FRANKLY SPEAKING ABOUT CANCER

Breast Reconstruction

QUICK REFERENCE: RECONSTRUCTION OPTIONS

TYPE OF RECONSTRUCTION	ELIGIBILITY	PROCESS AT TIME OF SURGERY	PROCESS AFTER CANCER TREATMENT	BENEFITS	CONSIDERATIONS/RISKS
Saline/Silicone Implant - Direct to Implant/One Stage Implant	• Good for women who are slender and small-breasted or who do not wish to increase their bust size. • Smokers, obese women, or those who have had radiation therapy may not be eligible.	• Implant is placed between layers of chest muscle under breast skin during the same surgery as the mastectomy. • Acellular Dermis (ADM) will usually be used.	• Radiation therapy may cause the implant to develop capsular contracture (get hard). • Remaining breast may be sized to match the reconstructed breast with implants.	• Ask to see and touch your different implant options. • Ask to talk with other women who have had the procedure you are interested in.	• Less surgery, anesthesia, pain and faster recovery than tissue flap procedures. • Risk of rupture, leak, deflation (one in 10 in first 10 years). • Silent rupture of a silicone implant may be detected only with MRI. • Implant may shift in place which may require an additional surgery. • Area around the implant may scar and harden (capsular contracture). • Infection after surgery is a risk. • Additional surgery may be needed for removal, replacement, revision or nipple reconstruction.
Saline/Silicone Implant - Two Stage Tissue Expander	• Good for women with chest skin and muscles that are tight. • Good for women who wish to be larger than their original size or are unsure of how large they would like to be at the time of surgery.	If chest skin and muscles are tight, reconstruction is done in two steps: • First a tissue expander is placed in the mastectomy area. • The surgeon adds saline to increase the size of the expander at regular intervals in the office. • When the expander is the desired size, it is replaced with a smaller permanent implant in a second surgery.	• Second surgery (removal of the expander and placement of the implant) may be delayed until after chemotherapy and/or radiation therapy is completed.	• Uses saline filled expander with valves that allow for expansion after surgery and can create the desired size. Skin stretches and droops in a natural curve. • Ask to see and touch your different implant options. • Less stress on the skin than in the direct to implant process. Saline can be removed if needed. • Gives women more time to think about the type of implant, final size and shape they desire.	• Less surgery, anesthesia, pain and faster recovery than tissue flap procedures. • Risk of rupture, leak, deflation (1 in 10 in the first 10 years). • Silent rupture of a silicone implant may be detected only with MRI. • Implant may shift in place which may require an additional surgery. • Area around the implant may scar and harden (capsular contracture). • Infection after surgery is a risk. • Additional surgery may be needed for removal, replacement, revision or nipple reconstruction.

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Oncoplastic Surgery	• Women with larger breasts must have clear margins from lumpectomy.	• Typically prior to radiation therapy, could possibly be performed at lumpectomy surgery or after radiation is completed.	• Radiation therapy is usually done after oncoplastic surgery.	• Using own breast tissue rearranged to fill in defect from lumpectomy or partial mastectomy, both breasts can be reduced and lifted if large breasts (basically a breast reduction).	• Radiation may cause affected breast to change, may become firmer or smaller risk for complication increased if performed after radiation therapy.
TRAM (transverse rectus abdominus muscle) Flap – Pedicle Flap	• Women who are smokers, have high blood pressure, have had major abdominal surgery, are obese or very thin may not be eligible. • Women who have adequate abdominal fat may consider this option.	• Skin, fat and muscle will be moved from the abdomen to chest area through a tunnel created by the surgeon under the skin. • Recovery from surgery may require several days in the hospital and several weeks off from work.	• If radiation or chemotherapy is recommended after mastectomy, TRAM flap may be delayed until after treatment is complete. With a skin sparing mastectomy, an implant or tissue expander may be used temporarily to keep the skin stretched.	• Since the reconstructed breast is made from your own skin and fat it, will be more similar to natural breast tissue. • Your tummy will be flatter, although the scar is higher than a "tummy tuck" scar, which may change the look of your belly button.	• TRAM surgery and recovery times take longer than implant surgery. • There will be two surgical sites and two scars. • Abdominal hernia and abdominal bulge is possible due to the removal of supportive abdominal muscle. • Flap may die and have to be removed. A pedicle flap is less likely to completely fail than a free flap. • There is a risk for infection and problems with healing. • You will need additional surgery to create a nipple and areola, and possibly additional surgery to shape the flap.
TRAM (transverse rectus abdominus muscle) Flap – Free Flap	• Women who are smokers, have high blood pressure, have had major abdominal surgery, are obese or very thin may not be eligible.	• A section of skin, fat, muscle and blood vessels are cut free from their location in the abdomen, relocated to the chest area and reconnected to the blood supply using microsurgery. • Surgery can take many hours.	• If radiation or chemotherapy is recommended after mastectomy, TRAM flap may be delayed until after treatment is complete.	• Feels like a natural breast and is warm and soft because of good circulation. • Moves like your natural breast because it is also fat tissue. • Because abdominal tissues are used, you will also have a tummy tuck. • Should last for your lifetime.	• TRAM surgery and recovery takes longer than implant surgery. • Surgical time for a TRAM free flap is longer than for a pedicle flap. • You will have two surgical sites and two scars. • Abdominal hernia and abdominal bulge is possible with the removal of abdomen muscles. • Flap may die and have to be removed. A free flap is more likely to fail than a pedicle flap (5% failure rate). • There is a risk for infection and healing problems. • You will need additional surgery to create a nipple and areola, and to shape the flap.

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Latissimus Dorsi Flap (Lat Flap)	• Women who have had radiation therapy and are not candidates for tissue expansion may consider this option. • Best for women with average amounts of body fat and small-to-medium-size breasts. • Women with vascular disease, diabetes or connective tissue disease may not be eligible. Women who are overweight or obese and smokers may not be eligible.	• Skin and muscle will be moved from the upper back to the mastectomy area through a tunnel created by the surgeon under your skin. An implant is placed under the flap to create the desired volume.	• If radiation or chemotherapy is recommended after mastectomy, Latissimus Dorsi Flap may be delayed until after treatment is complete.	• Transplanted skin will be a close color match for your breast skin. The breast will feel warm and flexible.	• You will have two surgical sites and two scars. • Some women experience weakness in the back, shoulder and arm muscles and require physical therapy. • There is a risk for impact to the function of the shoulder. If you play sports or are an avid swimmer you may want to consider another type of reconstruction. • There is a risk for infection and problems with healing. • You will need additional surgery to create a nipple and areola. • Since an implant is placed there are similar risks to implant surgery such as deflation, capsular contracture, etc.
DIEP (deep inferior epigastric perforator) Flap	• Women who are smokers, have high blood pressure, have had major abdominal surgery, are very thin or have already had a procedure to remove abdominal skin and fat are not eligible.	• Skin, fat and blood vessels are moved from the upper abdomen to the chest area and then reconnected to the blood supply using microsurgery. A small implant can be placed under the tissue flap if necessary. • Surgery can take many hours.	• If radiation or chemotherapy is recommended after mastectomy, DIEP flap may be delayed until after treatment is complete.	• No muscle is removed so there is minimal risk of an abdominal hernia (unlike TRAM flap). • There may be less pain, faster recovery than TRAM flap. • Similar to a TRAM flap your tummy will be flatter.	• More time in surgery than TRAM flap. • You will have two surgical sites and two scars. • If the procedure fails, the flap will die and must be removed • There is a risk for infection and problems with healing. • You will need additional surgery to create a nipple and areola.
SIEA (superior inferior epigastric artery) Flap	• Women who are smokers, very thin or have already had a procedure to remove abdominal skin and fat are not eligible.	• Skin, fat and blood vessels are moved from the lower abdomen to the chest area and then reconnected to the blood supply using microsurgery. • Surgery can take many hours.	• If radiation or chemotherapy is recommended after mastectomy, SIEA flap may be delayed until after treatment is complete.	• SIEA blood vessels are not located within muscle so abdominal muscles are never disturbed. • There is minimal risk of an abdominal hernia (unlike TRAM flap). • Less pain and faster recovery than TRAM flap. • Similar to a TRAM flap, your tummy will be flatter.	• There is a risk for infection and problems with healing. • You will need additional surgery to create a nipple and areola. • Slightly higher risk of partial flap loss then DIEP. • Not all patients are good candidates, depending on their vascular anatomy.

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IGAP (inferior gluteal artery perforator) Flap	• Women without adequate abdominal fat are good candidates for IGAP. • Smokers and women who have previously had lower buttock skin and fat removed or have had liposuction on the lower buttock are not eligible.	• Fat, skin and blood vessels are removed from the lower buttock to the chest area and then reconnected to the blood supply using microsurgery. • Surgery can take many hours.	• If radiation or chemotherapy is recommended after mastectomy, IGAP flap may be delayed until after treatment is complete.	• No muscle is cut or moved resulting in quicker recovery time. • Buttock lift results from removal of gluteal skin and fat.	• There will be two surgical sites and two scars. • If the procedure fails, the flap will die and must be removed – new reconstruction may not be done for 6-12 months. • There is a risk for infection and problems with healing. • You will need additional surgery to create a nipple and areola.
SGAP (superior gluteal artery perforator) Flap	• Women *without* adequate abdominal fat are good candidates. • Smokers and women who have previously had upper buttock skin and fat removed or have had liposuction on the upper buttock are not eligible.	• Fat, skin and blood vessels are removed from the upper buttock to the chest area and then reconnected to the blood supply using microsurgery. • Surgery can take many hours.	• If radiation or chemotherapy is recommended after mastectomy, SGAP flap may be delayed until after treatment is complete.	• No muscle is cut or moved resulting in quicker recovery time. • Buttock lift results from removal of gluteal skin and fat.	• There will be two surgical sites and two scars. • If the procedure fails, the flap will die and must be removed – new reconstruction may not be done for 6-12 months. • There is a risk for infection and problems with healing. • You will need additional surgery to create a nipple and areola.
TUG (transverse upper gracilis) Flap	• Women *without* adequate abdominal fat are good candidates. • Smokers and women who have previously had upper buttock skin and fat removed or have had liposuction on the upper buttock are not eligible.	• Fat, skin and blood vessels are removed from the upper buttock to the chest area and then reconnected to the blood supply using microsurgery. • Surgery can take many hours.	• If radiation or chemotherapy is recommended after. • mastectomy, TUG flap may be delayed until after treatment is complete.	• Inner thigh lift results from this surgery.	• There will be two surgical sites and two scars. • If the procedure fails, the flap will die and must be removed.