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# Breast Reconstruction

[www.plasticsurgery.org/breastrecon](http://www.plasticsurgery.org/breastrecon)





## 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.

While plastic surgeons continue to develop many new and advanced reconstruction techniques – making these procedures more popular than

ever – nearly 70% of women eligible for breast reconstruction are not told about all of their options. Because of this, 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, and 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.

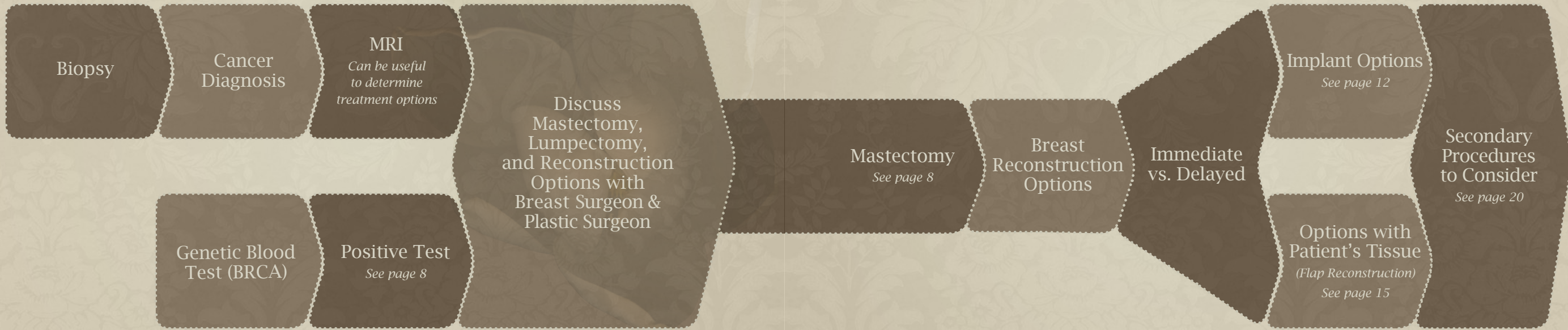
It's important that you feel ready for the emotional adjustment involved in breast reconstruction. If you choose to go forward with breast reconstruction, you should do it for yourself, not to fulfill someone else's desires or to try to fit any sort of public image.



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## Your Reconstructive Options

# Pathway to Reconstruction





## Your Team, Your Plastic Surgeon

If you are diagnosed with 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.



ASPS Member Surgeon

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

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:

- Have completed at least five years of surgical training with a minimum of two years in plastic surgery.
- Are trained and experienced in all plastic surgery procedures, including breast, body, and facial reconstruction.
- Operate only in accredited medical facilities.
- Adhere to a strict code of ethics.
- Fulfill continuing medical education requirements.
- Are board-certified by The American Board of Plastic Surgery® or in Canada by the Royal College of Physicians and Surgeons of Canada®.



## 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 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 look at? What results are reasonable for me?

## Types of Mastectomy

Mastectomy is a major factor in determining the type 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 that carry a

BRCA gene mutation, the increased lifetime risk for developing breast cancer may be as high as 85%. A simple blood test is used to determine whether or not a patient is a carrier.

Risk factors:

- Having another family member that 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 (preventative) mastectomies may be recommended. Patients who do not have a cancer diagnosis but are carriers can achieve a greater than 90% reduction in breast cancer risk by having prophylactic mastectomies. Patients choosing not to have preventative surgery may be screened through MRI, ultrasound, and mammography every three to six months.



## Lumpectomy & Reconstruction

Patients who choose breast conserving surgery and undergo 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.



BEFORE



AFTER

## 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.

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



## Types of Implant Reconstruction



**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 permanent 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):* 2-4 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:* several 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-areola-sparing mastectomy.
- Desire an operation on the opposite breast to help improve symmetry.

### Options for Breast Implants

A saline breast implant is a sac (implant shell) made of silicone elastomer (rubber), which is surgically implanted under your chest tissues and/or muscle, and then filled with saline, a saltwater solution, through a valve. The amount of saline injected will affect the shape, firmness, and feel of the breast.

Unlike saline breast implants, today's silicone gel breast implants are pre-filled.





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. As such, 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 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: BACK

**LD Flap:** The latissimus dorsi flap is most commonly combined with a tissue expander or implant to give the surgeon additional

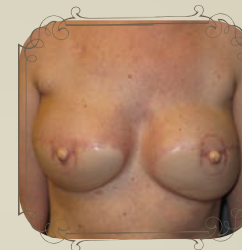
options and more control over the aesthetic appearance of the reconstructed breast. At the time of breast reconstruction, the muscle flap, with or without attached skin, is elevated off of the back and brought around to the front of the chest wall. This flap provides a source of soft tissue that can 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.



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

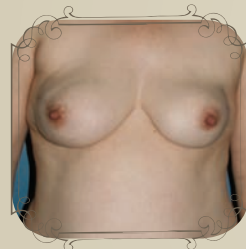
harvested from one buttock, with a well-hidden scar, or from both buttocks for bilateral breast reconstruction. A significant disadvantage of this type of reconstruction is that it is technically more difficult to perform. Also, the tissue from the buttock is somewhat harder to shape into a breast.

*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.



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 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.



### Secondary Procedures

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 done in your plastic surgeon’s office.



# Patient Stories

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# Jamie



Although surprised because 13 years had elapsed since her first cancer, Jamie's strongest

emotion upon discovery of DCIS (ductal carcinoma in situ) in her left breast was annoyance. After 18 months caring for a dying father and then a widowed mother, this cancer was just a nuisance. She chose bilateral mastectomy.

Jamie's wish is that other lonely travelers will find something in her story to help make sense of their own. Her survivor's motto: "I am alive... and I have cleavage!"

# Judy



Judy was diagnosed with breast cancer in July 2007. The following month she had a lumpectomy that yielded

unclear margins. Relying on her faith and research, she assembled a "medical dream team" that helped her to select the right treatment plan for her life. In December 2007, she had a double mastectomy and sentinel node biopsy.

Judy attributes the success to the medical team selection, research, faith, and a positive attitude.

# Jody



Jody was diagnosed with DCIS (ductal carcinoma in situ) six years ago and underwent a mastectomy

with immediate reconstruction of her right breast. She calls her team of doctors and her plastic surgeon "amazing," walking her through the process and helping her to accept her new body. She also believes choosing immediate reconstruction helped her to focus on what she was going to have, rather than what she had lost.

Today Jody is cancer free and shares her story as often as she can. She hopes to alleviate some of the fear among fellow breast cancer patients who are facing the unknown.

# Dayna



Dayna was preparing for Thanksgiving guests when a trunk fell on her right breast. As the bruising healed, she discovered a

lump in the same area and was diagnosed with breast cancer in December 2008.

After intensive research and interviews with physicians, Dayna underwent a single mastectomy with immediate reconstruction in February 2009. She had follow-up reconstruction surgery in 2010.

Dayna believes being proactive and maintaining a positive attitude—as well as her team of doctors including her plastic surgeon—were key factors in her recovery.



## 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*  
*PlasticSurgery.org/Choice*  
*Cancer.gov*  
*Cancer.org*  
*Komen.org*  
*NCONN.org*  
*StayinthePink.com*  
*StopBreastCancer.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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