HOPE | BALANCE | EMPOWERMENT | CHOICE

Breast Reconstruction

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. It may be a good option for you if you have realistic goals for restoring your breast/body image. 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 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.
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 Reconstructive Options
Pathway to Reconstruction

1. Biopsy
2. Cancer Diagnosis
3. MRI 
   Can be useful to determine treatment options
4. Genetic Blood Test (BRCA)
5. Positive Test 
   See page 6
6. Discuss Mastectomy, Lumpectomy and Reconstruction Options with Breast Surgeon & Plastic Surgeon
7. Mastectomy 
   See page 8
Immediate vs. Delayed Breast Reconstruction Options

Options with Patient's Tissue Flap Reconstruction
See page 15

Implant Options
See page 12

Secondary Procedures to Consider
See page 20
If you receive a positive test that diagnoses breast cancer, your treatment plan should include a full team of medical professionals to provide optimum care. This team should include:

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

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 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 placement 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?
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 & 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 a patient must make with her plastic surgeon is what type of breast reconstruction she 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 patient’s 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 under way.

**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 tissue.

**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.
Post-Mastectomy Expander/Implant: During this staged approach, a tissue expander (temporary device) is placed first to create a soft 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 a prophylactic mastectomies
• Want bilateral reconstruction.
• Are having immediate reconstruction after nipple-areola-sparing mastectomy
• Desire an operation on the opposite breast to help improve symmetry

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 may escape into the breast implant pocket. You may need to visit your plastic surgeon regularly to make sure the implants are functioning properly.
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 Reconstruction

DONOR SITE: ABDOMEN

TRAM Flap: The most common method of tissue reconstruction is the pedicled transverse rectus abdominus myocutaneous (TRAM) flap. In this approach, abdominal muscle, tissue, skin and fat are used to create breast shape. Since the patient’s own body tissue is used, the result is a very natural breast reconstruction. Also, the patient will have the benefit of a flatter looking abdomen. The scar on the abdomen is low and extends from hip to hip. The TRAM flap can be used for reconstructing one or both breasts. In a patient undergoing unilateral reconstruction, the TRAM flap can potentially offer better symmetry than using an implant.

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

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
Abdominal Free Flap: With the advances in microsurgery over the last decade, there are several new procedures available, including deep inferior epigastric perforator (DIEP) flap, superficial inferior epigastric artery (SEIA) flap and TRAM free flap. These microsurgical procedures can provide women with a very natural breast reconstruction when using abdominal tissue. Because these procedures do not use the actual abdominal muscle or only a portion of the abdominal muscle, they may allow for results with fewer donor site complications. Ultimately, the final choice of flap depends on the patient’s anatomy. These are lengthier procedures with potential for other complications. These procedures should only be performed by plastic surgeons who perform microsurgery regularly and in institutions with experience in monitoring these flaps.

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

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 breast
- 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: Back**

**LD Flap:** The latissimus dorsi 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 of the back and brought around 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 autogenous procedures involving your own tissue
- 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

**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: 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
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

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 abdominus), loss of the gracilis muscle does not result in any noticeable functional impairment. The tissue is dissected from the inner thigh and transplanted to the chest where it is reattached microsurgically. The resulting thigh scar is generally well hidden.

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

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 a TRAM flap or 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.
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.

**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 normally performed in your plastic surgeon’s office.
Patient Stories
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.

Carin

After Carin was diagnosed with the BRCA gene, she turned to research and her dedicated medical team to determine what was best for her post-mastectomy. With a career in the performing arts, she knew it was crucial to feel confident and empowered on stage.

Carin marvels that, while losing a part of her body was emotionally difficult, reconstruction surgery gave it back to her in a way that has restored her confidence.
Carol was diagnosed with Stage 3C breast cancer just 18 months after retiring from her 25-year career on Wall Street, crushing her plans to travel the world with her husband.

Carol decided to have immediate reconstruction after discussing her options with her doctor. She had tissue expanders placed at the same time as her double mastectomy and she underwent chemotherapy and radiation after the procedure.

Suzanne had just celebrated her 50th birthday and sold her family business when an annual mammogram revealed she had Stage 2B breast cancer.

Suzanne had lost an aunt to breast cancer, so the news sounded to her like a death sentence. Instead of giving up, she launched herself into extensive research on breast cancer surgery and reconstruction options. She underwent a mastectomy, chemotherapy and radiation in 2008. She also underwent a delayed right breast reconstruction in 2009.
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:

AvonWalk.org
BreastCancer.org
BreastCare.org
BreastImplantSafety.org
BreastReconstruction.org
BreastReconstructionMatters.com
BreastReconUSA.org
Cancer.gov
Cancer.org Komen.org
NCONN.org
PlasticSurgery.org/Choice
StayinthePink.com
YoungSurvival.org
WomensHealthResearch.org

SUPPORT GROUPS:

Breast Cancer Network of Strength
NetworkofStrength.org

Image Reborn
ImageRebornFoundation.org

Mothers Supporting Daughters
MothersDaughters.org

Pink Ribbon Girls
PinkRibbonGirls.org

Young Survival Coalition
YoungSurvival.org

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