

You are an ideal candidate if you:

- Desire reconstruction using your own tissue
- Do not want, or are not a candidate for, implant reconstruction
- Have enough lower abdominal wall tissue to create one or both breasts
- Have not had prior abdominal surgery
- Have previously had chest wall radiation
- Have had failed implant reconstruction
- Are having immediate reconstruction at the time of skin-sparing mastectomy
- Are having delayed reconstruction following prior mastectomy
- Are not a candidate for microsurgery

DONOR SITE: BACK



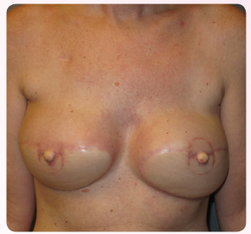
LD Flap: The latissimus dorsi (LD) flap is most commonly combined with an implant to give the surgeon additional options and more control over the aesthetic appearance of the reconstructed breast. At the time of breast reconstruction, the muscle flap, with or without attached skin, is elevated off the back and transferred to the front of the chest wall. This flap provides a source of soft tissue that can help create a more natural looking breast shape compared to an implant alone. Depending on the patient, the scar from the LD flap donor site on the back can be placed diagonally or horizontally. This scar can often be concealed under a bra strap.

Hospital Stay: 1-3 days
Recovery Time: several weeks

You are an ideal candidate if you:

- Are thin with small breast volume
- Have excess back tissue
- Have had previous radiation and are having an implant reconstruction
- Are not a candidate for other autologous procedures involving your own tissue
- Are not a candidate for microsurgery
- Are having a partial breast reconstruction to correct a lumpectomy defect
- Have thin skin that requires extra coverage for an implant
- Desire a more natural appearance than that of an implant alone
- Are having immediate or delayed reconstruction

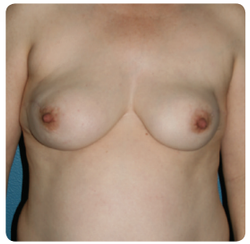
DONOR SITE: BUTTOCK



GAP Flap: Another flap choice is the gluteal artery perforator (GAP) free flap using skin and fat from the buttocks. This flap can be harvested from one buttock, with a well-hidden scar, or from both buttocks for bilateral breast reconstruction. A significant disadvantage of this type of reconstruction is that it is technically more challenging to perform. Also, the tissue from the buttock is somewhat more difficult to shape into a breast.

Hospital Stay: 3-5 days
Recovery Time: several weeks

DONOR SITE: THIGH



Inner Thigh Free Flap: This procedure uses skin, fat and muscle from the inner portion of the upper thigh to reconstruct the breast. The scar can be made sideways just under the groin crease (known as the transverse upper gracilis or TUG flap) or longitudinally along the inner thigh. Unlike loss of other muscles (like the rectus abdominis), loss of the gracilis muscle does not result in any noticeable functional impairment. The tissue is dissected from the inner thigh and transferred to the chest where it is reattached microsurgically. The resulting thigh scar is generally well hidden. The profunda artery perforator (PAP) flap uses upper thigh skin and fat without sacrificing muscle function.

Hospital Stay: 3-5 days
Recovery Time: several weeks

You are an ideal candidate if you:

- Desire reconstruction using own tissue
- Do not have sufficient abdominal tissue to create a breast mound
- Have a slender body shape
- Have had previous surgery of the abdomen
- Have had failure of a previous abdominal flap
- Have had failure of a previous implant

You are an ideal candidate if you:

- Have small to medium sized breasts
- Want to avoid an abdominal scar
- Do not have enough abdominal tissue for an abdominal free flap breast reconstruction
- Have had previous abdominoplasty (tummy tuck surgery)
- Have had multiple previous abdominal surgeries

Many women report feeling more comfortable with their own bodies after breast reconstruction, allowing them to engage in physical activity and regain their self-confidence.

Types of Secondary Reconstruction

Breast reconstruction is inherently staged. Patients almost always require more than one surgery to obtain the optimal outcome, even in those cases where reconstruction is performed immediately following mastectomy.

Surgery on the opposite breast
Achieving symmetry with the newly reconstructed breast may be done through a breast reduction, breast lift or breast enlargement with an implant.

Implant reconstruction revisions
Common revisions to implant reconstruction include surgery to address contour abnormalities, rippling, or a buildup of scar tissue around the implant for those patients who have undergone radiation.

Flap revisions
Flap reconstruction procedures frequently require a second surgery to achieve the final breast contour and create the nipple-areola.

Autologous fat grafting
Fat grafting or lipofilling uses liposuctioned fat from a separate donor site to correct contour deformities following implant or flap reconstructions.

Nipple-areola reconstruction
Creating the nipple-areola is the final surgical component to breast reconstruction, involving the formation of a nipple mound.

Nipple-areola tattooing
The finishing touch to breast reconstruction is having your nipple-areola tattooed, which is a simple, fast procedure that can take as little as 15 minutes and is commonly performed in your plastic surgeon's office.

Patient Stories

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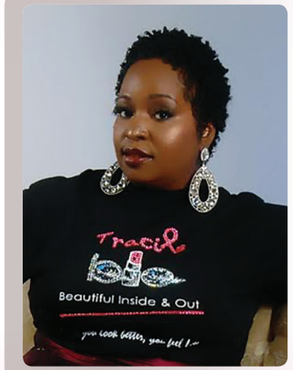
Dana

Dana was 27 and planning her wedding when she was diagnosed with breast cancer and underwent a bilateral mastectomy with implant reconstruction.

Dana became well aware of the body image issues resulting from breast cancer treatment, so she began designing undergarments for women who had unilateral or bilateral mastectomies, or lumpectomies. Dana is proud that she has been able to connect with women from across the nation and develop mutual support through sisterhood.



Traci

After losing her left breast to cancer and mastectomy, Traci struggled to look at her body in the mirror. She decided to undergo free flap reconstructive surgery at the end of her nine-month cancer treatment and elected to remove her right breast as a precaution.

Traci founded a nonprofit organization in 2014 to provide education to empower women and raise awareness about breast health and reconstruction in the African-American community. Traci shares her story with breast cancer patients and speaks candidly about the newfound confidence she found after her breast reconstruction surgery.

Terri

Terri received her first breast cancer diagnosis in 2002. She underwent two lumpectomy procedures on the left breast followed by six weeks of daily radiation treatments. When the cancer returned 12 years later, Terri opted for a bilateral mastectomy. As a two-time breast cancer survivor, Terri's life-changing experience with breast reconstruction motivated her to educate others on their options. Terri continues to touch the lives of men and women all over the world through her outreach efforts and breast reconstruction awareness initiatives.

Genny

Genny was diagnosed with breast cancer during the third trimester of her eighth pregnancy. She was induced at 38 weeks and started chemotherapy after the birth of her son.

Genny underwent a double mastectomy and implant-based reconstruction in 2014. After contracting an infection and dealing with her failed implant reconstruction, Genny underwent multiple surgeries before completing a successful DIEP flap in 2016. Her experience led her to develop a faith-based workshop for cancer survivors and a nonprofit organization to help women find their new normal after breast cancer.

Insurance Coverage for Reconstructive Surgery

Reconstructive surgery, including breast reconstruction, is covered by most health insurance policies, although coverage for specific procedures and levels of coverage may vary greatly. The Women's Health and Cancer Rights Act of 1998 (WHCRA) requires all health plans that cover mastectomies to offer post-mastectomy and reconstructive surgery benefits. The bottom line is that coverage varies depending on where you are and who your provider is, so check with your state insurance commissioner's office and/or your insurance provider to find out which services are covered.

WEBSITES:

BreastCancer.org

BreastCare.org

BreastImplantSafety.org

BreastReconstruction.org

BreastReconstructionMatters.com

BreastReconUSA.org

BrightPink.org

Cancer.gov

Cancer.org

Komen.org

NCCN.org

PlasticSurgery.org

WomensHealthResearch.org

SUPPORT GROUPS:

DiepCJourney

https://diepcjourney.com

Image Reborn

ImageRebornFoundation.org

Mothers Supporting Daughters

MothersDaughters.org

Overcomers

OvercomersBreastCancer.com

Pink Ribbon Girls

PinkRibbonGirls.org

Young Survival Coalition

YoungSurvival.org

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