MedStar Plastic & Reconstructive Surgery

Your Guide to Breast Reconstruction

- *Free Flap Reconstruction*
- *Prosthetic Based Reconstruction*
- *Oncoplastic Reconstruction*
- *LIFT Procedure*
- *Enhanced Recovery After Surgery (ERAS)*

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MedStar Plastic & Reconstructive Surgery
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Welcome to MedStar Plastic & Reconstructive Surgery

_____
Patient Name

_____
Surgery Date/Time to Arrive

_____
Surgeon

We are honored that you have given us the privilege of participating in your care. Preparing for surgery can be overwhelming. At MedStar Health, we incorporate the latest techniques in reconstruction and anesthesia to provide world-class care. This booklet is a primer on the most up-to-date, evidence-based options that we offer -- with a focus on safety.

Our surgeons and anesthesiologists are pleased to include you in our Enhanced Recovery After Surgery (ERAS) program. Our enhanced recovery program combines several strategies aimed at minimizing the stress of surgery on your body, expediting recovery, and reducing length of stay in the hospital. The material included in this educational book will provide you with an overview of the exceptional surgical experience we offer at MedStar Health through our ERAS program.

It is important to remember that every patient is different. Your care team will tailor your recovery program to your needs. You will be receiving a lot of information – please know that the MedStar Plastic Surgery team is here to help you from beginning to end.

This handbook should be used as a guide to help you through your recovery and answer questions that you may have. Please give us any feedback that you think would make your experience even better.

Please try to read this handbook as soon as you are able, keep track of your questions, and be sure to ask your surgical team when you see them or call our office at 202-444-8751. It is important for you, your family, and your friends to understand what to anticipate so that everyone can fully participate in your recovery.

Please bring this book with you to:

- ☑ Every office visit
- ☑ Your admission to the hospital
- ☑ Follow-up visits

Contact Information

MedStar Georgetown University Hospital (MGUH)
3800 Reservoir Road NW
Washington, DC 20007

MedStar Health at McLean
6862 Elm Street, Suite 800A
McLean, VA 22101

MedStar Washington Hospital Center (MWHC)
106 Irving St NW
Washington, DC 20010

Contact	Phone Number
Plastic and Reconstructive Surgery	202-444-8751
Department of Anesthesiology Anesthesiologist, Dr. Joe Myers	202-444-6680 joseph.myers@gunet.georgetown.edu
Fax – Plastic Surgery Clinic	866-990-5516
MGUH Presurgical Testing Department	202-444-2746
MWHC Presurgical Testing Department	202-877-7169
MGUH Hospital Inpatient Unit: 3 Bles	202-444-2311
MGUH Hospital Inpatient Unit: 7 Bles	202-444-2351
MGUH Surgery Center	202-444-4218
After Hours	202-444-7243 (ask for the plastic surgery resident on call)
MGUH Outpatient Pharmacy (Ground Floor PHC Building)	202-444-3772
MWHC Outpatient Pharmacy (First Floor Physician's Office Building)	202-877-6309
Georgetown Hotel and Conference Center	888-902-1606
MGUH Parking Assistance	202-444-3802
MGUH Interpreter Services	202-444-1588
MedStar Billing Questions	410-933-2424

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What is ERAS?

Enhanced Recovery After Surgery (ERAS)

Enhanced recovery is a way of improving the experience of patients who need major surgery. It helps patients recover sooner so life can return to normal as quickly as possible. The ERAS program focuses on making sure that patients are actively involved in their recovery.

There are four main stages:

1. Planning and preparing before surgery – giving you plenty of information so you feel ready
2. Reducing the physical stress of the operations.
3. A pain relief plan that focuses on giving you the right medicine you need to keep you comfortable during and after surgery
4. Early feeding and moving around after surgery – allowing you to eat, drink, and walk around as soon as you can.

It is important that you know what to expect before, during, and after your surgery. Your care team will work closely with you to plan your care and treatment. We hope to make you an active participate in your recovery. By working together, we hope to keep your hospital stay as short as possible.

Your Checklist

Use this summary checklist as a guide to what you need to do in order to prepare for your surgery and recovery after surgery.

AS EARLY AS POSSIBLE BEFORE SURGERY
☐ Gather outside medical records to be sent to Presurgical Testing and our office
☐ Meet with Presurgical Testing to discuss surgery during your Preadmission Testing (PAT) appointment. You will review your medical history and will be told if you need to stop or change any medication before surgery. This appointment may be over the phone, o r you may be asked to come in.
☐ Complete bloodwork, EKG, radiology as needed with your primary care physician or with Pre-Anesthesia Testing.
A DAY OR TWO BEFORE SURGERY
☐ You will receive a phone call from the hospital reminding you what time to arrive for your surgery, review medications to take the day of surgery, and ask last-minute questions
☐ Call your surgeon's office at 202-444-8751 and schedule a post-operative appointment for one to two weeks after surgery, depending on procedure.
MORNING OF SURGERY
☐ Take medications as instructed.
☐ Follow your guide for fluid intake (located on page 14 of this packet).
AFTER SURGERY
☐ If you are having an ONCOPLASTIC RECONSTRUCTION or an IMPLANT-BASED REVISION RECONSTRUCTION, you will go home the same day as your procedure.
☐ If you are having IMMEDIATE RECONSTRUCTION WITH IMPLANTS OR TISSUE EXPANDERS, you will go home the day after your procedure.
☐ If you are having FLAP-BASED RECONSTRUCTION, plan to go home on the third or fourth day following your procedure.

Before you leave the hospital, you should have:

- ☐ Hospital discharge instructions
- ☐ An outpatient appointment with your surgeon within one to two weeks of discharge
- ☐ Prescription for pain medication and any other medications you need. Be sure you and someone that will be with you understand the plan for taking pain medications. At Georgetown, the Outpatient Pharmacy is located on the Ground Floor of the Pasquerilla Healthcare Center (PHC Building). At Washington Hospital Center, the Outpatient Pharmacy is located on the first floor in the Physician Office Building (POB Building).

Before Your Surgery

Office Visit:

During your first visit, we will evaluate to see if you need surgery, and what type of surgery we recommend. You will work with our entire team to prepare for surgery, including:

- Your surgeon
- Fellows, residents, and medical students who will participate in your care while you are in the hospital
- Nurse Practitioners who will participate in your care during office visits
- Executive Assistants
- Medical Assistants

During your clinic visit, you will:

- Answer questions about your medical history
- Have a physical exam
- Discuss surgical options
- Decide surgical plan

You will also receive:

- Instructions on preparing for surgery
- Special instructions for what to do before surgery (e.g.: if you are on any blood thinners or other medications)

You will meet with a surgical coordinator during your clinic visit to schedule the date of your procedure and any additional appointments as needed.

PLEASE NOTE: The time of your procedure is subject to change up until the day prior to surgery, and is dependent on availability in the OR and potential for emergency surgeries being added to the OR schedule. For this reason, our department cannot give an accurate surgery start time until **one week prior** to surgery, nor can we accommodate special requests for surgery start times. You will be called by a nurse in the pre-op department one to two days before your surgery to confirm your start time.

Write any special instructions here:

_____
_____
_____
_____
_____
_____
_____

Presurgical Testing

After your office visit, you will need to see a primary care physician and have tests done before your surgery. This may occur at your own primary care physician's office, or at the Presurgical Testing Department, a clinic located at MedStar Georgetown University Hospital

Presurgical testing is a process that ensures that all preoperative requirements are completed and reviewed before the day of surgery. **If the Presurgical Testing Center cannot complete this process, your surgeon and/or anesthesiologist may be required to cancel or delay your surgery.**

Special note on medication:

Please let us and presurgical testing know if you are on a blood thinner due to a stent (e.g.: Plavix, Aspirin) or a clot (e.g.: Warfarin, Lovenox, Xarelto). This increases the incidence of bleeding.

If you are taking Tamoxifen, hormone replacement medication, or hormonal birth control, ask your surgeon if you should stop the medication four weeks prior to surgery. These medications increase the incident of clots.

Please ask your presurgical testing providing and our office if you have further questions about medications to stop prior to surgery. If you take medication for diabetes, please check with your primary care physician the dosage recommended when you are fasting. It typically is half the required dose.

PRESURGICAL TESTING CHECKLIST (TO BE COMPLETED BY SURGEON'S OFFICE)

Plan to see your Primary Care Provider to be cleared for surgery. Please schedule an appointment with your primary care provider **one month** prior to surgery. A tear-out clearance request for your primary care physician is located on the following page.

All patients will need an H&P (history and physical) and basic lab work prior to surgery.

Write any notes for presurgical clearance here:

_____
_____
_____
_____
_____
_____
_____

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Patient:_____

DOB:_____

MedStar Plastic and Reconstructive Surgery
3800 Reservoir Rd., NW
1st Floor, PHC Bldg.
Washington, DC 20007

PRIMARY CARE CLEARANCE REQUEST

This patient is scheduled for a surgical procedure and requires a letter stating they are medically cleared for surgery.

Date of surgery: _____

Surgeon: _____

Location of surgery: _____

CPT codes: _____

Please evaluate the patient pre-operatively. Check the labs/studies indicated below, and add anything you deem necessary for medical clearance.

We have asked the patient to have lab results and clearance statement sent to us **2 (two) weeks prior to their surgery date.**

Fax all results and letter stating the patient is cleared for surgery to **866-990-5516, ATTN: PRE-OP.** If you have any questions, call us at **202-444-8751**.

Please check:

H&P CBC BMP PT/INR LFTs Nicotine/Cotinine

EKG (age >50) Echocardiogram CXR Cardiac Clearance

Mammogram Other: _____

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Preparing for Surgery

You should expect to be in the hospital for about 1-3 day(s), depending on the type of surgery you are having. Please see page 16 for discharge guidelines. When you leave the hospital after your surgery, you will need some help from family or friends. It will be important to have help with meals, taking medications, and other activities for daily living.

You can do a few things before you come in to the hospital to make things easier for you when you get home:

- ☑ Clean and put away laundry
- ☑ Put clean sheets on the bed
- ☑ Put the things you use often between waist and shoulder height to avoid having to bend down or stretch too much to reach them
- ☑ Bring the things you are going to use often during the day to the place where you will be recovering for the first week or two
- ☑ Buy the foods you like and other essentials, since shopping may be challenging when you first get home.
- ☑ Arrange for someone to get your mail and take care of pets and loved ones, if necessary. Pets need to stay away from your surgical wounds, as they harbor infection.

Special note on medication:

- ☑ **Please let us and presurgical testing know if you are on a blood thinner due to a stent (e.g.: Plavix, Aspirin) or a clot (e.g.: Warfarin, Lovenox, Xarelto). This increases the incidence of bleeding.**

- ☑ **If you are taking Tamoxifen, hormone replacement medication, or hormonal birth control, ask your surgeon if you should stop the medication four weeks prior to surgery. These medications increase the incident of clots.**

- ☑ **Stop taking medications that increase bleeding two weeks before surgery. You may resume these medications two weeks after surgery. This includes:**
  Aleve, Advil, Alka-seltzer, Anacin, Anaprox, Bayer, Aspirin tablets, BC powder and tablets, Bufferin Butalbital, Darvon, Dristan, Duragesic, Ecotrin, Excedrin, Florinol, Goody's, Ibuprofen, Indocin, Midol Motrin, Naprosyn, Norgesic, Nuprin, Pamprin, Peptobismol, Percodan, Supac, Triaminicin, Voltaren, Zomax, Vitamin E, Vitamin A, Vitamin E, St. John's Wort, gingko biloba, grape seed extract, fever few and beta carotene

- ☑ **If you smoke, you will need to <u>STOP ALL NICOTINE</u> at least four weeks prior to surgery and six weeks after surgery. Nicotine will significantly impact your wound healing. Ask your primary care physician for assistance prior to surgery, if necessary. Continuing to smoke may cause your surgeon to cancel or delay your surgery. This includes e-cigarettes, vaping, cigars, cigarettes, and nicotine gum, patches, or other replacements.**

1-2 Days Prior to Surgery

- ☑ Please shave 48 hours before surgery. Do not shave with a sharp razor within 48 hours at the surgical site as this may increase chances of surgical site infection.

- ☑ Use a nonfragranced antibacterial soap (Lever, Dial) the week before surgery with showering.

- ☑ [Breast expander or implant patients]: Please use Hibiclense (4% chlorhexidine) to wash the surgical site 48 hours before surgery. This may be purchased at your local CVS or on Amazon. Shower at least twice with this wash in addition to the antibacterial soap. Make sure to scrub the armpit area, under the breast, and between the breasts very well.

- ☑ If you take medication for diabetes, please check with your primary care physician the dosage recommended when you are fasting. It typically is half the required dose.

- ☑ When showering the night before surgery, use antibacterial soap and/or Hibiclense and scrub your armpit, groin, and underneath your breasts diligently. These areas need to be adequately scrubbed to reduce bacterial count.

- ☑ You may have solid foods up to 6 hours before surgery and clear liquids (Gatorade) up to 2 hours before surgery.

The Day of Surgery

What you SHOULD bring to the hospital:

- ☑ A list of your current medications
- ☑ Any paperwork given to you by your doctor
- ☑ A copy of your Advance Directive form, if you have completed one
- ☑ A book or something to do while you wait
- ☑ A change of comfortable clothes for discharge
- ☑ Any toiletries that you may need
- ☑ Your Guide to Breast Reconstruction (this book!)
- ☑ Insurance card and photo ID
- ☑ Payment for any deductible or copayment

What you SHOULD NOT bring to the hospital:

- ⊗ Large sums of money
- ⊗ Valuables, such as jewelry or non-medical electronic equipment

If you take daily medication such as that for blood pressure or cholesterol, please take them as scheduled before surgery with a very small sip of water to swallow them.

Do not apply lotions, creams, or makeup on the day of surgery.

Remove all nail polish prior to arriving at the hospital

Do not wear contact lenses, hairpieces, or hair pins. Wear loose, comfortable clothing. Do not wear any jewelry – this includes wedding rings, earrings, and any other body piercings. If body piercings cannot be removed, please ask your piercing specialist to replace them with completely plastic replacements to prevent burns.

Remind the team of any concerns. If you are prone to nausea vomiting, please let the anesthesiologist so that steps can be taken to pre-emptively treat such cases.

Please arrive two hours prior to your scheduled surgery. A nurse will call you the day before your surgery to remind you what time to arrive. If your surgery is on a Monday, you will be called the Friday before. There is a space on page 2 of this handbook to write your arrival time.

At Georgetown, you will report to the **Surgery Center**, accessible via Entrance 2 off of Reservoir Road. Valet parking is available at the entrance to the surgery center. Valet and self parking are also available in Garage 1. There is a map on page 59 of this handbook.

At Washington Hospital Center, you will report to the **Admissions Desk** (Room 1228). Park in the Hospital Parking Garage and enter through the Main Hospital Entrance. There is a map on page 60 of this handbook.

Please refer to page 14 of this handbook for your instructions on fluid intake on the day of surgery.

Fluid Intake – Day of Surgery

Your surgery is scheduled for _____ at _____am/pm.

Please arrive at the hospital no later than _____am/pm.

The start time of your surgery is subject to availability in the operating room. We are able to provide an estimate of your surgical start time one week prior to surgery. However, the operating room reserves the right to change the start time of surgery to accommodate emergencies up to and including one day prior to surgery. If your start time has changed you will be notified by the hospital.

If you are having breast reconstruction in conjunction with a lumpectomy or mastectomy, please consult with your breast surgeon to see if you need to arrive any earlier for additional procedures prior to surgery, such as needle localization or lymph node injection.

You may have solid foods up to 6 hours before surgery.

You may have clear liquids up to 2 hours before surgery.

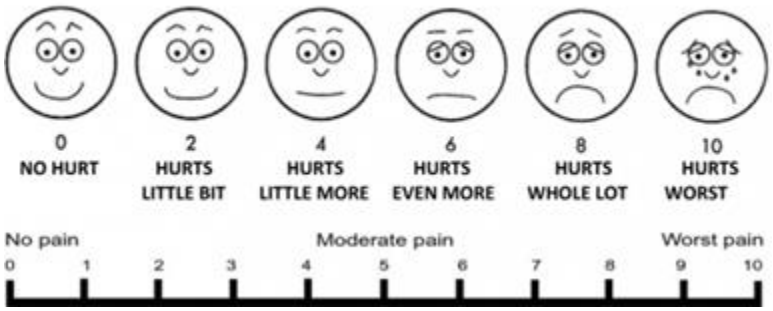
NO SOLID FOODS AFTER _____am/pm

CLEAR LIQUIDS ONLY BETWEEN _____am/pm and _____am/pm

NOTHING TO EAT OR DRINK AFTER _____am/pm

Your Hospitalization

You will awake from anesthesia in the recovery room where nurses will administer medication to assure that any discomfort you have is tolerable. They will ask you to rate your pain on a scale of one to ten, one being minor discomfort and ten being the highest level of pain. Realistically, you can't expect zero pain after surgery, but it should always be tolerable.



If you are going home same-day (oncoplastic reconstruction or revision reconstruction), you will be discharged from the PACU to go home. A responsible adult over the age of 18 must be present to receive your discharge instructions, drive you home, and stay with you for the first 24 hours after surgery.

If you are going home next-day (immediate implant or tissue expander reconstruction), you will be moved to an inpatient room in the hospital once there is a bed available for you. If you had surgery at Georgetown University Hospital, you will generally be admitted to 7 Bles. If you had surgery at Washington Hospital Center, you will be admitted to the surgical unit. Patients are admitted after surgery for pain control. During the first evening of surgery, you will be able to eat or drink. You may experience muscle spasms, which we will provide muscle relaxants for. You are encouraged to walk as much as you can. However, it is critical you do not use your chest muscles with a 4-wheeled walker as it may disrupt your reconstruction. Usually by day one or two patients feel well enough to go home.

If you are having flap-based reconstruction you should plan to stay in the hospital for three to four days after surgery. If you had surgery at Georgetown University Hospital, you will be admitted to 7 Bles. If you had surgery at Washington Hospital Center, you will be admitted to the ICU. During the first evening after surgery, you cannot have anything to eat or drink, in case there is an issue with the vessels that requires a return trip to the operating room. You will have a urinary catheter in place to help you urinate. After we see you in the morning on the first day after surgery and assess your flap, you will be able to resume your diet. You will be able to get out of bed and move into a chair (with help). Your urinary catheter will be removed at this point. By day two, most of our patients are able (and encouraged!) to walk. You may require assistance early on. *We do not encourage patients to support themselves with a 4-wheeled walker as that may pinch the blood vessels supplying the flap reconstruction*. Instead, have someone support your arm. By day three or four, you may be discharged from the hospital.

After Surgery

It is common to feel discomfort after having breast reconstructive surgery. You will most likely have surgical drains in place regardless of the type of reconstruction you receive. See pages 20-23 for a guide to caring for your surgical drains. Your drains may cause you discomfort, particularly where the drains exit the skin. They will usually be removed in 2-3 weeks depending on how much volume they put out. Drains are placed to draw excess fluid away from the surgical site so that fluid does not build up under the skin or within the tissues.

Activity after prosthetic-based reconstruction

You may feel soreness, pain, and tightness in your chest if you have implant or tissue expander-based reconstruction. This is to be expected. You may also experience muscle spasms, which can be relieved with muscle relaxant medication. After surgery you are encouraged to walk, with assistance, as soon as you are able. However, for the first 2 weeks, limit activity to that which does not increase your heart rate >100 beats per minute. Heavy lifting greater than 10 lbs must be limited for 6 weeks. Any physical trauma (including sex) must be avoided for 4-6 weeks. Most people are able to return to light duty in 2 weeks. This is also when patients feel comfortable driving. **You may not drive if you take muscle relaxant or opioid medications**.

Activity after flap-based reconstruction

If you have flap-based reconstruction, your abdomen may be in discomfort due to pain in your core muscles and at your surgical drains. Most patients are able to move around and to ambulate slowly, but sometimes will need assistance for the first week. For the first 2 weeks, limit activity to that which does not increase your heart rate >100 beats per minute. Heavy lifting greater than 10 lbs must be limited for 6 weeks. Any physical trauma (including sex) must be avoided for 4-6 weeks. Most people are able to return to light duty in 3 weeks. This is also when patients feel comfortable driving. **You may not drive if you take muscle relaxant or opioid medications**. Do not place your seatbelt directly over your chest area.

For the first few weeks, you may not sleep on your side. Most patients find comfort in sleeping on several pillows, or in a recliner chair. Do not place pressure on your reconstructed breasts. This includes seat belts or placing items on your chest. Keep animals away from your wounds at all times.

Activity after LIFT procedure

After the LIFT procedure, your back may be sore due to the surgical operation and the drains in place. Most patients are able to ambulate without difficulty, and we encourage doing so. However, for the first 2 weeks, limit activity to that which does not increase your heart rate >100 beats per minute. Heavy lifting greater than 10 lbs must be limited for 6 weeks. Any physical trauma (including sex) must be avoided for 4-6 weeks. You may resume normal range of motion of your shoulder so long as there is not pain at your incision site. We encourage this as well, as nursing your shoulder may result in stiffness and a frozen shoulder. Most people are able to return to light duty in 2-3 weeks. This is also when patients feel comfortable driving. **You may not drive if you take muscle relaxant or opioid medications**.

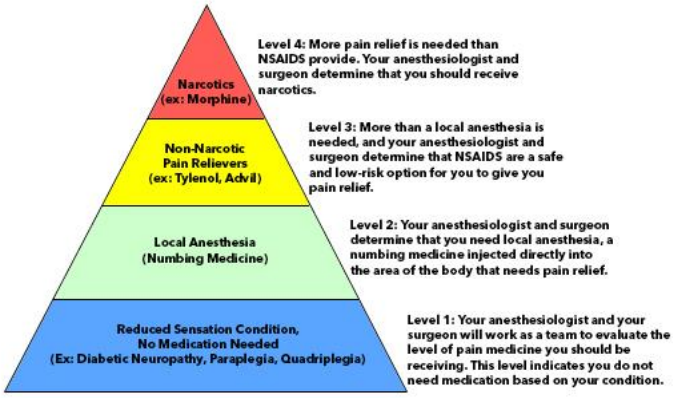
Activity after Oncoplastic Reconstruction

After oncoplastic reconstruction, your chest may be sore in the incision lines and where the drain is in place. Most patients are able to ambulate without difficulty, and we encourage doing so. However, for the first 2-3 weeks, limit activity to that which does not increase your heart rate >100 beats per minute. Heavy lifting greater than 10 lbs must be limited for 6 weeks. Any physical trauma (including sex) must be avoided for 4-6 weeks. Most people are able to return to light duty in 1-2 weeks. This is also when patients feel comfortable driving. **You may not drive if you take muscle relaxant or opioid medications**.

Diet

You may resume your normal diet as tolerated. Adequate protein and vitamin intake is important to ensure proper wound healing. We recommend a diet rich in meats and leafy greens. If you are vegetarian, please ensure you have protein built into your diet. *Ensure* supplements are also beneficial to boost calorie intake for those who struggle. Please consult your primary care provider for recommendations to optimize your nutrition in order to promote healing after surgery.

What is the pain like after surgery?



Modern medical practice emphasizes Enhanced Recovery After Surgery (ERAS) and opioid-sparing strategies to keep you as comfortable as possible while preventing nausea and over-sedation. This allows you to eat, walk, rest, and recover. Guided by the ComfortSafe Pyramid® you will begin taking non-opioid pain medication. You will have some before surgery, we will give more before you awaken from anesthesia, and you will continue to take these non-narcotic pain medications around-the-clock for about one week. If you have pain that the non-opioid medications do not relieve, opioids will be available. Try to limit the opioids that you take but always take your scheduled dose of non-opioid pain medication to help prevent pain and discomfort before it happens.

Most patients report 3-4/10 pain in their surgical and drain sites. This is normal, and often taking opioids will not relieve this pain. The side effects of opioids are nausea, vomiting, constipation, sedation, addiction, and a decreased breathing rate.

Please visit https://www.medstargeorgetown.org/our-services/general-surgery/treatments/comfortsafe-pyramid/ for more information.

Medications

All medications should be taken as prescribed and/or instructed by your surgeon. We practice the Enhanced Recovery After Surgery (ERAS) protocol and ComfortSafe Pyramid® where we limit the amount of opioids given. Opioid pain medications can cause constipation, decrease cognitive awareness,

increase nausea significantly, and often do not break the pain feedback loop. They may also cause cognitive impairment and be ineffective in treating pain. We recommend a high fiber diet, lots of liquids, and possibly an over the counter stool softener if taking opioids in order to prevent these issues.

You should be given a regimen of Tylenol 1000mg by mouth every 8 hours, gabapentin (Neurontin) 300mg every 8 hours, and celecoxib (Celebrex) 200mg every 12 hours. **Take these medications even if you are not in pain**. Continue this for at least one week.

It is not unusual to have nausea after surgery. Nausea and/or vomiting may increase your blood pressure and cause bleeding from your surgical sites. If necessary, you should take Zofran, as prescribed, to minimize nausea, postoperatively. If you were given a prescription for any antibiotics, please complete the entire course. Valium may have been prescribed for muscle spasms, which you may take to minimize discomfort at the surgical site as needed.

Your throat may be sore following general anesthesia. You may try over the counter throat lozenges. No alcoholic beverages while taking opioid pain medication.

Follow-up

You should follow-up with your surgeon within 1 week after discharge from the hospital. Please call the office at (202) 444-8751 to arrange and/or confirm your appointment with your surgeon.

Postoperative Wound Care

You may shower with gentle (non-fragranced) soap and water beginning the following day after your operation. Gently massage soap over your skin and pat dry with a clean towel. Do not scrub or rub vigorously over incision sites, as this may cause irritation and/or wound separation. Do not soak/submerge incisions for 4 weeks, as this may increase your risk for infection. A dissolvable skin glue and/or mesh bandages have been placed over your incisions; allow them to fall off on their own over the course of 1 to 2 weeks. Do not apply ointments, creams, or lotions to your incision sites unless instructed by your surgeon.

Postoperative Drain Care

During your surgery, 1 or more drains may have been placed to help facilitate the removal of excess fluid from under the skin. Please empty and record the amount of fluid from each drain twice daily, or as needed. You will be sent home with a log to record the daily output from each drain, which your surgeon will use to determine the timing of drain removal.

Serous Serosanguinous Sanguinous

Drain bulbs should be kept compressed from side to side (i.e., not bottom up) at all times. As fluid collects in the drain bulb, it will expand. Drains should be emptied if they fill 50% or more. After emptying the drain, squeeze the bulb to recompress it and replace the plug at the top of the drain to

maintain suction. Milking or stripping the drain should also be done to ensure the tubes do not become clogged. To do this, secure the tube to the body using your thumb and pointer finger of one hand. Using your other hand, squeeze the tube while sliding your fingers away from your body towards the bulb. It is normal if the tube appears collapsed after doing this. Apply antibiotic ointment such as Bacitracin to the drain sites prior to showering and if the drain site appears red or irritated. The normal color of the fluid should be red, pink, or clear yellow (See Photo). Call if the drainage becomes foul smelling or cloudy.

There are additional details on the JP drain system as well as a drain log for use after your surgery on pages 20-23.

You should notify your surgeon if you experience any of the following symptoms:

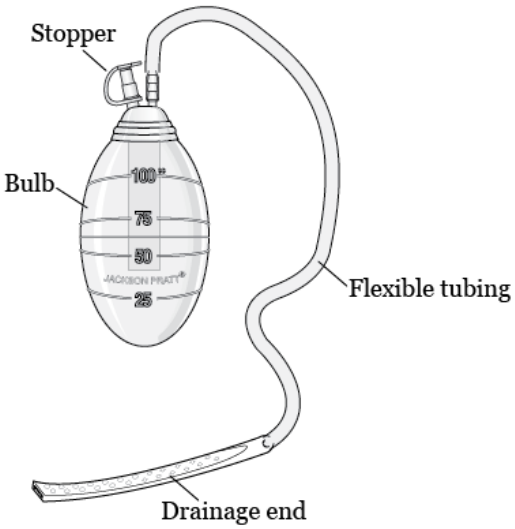
Fevers > 101.5
Chills
Pain, redness, pus or foul smelling drainage from surgical site
Excessive swelling, bruising, or bleeding from surgical site
Sudden increase or change in the character of drain output (i.e., excessive bloody or foul smelling drainage)
Continued nausea/vomiting
Inability to tolerate oral intake
Chest pain or shortness of breath

For free flaps, please see the "Must Calls" postoperative information sheet.

If during business hours, please call the Plastic Surgery Office at (202) 444-8751. If you need to reach someone after hours, you may call (202) 444-7243 and ask for the plastic surgery resident on call.

Care of your Jackson-Pratt (JP) Drains

The Jackson-Pratt drain system is made up of a soft plastic bulb with a catheter at the top of the bulb, and a drainage outlet with a stopper. The other end of the catheter tubing is inserted near your incision to collect drainage. When the bulb is compressed with the stopper in place, a vacuum is created. This causes a constant gentle suction, which helps draw out fluid that otherwise would collect under the incision. To achieve the best healing results, the bulb should be compressed at all times, except when you are emptying the drain. The amount of time you will have the drain depends on your surgery and the amount of drainage you are having, which is very individual. **Your doctor will decide when to remove the drains based on the amount of drainage that has accumulated, so please be sure to bring the JP Drain Output Record with you to all of your follow-up appointments.**



You may also use the "Drain IQ" app and email your provider your logs through the app. Please see https://itunes.apple.com/us/app/drain-iq/id1100445683?mt=8 for detail.

Utility belts to hold your drains are readily available on Amazon.com.

CARING FOR YOUR JP DRAIN SYSTEM

Caring for your JP drain at home will involve the following:

A. Emptying the drain 2 or more times a day and recording the amount of drainage

B. Caring for your insertion site (where the catheter enters your skin)

C. Stripping the tubing before emptying the drain, and when necessary to move a clot

D. Recognizing when there is a problem

A. HOW TO EMPTY YOUR DRAIN AND RECORD THE DRAINAGE

Empty your JP drain every morning and every evening or when the drain is more than 50% full.

1. Unplug the stopper on top of the JP drain. This will cause the bulb to expand.
2. Do not touch the inside of the stopper or the inner area of the opening on the bulb.
3. Turn the JP bulb upside down, gently squeeze the bulb, and pour the contents into the measuring container you are given at discharge.
4. Turn the bulb right side up.
5. Squeeze the bulb from side to side (**not from bottom up!**) until you have removed as much air from inside as possible.
6. Continue to squeeze the bulb while re-plugging the stopper.
7. Check periodically to see that the bulb remains fully compressed to assure constant gentle suction.
8. Attach the loop of your JP bulb securely to a belt loop, put in pockets or fanny pack, camisole with pouches, or around your neck on a lanyard. Do not allow the drains to dangle.
9. Check the amount of drainage in the measuring container and record on the Drain Record.

10. Empty the drainage down the toilet, and rinse the measuring container with soap and water.
11. At the end of each day, add the total amount of drainage for the 24-hour period and record it on the output record.
12. If you have more than one drain, measure and record each separately

B. CARING FOR THE INSERTION SITE

Check the area around the catheter insertion site. Sometimes, the drain causes redness the size of a dime at the insertion site. Usually, a Biopatch disc covered with a clear dressing (Tegaderm) has been placed over the drain site. If the Tegaderm comes loose after getting wet, you may remove it. Then, apply antibiotic ointment around the drain site and cover with a Band-Aid or other bandage.

C. STRIPPING THE TUBING

These steps will help move clots through the tubing and promote the flow of drainage. Do this before you empty and measure your drainage.

1. At the point closest to the insertion site, pinch and hold the catheter between the thumb and forefinger of one hand.
2. Using rubbing alcohol or something to reduce friction, use the thumb and forefinger of your other hand to pinch the tubing right below your fingers and slide them down the tubing as far as they will go. Move each hand in the same fashion down the tubing and slide them down the tubing in an “inch worm” fashion until you reach the bulb.
3. Repeat steps a few times or as necessary to push clots from the tubing into the bulb.

D. PROBLEMS YOU MAY ENCOUNTER WITH THE JP SYSTEM

Problem: The bulb will not stay compressed completely
Solution:

- Squeeze the bulb from side to side (not bottom up!) fully
- Check that the stopper is inserted tightly
- Inspect the tubing for leak or tear
- If the bulb remains expanded after following the above steps, notify the office

Problem: There is an abrupt decrease in the amount of drainage or leaking of fluid at the insertion site
Solution:

- Follow the instructions for stripping the tube and repeat a few times
- Make sure the bulb is as flat as possible and has good suction
- Monitor the incision site for increase in size, change of skin color, or increased pain – if any of these are present, notify the office

Problem: The JP drain catheter falls out from the insertion site
Solution:

- The drains are sutured in place, so this is rare
- Cleanse the site gently with soap and water, dry off, and apply Aquaphor to where the drain had been inserted. Cover with a thick gauze or the soft side of a maxi pad in case fluid begins to leak from the drain site.
- Notify the office

How do I shower with the drains?

- Find something you can hang around your neck and attach the drain bulbs to it. You can use a ribbon, lanyard, old necklace, or chain
- Alternately, use a fabric belt and loop the drain tabs through them and wear in the shower
- It is important that the drains not dangle in the shower, but that you do have your hands free for washing

What do I report to my doctor?

- Increased redness, swelling, or leaking around the area where the tube enters the body
- Inability to flatten the drainage bulb
- The tube falls out, or the suture attaching the tube to your body falls out
- Change in what is coming out of the draining, including foul smells or discharge
- A fever of 101F or higher

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Introduction to Breast Reconstruction

Breast reconstruction is performed by plastic surgeons to restore form and function to your breast after cancer removal. The process involves close coordination with your breast surgeon to provide the best chance of an ideal outcome.

The amount of breast tissue excised during surgery is dependent on the cancer diagnosis. The amount of tissue we plan to remove will categorize you into one of two pathways: **breast conservation therapy** versus **mastectomy**.

Breast conservation therapy is ideal for patients with small, single location tumors, patients who have larger breasts, and patients who can tolerate radiation after surgery. Plastic surgeons are often involved to internally rearrange tissue if more than 10% of the total volume of breast tissue is excised.[1] Otherwise, severe asymmetry and dimpling after the recovery period is over may occur. See page 32 for detail.

Mastectomy is suitable for patients with larger tumors, and those who would rather not have radiation after surgery if they do not have to. Some patients who have genetic risk factors may elect to have a prophylactic mastectomy to limit future chance of having breast cancer. When having a mastectomy, the reconstruction options available are based on your body's anatomy. Generally speaking, reconstruction is either prosthetic-based or autologous (from your own tissues). Prosthetic based reconstruction may be with an implant, or with a tissue expander. A tissue expander is a temporary device, that is replaced by an implant at a later date. See page 26 for detail. Autologous reconstruction (from your own tissue) may take tissue from your back, abdomen, or your inner thighs to recreate the breast. See pages 35 and 38 for detail.

Reconstruction options are influenced by factors including but not limited to:

- Body shape
- Surgical history
- Overall health status
- And importantly, patient preference

Timing of Reconstruction

Your reconstruction may be either immediate or delayed. Immediate reconstruction refers to any breast reconstruction performed immediately after the breast cancer or breast tissue is removed, during the same operation. Immediate breast reconstruction reduces the number of trips to the operating room. Immediate breast reconstruction may result in a better cosmetic result.[2] Patients also experience less psychological trauma in the immediate postoperative period, as they wake up with reconstructed breasts immediately after surgery and do not see themselves without breasts. However, it increases overall surgical time and hospital stay, as opposed to electing no reconstruction or delayed reconstruction.

Delayed reconstruction is performed in a separate trip to the operating room at a point in time after your mastectomy. Patients undergoing delayed reconstruction will have a flat chest for the time between mastectomy and reconstruction. It is rare for delayed reconstruction to be the only available option to a patient. In certain situations, the breast skin may have poor blood supply that do not

support reconstructive options. Some patients may elect to have delayed reconstruction to reduce recovery time or to give them time to consider all reconstructive options. While the initial surgical time and hospital stay is decreased with delayed reconstruction, recreating cosmetically ideal breasts later on is more challenging.

How many operations does immediate reconstruction entail?

Studies show implant reconstruction require more surgeries compared to reconstructions using your own tissue.[3,4] Replacement of the implant will be necessary at some point – the FDA reports the lifespan of implants are 10 years. If tissue expanders are inserted at the time of mastectomy, a second surgery is required to remove the expanders and replace them with permanent implants.

With reconstruction based on your own tissue (flaps), no further surgery is usually necessary.[3] Some patients, although not all, may require additional surgery for symmetry or contour defects.

Please ask your surgeon to clarify your situation.

Do I need to have breast reconstruction?

Breast reconstruction is not a requirement. Some patients may choose to not proceed with surgical reconstruction. If they desire, and in order to better fit their clothes, a breast prosthesis is used. These devices are worn under clothing to give the appearance of a breast mound. This prosthesis can be used starting 6 weeks after cancer excision; after all surgical wounds have healed. The following websites are excellent resources for patients interested in external prosthesis rather than surgical reconstruction:

https://www.cancercare.org/publications/290-prostheses_resources

https://shop.nordstrom.com/content/breast-prosthesis-program

Prosthetic-Based Reconstruction

Prosthetic (implants and/or tissue expanders) based reconstruction has become the most commonly performed reconstruction since 2002. The aesthetic result in the properly selected patient is excellent.

Expander/Implant Based Reconstruction versus Direct to Implant Reconstruction

There are two pathways for prosthetic based reconstruction: *expander/implant based* or *direct to implant* reconstruction.

Expander/Implant Based Reconstruction

The first surgery involves placement of a temporary expander device that remains for 2-3 months after surgery. These devices stretch breast skin to give room for an implant to be placed. This type of reconstruction is typically necessary for patients who desire a final breast size larger than their original breast, patients whose breast after cancer excision will not be of adequate size, or patients who do not have good blood flow to the breast skin after surgery.

One to two weeks after surgery, you will begin coming to the office for filling of the device with either saline or air. This expansion process usually is once or twice a week for 3-4 weeks, depending on the desired size of the final implant. Two stage expander to implant reconstruction remains the most widely performed method of breast reconstruction, accounting for 70.3% of all breast reconstructions in 2017.[5]

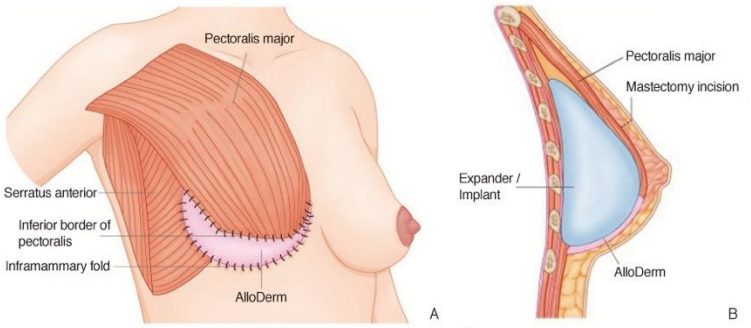
At MedStar Georgetown, we are using a new AeroForm AirXpander which allows patients to perform their expansion at home via a remote that triggers slow release of pressurized CO2. This allows for fewer office visits and faster expansion. Please ask your surgeon if you are a candidate.

Direct to Implant Reconstruction

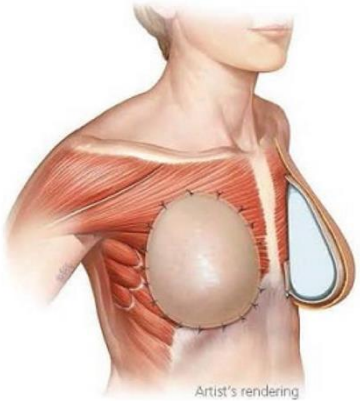
Direct to implant based reconstruction can be performed in certain circumstances. In this scenario, implants are placed during the same surgery as the mastectomy. Blood flow to your breast skin must be good in order for implants to be placed immediately after mastectomy. Patients who desire the same or smaller final breast size are good candidates. An advantage to direct to implant reconstruction is reduction in the number of surgeries. Studies have also reported improved sexual wellbeing in patients who undergo this type of breast reconstruction, because a final reconstruction is present immediately after surgery.[6] Large multicenter studies have indicated that direct to implant reconstructions may (although not definitively proven) may have increased complications and infections compared with expander/implant based reconstruction.[6] Please ask your surgeon if you are a candidate.

Where are the implants placed anatomically?

Classically, expanders have been placed under the pectoralis major muscle and the serratus anterior fascia for *total muscular coverage*. This approach is reliable and was the "workhorse" operation for breast reconstruction before improved technology became available.



Around 15 years ago, the introduction of a new product on the market, acellular dermal matrix (ADM), has allowed for the development of *partial submuscular coverage*. Please see the next section on information regarding ADM. Partial submuscular coverage refers to when the top half of the prosthetic device is placed under the muscle, and the bottom half is placed under ADM. Compared to total muscle coverage, partial submuscular coverage allows for increased expansion volume(greater size), better cosmesis, and reduced pain after surgery.[7] The disadvantage of total muscular coverage and partial submuscular coverage device placement is referred to as "animation deformity". Performing certain actions with your arms that engage your chest muscles will cause your implants to displace. While this may be disturbing to some women who are very active, other women may not mind. Total muscular and partial submuscular placements are the two most common methods of device-based reconstruction.



In the last 5 years, placing prosthetic devices in front of the pectoral muscle, also known as *prepectoral* placement, has been the latest surgical development. In this technique, the device is placed on top of the muscle and completely wrapped in ADM. Minimal muscle manipulation occurs. As a consequence, patients report much less pain and improved recovery. Furthermore, the complete implant coverage of ADM may limit the amount of capsular contracture, especially after radiation.[8] This technique is much more sensitive to issues with blood flow to your mastectomy flaps, infection, and may result in loss of reconstruction in the poor candidate. Due to the thin soft tissue over the implant (no muscle coverage), women may be prone to "rippling". This is when implant ridges are visible, most commonly at the upper inner aspect of the breast, especially when leaning forward without a supportive bra. This may be disguised but not completely eliminated with additional procedures, such as fat grafting. Only certain patients are candidates for this latest technique. Please speak with your surgeon for details.

What is Acellular Dermal Matrix (ADM)?

Acellular Dermal Matrix (ADM) (brand names: AlloDerm, DermACELL, FlexHD) is harvested cadaver skin that has been processed to remove all residual cells and any diseases to leave behind a collagen architecture. The terminal sterility assurance level on these products are 10^{-3} to 10^{-5}, meaning there is one-in-one-thousand to a one-in-one-million chance of the tissue having *any* contaminants. These same tissue banks provide cornea and tendon grafts. While smaller, older studies have shown an increased

rate of infection and seroma (fluid around the implant and matrix), larger, more recent studies have indicated that this rate is low and comparable to that of reconstructions not using any acellular dermal matrix as our experience with this material has improved.[9,10]

Acellular dermal matrix (ADM) is used to recreate the breast shape. It has allowed for larger implants and faster expander fill. There is also less pain during filling sessions and better cosmetic outcome.[7] ADM has also allowed surgeons to place the implant on top of the muscle instead of under (prepectoral reconstruction).[8] Acellular dermal matrix was used in 56.2% of all breast reconstructions in 2017.[5]

When does radiation fit in?

Patients may require radiation as part of their cancer treatment, or have had previous chest radiation and are seeking reconstructive options after the fact.

Patients that already have had previous chest radiation in the past are not ideal candidates for reconstruction with prosthetic (artificial) devices alone. Failure rates may be 14-50% in this population. Instead, bringing in healthy tissue from elsewhere in your body, such as flaps from your back or abdomen, reduces complication rates by up to 72%.[11]

Patients who have to have radiation as part of their oncologic therapy also present challenges in immediate prosthetic based reconstruction. Often times, it is not known until after the mastectomy and sentinel node biopsy if radiation is necessary. Unfortunately, radiation significantly increases reconstructive failure. If tissue expanders are irradiated, the chance of failure is approximately 30% over 6 years.[12] If implants are irradiated, the chance of failure is less at approximately 16-20%. However, there is increased incidence of capsular contracture and worse aesthetic outcome in total submuscular and partial submuscular.

If you require radiation, please discuss with your surgeon all of the reconstruction options that are available to you. You may be a candidate for flap-based reconstruction.

What is Indocyanine Green?

Indocyanine green angiography uses a substance that binds to protein in the blood stream to detect blood flow at the near infrared light spectrum. At MedStar Plastic and Reconstructive Surgery, we use the FDA approved Spy Elite Imaging System to visualize issues with blood flow. We apply this cutting-edge technology to assess blood supply of breast skin to help us determine intraoperatively which reconstruction will be successful. We also use this technology in lymphedema surgery. Generally, indocyanine green is well tolerated, with the exception of patients with iodine allergy. Please alert your surgeon of all allergies, particularly to seafood or iodine.

What is capsular contracture?

Capsular contracture is your body's defense against foreign material. With any foreign device, your body natural response is to "wall it off" by forming a capsule around it. Most capsular contracture occurs by 1 year post-implantation. Capsular contracture is inevitable even with current technologies, but can be reduced in severity by certain practices. Studies show that even low levels of bacterial infection may increase rates of capsular contracture. We practice the utmost sterility when performing your surgery, following guidelines as outlined by the latest research.[13] However, the incidence of capsular contracture

is not insignificant. Most large studies cite 2% per year, or 15-30% during the lifetime of the implant for reconstruction patients. Capsular contracture can be graded in stages – in the earlier stages, it is mainly an aesthetic issue. Tightness around the implant is noted and may cause the implant to distort in shape. In the later stages, pain can become a significant functional problem.

Manipulations, such as massages, have been recommended in the past to reduce rates of capsular contracture. However, these techniques have not actually been shown to help decrease rates of capsular contracture.

What are the advantages and disadvantage of prosthetic based reconstruction compared to free flap reconstruction?

Prosthetic(artificial) based reconstruction is a faster recovery time early on. It has the advantage of shorter operations and hospital stay. Surgeries using tissue from your body, known as autologous reconstruction, requires much of the work up front. The recovery and discomfort tends to be longer. Autologous reconstruction is generally with muscle from your back or tissue transfer from far away regions, such as the abdomen. These are known as "free flaps". Free flap reconstruction has less overall reconstructive failure (1.2%) compared to prosthetic based reconstruction (7.1%), as shown in the latest and largest trial to date.[14] Inevitably, due to the life span of implants (10 years by the FDA) and the incidence of capsular contracture (2% per year or higher depending on whether or not you receive radiation), prosthetic based reconstruction will at some point require another operation or revision. The incidence of additional operations after free flap reconstruction is much lower.

Free flap reconstruction patients are noted in the literature to have better overall physical well-being (less pain, chest and upper extremity morbidity) than patients who have had implants.[15-18] Patients whom have free flap reconstructions have greater aesthetic and overall satisfaction with the reconstruction than patients who had implant based reconstruction.[17,19] However, not all patients are candidates for both types of reconstruction. Please consult with your surgeon to discuss the options available to you.

Are there any side effects to silicone?

From 1992 to 2006, the FDA issued a moratorium on silicone gel implants due to concerns that silicone leads to connective tissue disease (e.g.: lupus, Sjorgen's syndrome, rheumatoid arthritis, scleroderma). This caused a public wide fear of silicone. Since then, large studies have disproved the connection.[20,21] There is no connection to connective tissue disease, even if silicone is leaking into the body due to a ruptured implant. Furthermore, newer generation implants do not leak silicone as the silicone is now cohesive gel. If the shell is cut, the silicone stays in place.

Can my implants rupture?

The rate of implant rupture is approximately 1% per year. The FDA states the life span of implants is 10 years. Accordingly, to assess for rupture, MRI is recommended 3 years after initial implantation, and every 2 years after that.

Will I have drains after surgery?

Yes, you may have 1-2 drains coming out of the side of your breast in a discrete location hidden within your bra line. Drains will typically stay in for 2-3 weeks. We usually remove them when they are outputting <30mL for 2 consecutive days. Please see the JP drain section for further detail on care.

How long is recovery?

Patients usually begin feeling normal within 1 week, depending on if we place the implant above or below the muscle (the former being a shorter recovery). You may experience spasms in your chest as well. You are encouraged to walk around as soon as you are awake after anesthesia. However, we do not recommend rigorous cardiovascular exercise (activities causing heart rate to increase to >100 beats per minute) for 2-3 weeks. Any activity that increases the risk of physical trauma (including sexual activity) must be avoided for 4-6 weeks.

Will I have sensation to my chest?

Immediately after surgery, you will not have sensation to your chest. Overtime, some women may have semblance of feeling return overtime. However, this sensation will be minimal, and likely not be the same as what you had before surgery. Therefore, it is important after surgery to not use heat or cooling pads. These will burn your skin and cause loss of the implant.

What is Anaplastic Large Cell Lymphoma?

Anaplastic large cell lymphoma (ALCL) is a type of lymphoma associated with breast implants. Currently, evidence indicates that ALCL is caused by chronic inflammation due to low level infection interacting with a textured implant surface.[22] In the rare instance, this milieu leads to lymphoma. Current incidence may be 1 in 4,000 to 1 in 30,000. Of the 414 cases of ALCL reported to the FDA as of September 30, 2017, the vast majority ALCL were in women with textured implant devices. As a result, we do not place textured devices in reconstruction, except in the rare circumstance after consideration and discussion of all the options with you.

If you have a textured device already in place, the FDA **does not** recommend removal at this time. The majority of cases of ALCL reported were diagnosed within 7-8 years of implantation. It is generally identified by new masses, pains, swelling, or breast asymmetry, in the setting of late fluid collections (>1 year after implantation). Deaths are rare as a result of this disease, and the curative treatment is removal of implant and total capsulectomy (removal of the capsule surrounding the implant).

Postoperative Expander/Implant Discharge Instructions

Please follow the instructions below unless specifically told otherwise

Follow up Instructions

Please follow up at:

☐ Georgetown office on: _____

☐ McLean Virginia office on: _____

☐ WHC office on: _____

☐ eVisit via Telehealth on: _____

☐ Call office at 202 444 8751 to schedule a time frame for the above date

Activity

- We encourage as much walking as you can as soon as possible after your surgery.
- Avoid vigorous cardiovascular activity for 2 weeks.

Restrictions

- No heavy lifting greater than 10lbs for 6 weeks.
- Do not place objects on your chest or sleep on your sides.
- Do not place hot or cold objects as you do not have good feeling on your breast skin. These will cause burns.
- No swimming or baths for 4 weeks
- No smoking or any nicotine products (e.g.: vaping, nicotine patches, nicotine lozenges, second hand smoke) 1 month before and 6 weeks after surgery

Surgical Site / Wound Care

- You may shower the day after surgery. Allow bandages and skin glue to fall off. Do not pick at them.
- Wear your surgical bra at all times except when showering.
- Use gentle non-fragranced soap to wash the surgical incision. Gently pat and dry gently.
- Do not apply ointments, creams, or lotions until you have been
- Empty your drain twice a day, or when half full, whichever comes first
- Record your outputs, and be sure to call us when you have a problem
- Do not wear an underwire bra for 6 weeks

Diet

- You do not have any restrictions on your diet. Progress slowly to avoid upsetting your stomach
- Eat protein rich foods to help with wound healing

Medication

- We encourage limiting opioids. Take these medications even if you are not in pain to help control pain for 1 week. Alternate Tylenol with Celecoxib to maximize benefit.
  - Tylenol 1000mg every 8 hours
  - Gabapentin 300mg PO every 8 hours
  - Celecoxib 200mg PO every 12 hours
  - Take opioids every 4-6 hours only if your pain is an 8/10 or above
  - Take Valium 2mg every 6 hours as needed for muscle spasms
- For nausea take Zofran 4mg PO every 6hours as needed
- Avoid straining on the toilet, as this may also cause issues with your reconstruction. Take stool softeners (eg: PeriColace) for 2 weeks after surgery.
- Do not resume birth control or Tamoxifen until 2 weeks after surgery

Must Calls

- Please the office during business hours (202) 444-8751 or call the plastic surgery resident on call (202) 444-7243 after hours IMMEDIATELY if any of these issues arise
  - **ANY redness in your reconstructed breast**
  - **ANY swelling in your reconstructed breast**
  - **ANY issues with the incision draining large amounts of fluid or opening up**
  - Drain issues
  - Fever 101.5 and above
  - Excessive drainage or bleeding
  - Chest pain or shortness of breath
  - Pain not aided by medication

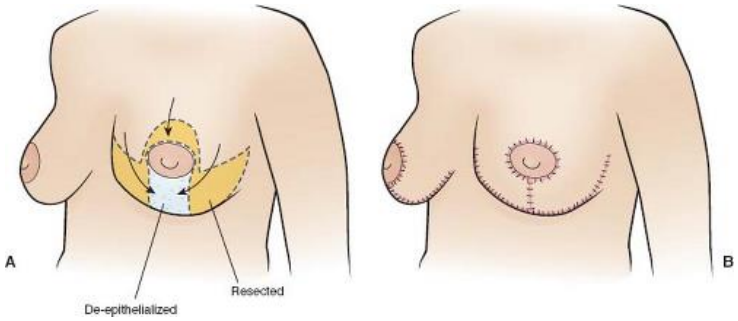
For additional questions or concerns after hours, please call the operator and ask for the Plastic Surgery Resident On Call at (**202) 444-7243**. There is always a physician able and ready to answer questions.

Georgetown	**McLean**	**Washington Hospital Center**
3800 Reservoir Road NW First Floor, PHC Building Washington DC 20007	6862 Elm Street Suite 800A (8th Floor) McLean VA 22102	106 Irving St NW Suite 300 (3rd Floor) Washington DC 20010

Oncoplastic Reconstruction

What is oncoplastic reconstruction/reduction?

Lumpectomy (cancer excision) by a breast surgeon + internal tissue rearrangement by a plastic surgeon = Oncoplastic Reconstruction



Lumpectomy or breast conservation therapy is the excision of cancer followed by radiation therapy. If the amount of tissue removed makes up 10% or more of the total breast volume, a plastic surgeon will be involved to rearrange the remainder of the breast tissue. Without plastic surgery, defects of these size can cause large dimpling of the breast and asymmetry.[1] The combination of lumpectomy and internal breast tissue re-arrangement is called oncoplastic reconstruction.

Using techniques from breast lift and reduction surgeries, plastic surgeons are able to recreate the shape of an aesthetically pleasing breast following lumpectomy. This also allows the breast surgeon more freedom and gives the ability to excise tumors making up 30-40% of the total breast size while maintaining a good cosmetic outcome.[23]

Depending on your treatment plan, we are able to reduce the other side to match the size. Radiation to the breast that had cancer removed is usually necessary.

Who are candidates for oncoplastic reconstruction/reduction?

Not all patients are candidates for oncoplastic reconstruction. The following criteria are necessary

- Small tumor at a single site
- Larger breast size
- Ability to obtain negative (clear) margins by the breast surgeon
- Compliance and ability to undergo radiation therapy
- No history of collagen vascular disease or previous radiation
- Not currently pregnant
- Not currently smoking

Is oncoplastic reconstruction safe?

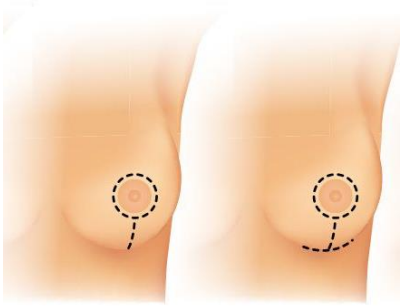
Compared to just removing the tumor (lumpectomy), oncoplastic reconstruction has been shown to have less chance of left over tumor (positive margin).[24] Another study looked at cancer recurrence. They compared excision alone (lumpectomy), oncoplastic reconstruction, and mastectomy with reconstruction. The 5 year recurrence rates were similar across these surgical procedures.[25] All these studies show that oncoplastic reconstruction is safe. However, these studies are smaller, single institution studies as oncoplastic reconstruction is a newer technique. Further study needs to be done.

Are my nipples preserved?

Generally, the nipple is preserved during oncoplastic reconstruction. As part of the technique in tissue arrangement, the plastic surgeon will move the nipple higher. This more aesthetically appealing location is based on methods used in breast lift and reduction. However, if the tumor is underneath the nipple, it may have to be removed.

What scars will I have?

We will plan the incision before surgery depending on the amount of tissue taken out. They can be a lollipop or an anchor incision. The lollipop incision is the outline of your areola with a straight line down the middle of breast lower pole. The anchor incision is the lollipop incision with an additional incision at the crease where your breast meets your body. Which incision we use depends on your breast shape and how much tissue we have to remove.



Lollipop Anchor

Will I be symmetric?

We usually perform reductions on the non-cancer side to match the final size of the breast with the excised cancer. Because radiation may shrink the breast with the excised cancer, typically the non-cancer breast will appear 5-10% smaller immediately after surgery. After radiation, they will become more symmetric. However, complete symmetry is difficult to achieve due to preexisting asymmetries.

Depending on your preference and the surgical timeline, we may perform the reduction in a second stage and not at the time of the oncoplasty.

Will I have drains?

Yes, you may have 1-2 drains coming out of the side of your breast in a discrete location hidden within your bra line. Drains will typically stay in for 2-3 weeks. We usually remove them when they are outputting <30mL over 24 hours for 2 consecutive days. Please see the JP drain section for further detail on care.

How satisfied are patients after surgery?

Studies show patients are significantly more satisfied with the aesthetic outcome of oncoplastic reconstruction compared to excision alone.[24] Oncoplastic reconstruction has a positive impact on quality of life, self-esteem, and satisfaction with sex life.[23,26]

There are limited studies on patient satisfaction compared to other types of reconstruction. These studies are hard to undertake as most patients are not good candidates for both procedures. However, patients who are candidates for both procedures choose oncoplastic reconstruction preserve their own tissue and keep sensation to the breast skin and nipple. Patients who prefer mastectomy and prosthetic reconstruction cite the advantage of avoiding radiation in certain instances.

Postoperative Oncoplastic Reconstruction Discharge Instructions

Please follow the instructions below unless specifically told otherwise

Follow up Instructions

Please follow up at:

☐ Georgetown office on: _____

☐ McLean Virginia office on: _____

☐ WHC office on: _____

☐ eVisit via Telehealth on: _____

☐ Call office at 202 444 8751 to schedule a time frame for the above date

Activity

- We encourage as much walking as you can as soon as possible after your surgery.
- Avoid vigorous cardiovascular activity for 2 weeks.

Restrictions

- No heavy lifting greater than 10lbs for 6 weeks.
- Do not place objects on your chest or sleep on your sides.
- No swimming or baths for 4 weeks
- No smoking or any nicotine products (e.g.: vaping, nicotine patches, nicotine lozenges, second hand smoke) 1 month before and 6 weeks after surgery

Surgical Site / Wound Care

- You may shower the day after surgery. Allow bandages and skin glue to fall off. Do not pick at them.
- Wear your surgical bra at all times except when showering.
- Use gentle non-fragranced soap to wash the surgical incision. Gently pat and dry gently
- Do not apply ointments, creams, or lotions until you have been
- Empty your drain twice a day, or when half full, whichever comes first
- Record your outputs, and be sure to call us when you have a problem
- Do not wear an underwire bra for 6 weeks

Diet

- You do not have any restrictions on your diet. Progress slowly to avoid upsetting your stomach
- Eat protein rich foods to help with wound healing

Medication

- We encourage limiting opioids. Take these medications even if you are not in pain to help control pain for 1 week. Alternate Tylenol with Celecoxib to maximize benefit.
  - Tylenol 1000mg every 8 hours
  - Gabapentin 300mg PO every 8 hours
  - Celecoxib 200mg PO every 12 hours
  - Take opioids every 4-6 hours only if your pain is an 8/10 or above
- For nausea take Zofran 4mg PO every 6hours as needed
- Avoid straining on the toilet, as this may also cause issues with your reconstruction. Take stool softeners (eg: PeriColace) for 2 weeks after surgery.
- Do not resume birth control or Tamoxifen until 2 weeks after surgery

Must Calls

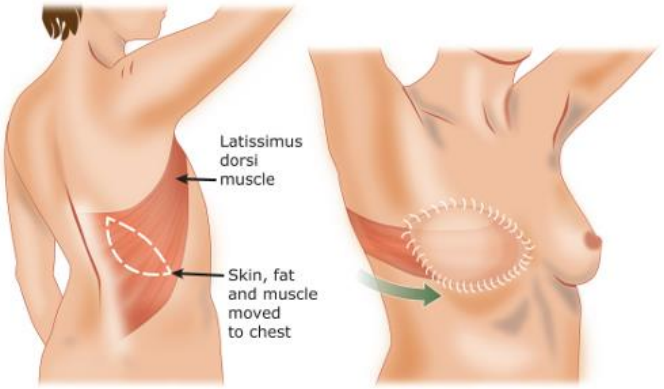
- Please the office during business hours (202) 444-8751 or call the plastic surgery resident on call (202) 444-7243 after hours IMMEDIATELY if any of these issues arise
  - **ANY redness in your reconstructed breast**
  - **ANY swelling in your reconstructed breast**
  - **ANY issues with the incision draining large amounts of fluid or opening up**
  - Drain issues
  - Fever 101.5 and above
  - Excessive drainage or bleeding
  - Chest pain or shortness of breath
  - Pain not aided by medication

For additional questions or concerns after hours, please call the operator and ask for the Plastic Surgery Resident On Call at (**202) 444-7243**. There is always a physician able and ready to answer questions.

Georgetown	**McLean**	**Washington Hospital Center**
3800 Reservoir Road NW First Floor, PHC Building Washington DC 20007	6862 Elm Street Suite 800A (8th Floor) McLean VA 22102	106 Irving St NW Suite 300 (3rd Floor) Washington DC 20010

LIFT Reconstruction

What is the LIFT procedure?



LIFT stands for **L**atissimus dorsi **I**mmediate **F**at **T**ransfer.[27] We recreate your breast using muscle from your back. To increase breast volume and projection, fat from your own body is obtained from liposuction and injected into the flap prior to transfer.

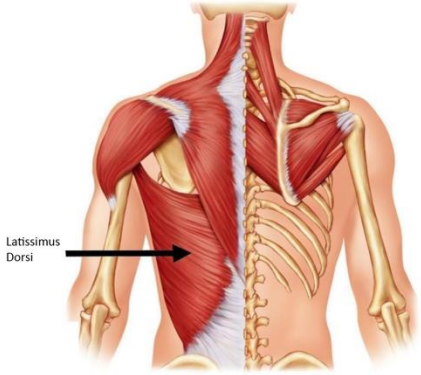
What are the advantages of the LIFT procedure?

Placing implants to reconstruct the breast following reconstruction requires the use of artificial material. Placing tissue expanders and/or implants also makes the chances of loss of your breast reconstruction slightly higher. In some patients with comorbidities (other diseases like diabetes, obesity, etc.), this chance is very high. Implant based reconstruction will inevitably require additional operations in 10-15 years due to the limited life span of implants and the issues that can accompany implants.

Free-flap reconstruction avoids some of the risks and issues associated with implant-based reconstruction. However, free flap surgery does require a 3- to 4-day-long hospital stay after the initial surgery. In rare cases, it may require emergent returns to the operating room should the flap have poor blood flow.

The LIFT procedure, refined by Dr. David Song at MedStar Georgetown University Hospital, is designed to combine the advantages of using your own tissue for reconstruction, with a quicker recovery and a shorter hospital stay than free flap surgery.

What is the latissimus dorsi muscle?



The latissimus dorsi muscle is a large back muscle used for movements such as pull ups and pulling a heavy object from a shelf over one's head. This muscle is also important in rowing and swimming.

Are there any side effects to strength with taking the latissimus dorsi?

Initially, a little over half of patients have difficulty with activity such as reaching overhead, cleaning windows, taking objects from cabinets, vacuuming, and lifting groceries.[28] Less difficulty is experienced with basic activities such as hair brushing. A 30% reduction in strength may be expected. However, by 6 months to 1 year after surgery, muscles in the back adapt to compensate for the latissimus and strength returns to 90-95% of baseline.[29]

If you are a competitive athlete (swimming, rowing, competitive weight lifter), there will be a noticeable decrease in performance times and ability. Please alert your surgeon, so we can decide if this surgery is right for you.

How will my scar appear?

We take extra precautions to reduce scar appearance. We utilize a three-layer plastic surgery closure to close your skin and a tissue adhesive with mesh to reduce tension on the wound. While scarring is generally satisfactory in our patients, 22% of patients in the literature are unhappy with the widened appearance of their scar.[28] Revisions are always possible after the initial procedure as well. Please consult with your surgeon for detail.

Where do you take fat for liposuction?

Usually we take fat from the abdomen or inner thighs. As a surprise to many women, places that may seem large to you may actually not have that much fat as you might think! Therefore, it is important to consult with your surgeon before undergoing this procedure. Patient without much fat may not have the ideal result. In some instances, we can place an implant underneath the latissimus dorsi muscle to give additional volume.

How many drains will I have?

Usually, patients will have one drain in the breast and one drain in the back at the muscle donor site. The drain in the back will stay approximately 3-4 weeks. The drain in the breast will stay in on average 2 weeks. We usually remove them when they are putting out less than 30mL for 2 consecutive days. Please see the JP drain section for further detail on care.

Postoperative LIFT Discharge Instructions

Please follow the instructions below unless specifically told otherwise

Follow up Instructions

Please follow up at:

☐ Georgetown office on: _____

☐ McLean Virginia office on: _____

☐ WHC office on: _____

☐ eVisit via Telehealth on: _____

☐ Call office at 202 444 8751 to schedule a time frame for the above date

Activity

- We encourage as much walking as you can as soon as possible after your surgery.
- Avoid vigorous cardiovascular activity for 2 weeks.

Restrictions

- No heavy lifting greater than 10lbs for 6 weeks.
- Do not place objects on your chest or sleep on your sides.
- No swimming or baths for 4 weeks
- No smoking or any nicotine products (e.g.: vaping, nicotine patches, nicotine lozenges, second hand smoke) 1 month before and 6 weeks after surgery

Surgical Site / Wound Care

- You may shower the day after surgery. Allow bandages and skin glue to fall off. Do not pick at them.
- You may remove the bandages over your liposuction sites from in 24 hours.
- Wear your abdominal binder if you had abdominal liposuction at all times except when showering.
- Wear your surgical bra at all times except when showering.
- Use gentle non-fragranced soap to wash the surgical incision. Gently pat and dry gently
- Do not apply ointments, creams, or lotions until you have been
- Empty your drain twice a day, or when half full, whichever comes first
- Record your outputs, and be sure to call us when you have a problem
- Do not wear an underwire bra for 6 weeks

Diet

- You do not have any restrictions on your diet. Progress slowly to avoid upsetting your stomach
- Eat protein rich foods to help with wound healing

Medication

- We encourage limiting opioids. Take these medications even if you are not in pain to help control pain for 1 week. Alternate Tylenol with Celecoxib to maximize benefit.
  - Tylenol 1000mg every 8 hours
  - Gabapentin 300mg PO every 8 hours
  - Celecoxib 200mg PO every 12 hours
  - Take opioids every 4-6 hours only if your pain is an 8/10 or above
  - Take Valium 2mg every 6 hours as needed for muscle spasms
- For nausea take Zofran 4mg PO every 6hours as needed
- Avoid straining on the toilet, as this may also cause issues with your flap. Take stool softeners (eg: PeriColace) for 2 weeks after surgery.
- Do not resume birth control or Tamoxifen until 2 weeks after surgery

Must Calls

- Please the office during business hours (202) 444-8751 or call the plastic surgery resident on call (202) 444-7243 after hours IMMEDIATELY if any of these issues arise
  - **ANY redness in your reconstructed breast**
  - **ANY swelling in your reconstructed breast**
  - **ANY issues with the incision draining large amounts of fluid or opening up**
  - Drain issues
  - Fever 101.5 and above
  - Excessive drainage or bleeding
  - Chest pain or shortness of breath
  - Pain not aided by medication

For additional questions or concerns after hours, please call the operator and ask for the Plastic Surgery Resident On Call at (**202) 444-7243**. There is always a physician able and ready to answer questions.

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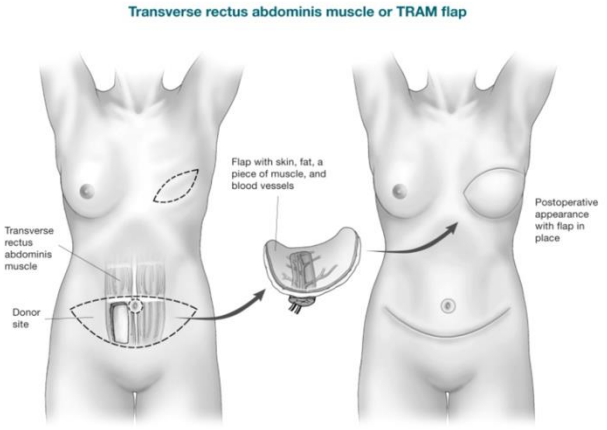
Free Flap Reconstruction

What is a free flap?



A "free flap" is your own skin, fat, or muscle that is moved from one area of the body to another area. It is "free" because we move the tissue from a one location to another and completely disconnect the blood vessels that supply that living tissue. Because of the large amount of tissue being transferred, we use a microscope with suture finer than a human hair to connect blood vessels to the free flap at its new location.

Free flaps are used for reconstructions by plastic surgeons. It can be for breast reconstruction, extremity trauma, head and neck cancer, and lymphedema. In the setting of breast reconstruction, this technique is used in patients who are not good candidates for, or do not desire, prosthetic-based reconstruction.

During the first several weeks after surgery, the flap is kept alive solely by the vessels we connected under the microscope. Success of the surgery during this early period is dependent upon the function of these vessels. **Therefore, the first few weeks are the most critical**. Over the course of several weeks, tiny blood vessels from the surrounding tissues form connections with the flap and help to maintain blood flow even if the primary artery/vein fails. However, this may not be the case in patients with poor circulation, radiation, smoking, and/or prior surgery. This makes the blood flow of the artery and vein we connected absolutely critical to flap survival.

Why should I consider free flap surgery?

Free flaps are ideal for the patient who would like to do the work "up front". They provide a natural feeling breast using one's own tissue. Patients in large studies are generally more satisfied with the appearance of free flaps. They had improved quality of life and sexual well-being compared with implant based reconstruction.[15-18] Free flap reconstructions have an overall lower incidence of failure of reconstruction compared with prosthetic-based reconstructions, although complications requiring additional surgery may be higher.[17,19]

Where on the body are free flaps from?

Generally speaking, free flaps are named after the arteries that provide blood supply to the flap. The following table represents the locations where flaps are from, and the name that is given to these flaps. The following donor sites have proved to be well suited for breast reconstruction. Plastic surgeons are able to take the fat and skin and create a natural appearing breast mound.

Abdomen	DIEP – **D**eep **I**nferior **E**pigastric artery **P**erforator flap MS-TRAM – **M**uscle **S**paring **T**ransverse **R**ectus **A**bdominis **M**uscle flap SIEA – **S**uperficial **I**nferior **E**pigastric **A**rtery perforator flap
Buttock	SGAP – **S**uperior **G**luteal **A**rtery **P**erforator flap IGAP – **I**nferior **G**luteal **A**rtery **P**erforator flap
Thighs	TUG – **T**ransverse **U**pper **G**racilis flap VUG – **V**ertical **U**pper **G**racilis flap

Who are candidates for abdominally-based free flaps?

The abdomen is the most common location for free flaps to be taken. We use a "tummy tuck" incision to remove the flap tissue. Abdominal based free flaps (DIEP, MS-TRAM, SIEA) depend on vessels to nurture the abdominal skin and flap. It is important to alert your surgeon of any abdominal surgery you have had that could have damaged the vessels. This includes previous tummy tuck, liposuction in the abdomen, c-section, open abdominal surgery to name a few.

An abdominally-based free flap is not the same procedure as an abdominoplasty or "tummy tuck." A formal abdominoplasty is a cosmetic procedure and is not included as part of the free-flap breast reconstruction procedure, nor is it covered by insurance companies. An abdominoplasty includes tightening of the core muscle and sometimes liposuction. This is not often done in a free flap procedure as it adds additional time and risk of complication.

Patients with sufficient abdominal skin and fat are good candidates for free flap breast reconstruction. Patients who do not have these may be able to have free flaps from other places, such as the buttock or thigh. If your abdomen is too large (body mass index greater than 30), you have a 12-20% overall risk of having healing complications at the abdomen compared to 4-10% of individuals with BMI less than 30.[30,31] Complications can include your abdominal incision not healing, hernia/bulge at the abdomen, or in rare cases infection. Smokers also have an much increased incidence of abdominal wound complications, up to 25% in some studies.[32]

Patients with a history of clotting disorders require special attention in free flap reconstruction. Please alert your plastic surgeon if you have experienced any of the following:

1) History of blood clots
2) History of spontaneous abortions
3) History of family with blood clots or on blood thinners

What is the difference between types of flaps?

Arteries, with some exceptions (e.g.: SIEA flaps), generally pass through muscle. Depending on the size of the vessels, we can spare the muscle by separating the muscle fibers, nerves, and abdominal fascia (contents that give your abdomen strength). In some instances, we have to take a small cuff of muscle and fascia to protect small arteries. In that situation, *we may place a synthetic mesh to reinforce your abdominal closure*.

Are there any effects on the muscle strength when taking muscle from the abdomen?

We make every effort to reduce the amount of muscle and abdominal fascia we take. Sometimes small amounts of muscle is taken around the vessels are taken to ensure you have a successful breast reconstruction. When we take muscle from the abdomen, some patients may notice weakness in the abdominal core up through 3 months. The common complaints initially may be difficulty rising from bed quickly or stand up from a chair.[33] Later on, individuals may have difficulty performing repeated sit ups. However, strength generally returns by 6 months.[34] Patients generally do return to their baseline function.[33] After you are cleared to resume full activity, it is important you resume reasonable physical exercise to avoid deconditioning.

What are abdominal bulges or hernia that may result from abdominal free flap harvest?

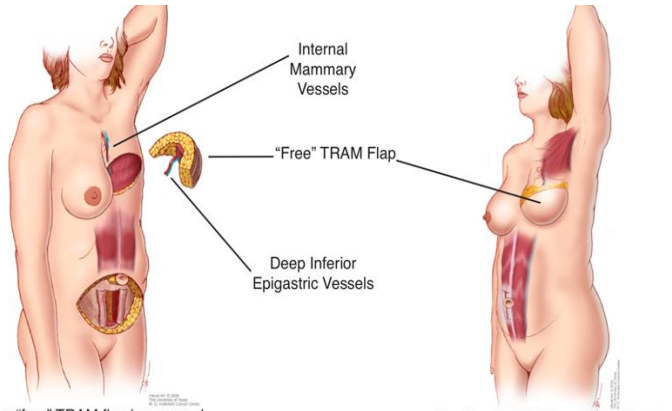
An abdominal bulge refers to your abdominal wall sticking out due to weakness of fascia. You may notice your abdomen over time becoming more protuberant, despite not having weight gain. An abdominal hernia is when the contents of your abdomen (abdominal fat or bowel) stick through a hole in abdominal wall.

In normal weight individuals, the rate of abdominal bulge/hernia is 1.6-3%.[30,31] These rates are higher in obese individuals (5-10%) or individuals we use the abdomen to reconstruct both breasts. Bulges and hernia may be corrected with another operation that tightens your muscle and reinforces with mesh.

What artery is the free flap "plugged" into?

Free flaps from the breast are generally plugged into the internal mammary vessels. These are the same vessels used for coronary artery bypass. Typically, a segment of your cartilaginous rib is removed so we can see the vessels. In some people, we may be able to perform a rib sparing technique, where we go between the ribs if there is enough space.

There is no functional deficit associated with removing one rib.



The "free" TRAM flap is removed from its blood supply.

The "free" TRAM flap is attached to the blood supply in the chest.

How successful is free flap surgery?

Free flap success rates are approximately 98-99% by our providers. Approximately 3% of flaps require take backs to the operating room for examination of the blood flow. Half of these flaps are successfully

saved in the operating room. These rates are equivalent with rates at other academic, high volume centers.[35]

Because of the infrastructure we have in place including nurses and residents trained in free flap care, we are able to identify issues quickly. Furthermore, we employ Vioptix, a real-time near-infrared tissue oximetry device, which allows us to monitor the perfusion status of your flap from anywhere in the world (with internet connection). This allows us to catch problems earlier and salvage reconstructions faster.

What do I look for after surgery?

After you return home, there are certain things to look out for. Please be familiar with the "Must Calls" and postoperative flap instructions, located on pages 43-46.

Can sensation come back to my flap?

Unless the nerves are reconnected, the flap generally does not have sensation immediately after surgery. However, sensation may be regained overtime, but very different in quality from your normal breast. Due to the poor sensation, avoid placing heat or cooling pads on your reconstructed breast.

What is Total Breast Anatomical Reconstruction?

Total Breast Anatomical Reconstruction is breast reconstruction with the addition of taking lymph nodes from your groin area to place in your arm pit. Our surgeons perform this cutting-edge technique. This procedure is suitable for patients who have had axillary dissection, and is designed to limit or improve lymphedema. Up to 20% percent of patients may experience mild to severe forms of lymphedema after axillary dissection. Please let your surgeon know if this is something you are interested in having performed. Additional discussion of the risk and benefits of such a procedure is necessary prior to scheduling surgery.

Will I have drains?

You will have 1-2 drains in your abdomen and 1 drain in each reconstructed breast. The breast drain usually comes out by 2 weeks. The abdominal drains may take 3 weeks before it is removed. We usually remove them when they put out less than 30mL over 24 hours for 2 consecutive days. Please see the JP drain section for further detail on care.

How long is the recovery?

If you have flap-based reconstruction, your abdomen may be in discomfort due to the surgical operation on the muscles of your core and surgical drains. Most patients are able to move around and to ambulate slowly, but sometimes will need assistance for the first week. However, for the first 2-3 weeks, limit activity to that which does not increase your heart rate >100 beats per minute. Heavy lifting greater than 10 lbs must be limited for 6 weeks. Any activity that increases the risk of physical trauma (including sexual activity) must be avoided for 4-6 weeks. Most people are able to return to light duty in 3 weeks. This is also when patients feel comfortable driving. **You may not drive if you take opioid or muscle relaxants medication**. Do not place your seatbelt directly over your chest area.

Free Flaps – What to Watch for When You Get Home

Below is critical information on identifying the free flap problems after discharge. It is critical all patients undergoing free flap reconstruction review the following. If they apply to you, please call us immediately. **If during business hours, please call the Plastic Surgery Office at (202) 444-8751. If you need to reach someone after hours, you may call (202) 444-7243 and ask for the plastic surgery resident on call.**

What can cause a free flap to fail?

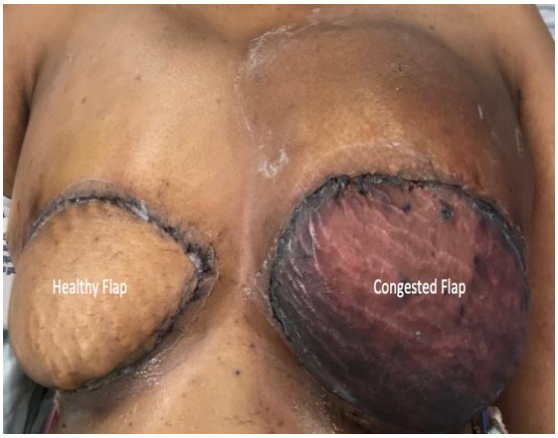
With advances in surgical techniques and increased experience, free flap success rates typically exceed 95% to 97% at most major medical centers. Blood clots in either the flap artery or flap vein are the primary cause of flap failure in most cases. When microvascular complications occur, approximately 90% are seen within **the first 72 hours after surgery**. If either the flap artery of vein stops working, **emergent return to the operating room**, as soon as the problem is recognized, offers the best opportunity to save the flap. Saving a free flap is directly dependent on how quickly the patient is brought back to the operating room once the problem is recognized. If there is a delay in recognizing a problem with the flap, the likelihood of it being saved is greatly reduced. Flap recovery rates fall to 0% for problems recognized 4 days or more after surgery. Therefore, it is important to alert your surgeon **immediately** of signs or symptoms that may indicate a problem with the flap, even several days or weeks after discharge.

What should I look for?

The two primary causes of flap loss are (1) venous and (2) arterial issues. Veins are blood vessels where blood leaves tissue. Arteries are blood vessels where blood comes into tissue. Issues with either of these vessels present with unique findings that should alert the patient to call their surgeon immediately.

Venous Thrombosis/Insufficiency

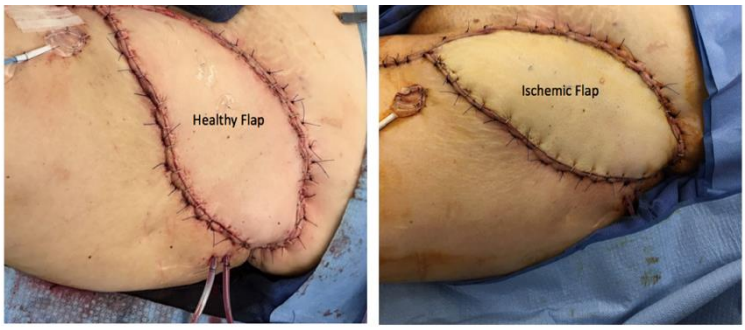
If the flap's vein becomes blocked (thrombosis) or is unable to keep up with coming into the flap (insufficiency), the tissue will become congested. This often causes increased pain, tense swelling of the flap, darkening or purple discoloration of the flap, brisk capillary refill (i.e., normal should be 2 to 3 secs), dark bleeding from the incision line, cool temperature, or a sudden increase in dark drain output on the affected side (See photo).



Venous insufficiency or thrombosis constitutes an ***EMERGENCY*** and the surgeon should be notified immediately. If allowed to progress, widespread clotting will develop within the flap, and the flap will die.

Arterial Insufficiency/Thrombosis

If the flap's artery becomes blocked or kinked, the tissue will become not have enough oxygen ("ischemia") from lack of blood flow into the flap. Early signs of ischemia may include pale or white discoloration of the skin paddle, sluggish or absent capillary refill, and cold temperature (See photo).



Arterial insufficiency or thrombosis constitutes an ***EMERGENCY*** and the surgeon must be notified immediately upon discovery of any of these changes. Persistent ischemia will result in flap death if not addressed immediately.

Activity after flap-based reconstruction

If you have flap-based reconstruction, your abdomen may be in discomfort due to the surgical operation on the muscles of your core and surgical drains. Most patients are able to move around and to ambulate slowly, but sometimes will need assistance for the first week. However, for the first 2-3 weeks, limit activity to that which does not increase your heart rate >100 beats per minute. Any physical trauma (including sex) must be avoided for 4-6 weeks. Most people are able to return to light duty in 2-3 weeks. This is also when patients feel comfortable driving. **You may not drive if you take opioid medication**. Do not place your seatbelt directly over your chest area.

For the first few weeks, you may not sleep on your side. Most patients find comfort in sleeping in several pillows, or in a recliner chair. Do not place pressure on your reconstructed breast with objects whatsoever. Keep animals away from your wounds.

Postoperative Free Flap Discharge Instructions

Please follow the instructions below unless specifically told otherwise

Follow up Instructions

Please follow up at:

- ☐ Georgetown office on: _____
- ☐ McLean Virginia office on: _____
- ☐ WHC office on: _____
- ☐ eVisit via Telehealth on: _____
- ☐ Call office at 202 444 8751 to schedule a time frame for the above date

Restrictions

- **DO NOT PLACE PRESSURE ON YOUR CHEST!!**
- Do not place objects on your chest or sleep on your sides. Do not place seat belts directly over your flap. Prolonged pressure WILL cause your flap to fail.
- Do not place heating or cooling pads. These will cause burns.
- No heavy lifting greater than 10 lbs for 6 weeks
- No swimming or baths for 4 weeks
- No smoking or any nicotine products (e.g.: vaping, nicotine patches, nicotine lozenges, second hand smoke) 1 month before and 6 weeks after surgery

Surgical Site / Wound Care

- You may shower the day after surgery. Allow bandages and skin glue to fall off. Do not pick at them.
- Wear your surgical bra at all times except when showering.
- Make sure the surgical bra is not tight or constricting in the chest area. A tight bra will affect your reconstruction.
- Use gentle non-fragranced soap to wash the surgical incision. Gently pat and dry gently
- Do not apply ointments, creams, or lotions until you have been
- Empty your drain twice a day, or when half full, whichever comes first
- Record your outputs, and be sure to call us when you have a problem
- Do not wear an underwire bra for 6 weeks

Activity

- We encourage as much walking as you can as soon as possible after your surgery.
- When rising, get up slowly as you have incisions that are fragile and may break open.

Diet

- You do not have any restrictions on your diet. Progress slowly to avoid upsetting your stomach
- Eat protein rich foods to help with wound healing

Medication

- We encourage limiting opioids. Take these medications even if you are not in pain to help control pain for 1 week. Alternate Tylenol with Celecoxib to maximize benefit
  - Tylenol 1000mg every 8 hours
  - Gabapentin 300mg PO every 8 hours
  - Celecoxib 200mg PO every 12 hours
  - Take opioids every 4-6 hours only if your pain is an 8/10 or above
- For nausea take Zofran 4mg PO every 6hours as needed
- Avoid straining on the toilet, as this may also cause issues with your flap. Take stool softeners (eg: Pericolace) for 2 weeks after surgery.
- Do not resume birth control or Tamoxifen until 2 weeks after surgery

Must Calls (See Pictures for Details)

- Please the office during business hours (202) 444-8751 or call the plastic surgery resident on call (202) 444-7243 after hours IMMEDIATELY if any of these issues arise
  - **Dark, pale or swollen flap**
  - Drain issues
  - Fever 101.5 and above
  - Excessive drainage or bleeding
  - Increased redness
  - Chest pain or shortness of breath
  - Pain not aided by medication

For additional questions or concerns after hours, please call the operator and ask for the Plastic Surgery Resident On Call at (**202) 444-7243**. There is always a physician able and ready to answer questions.

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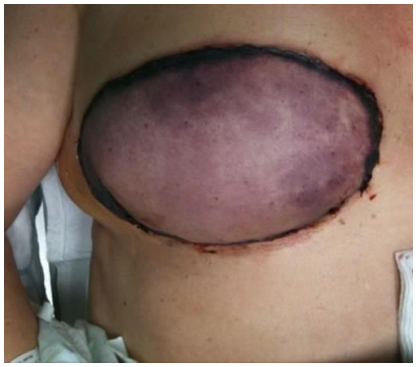
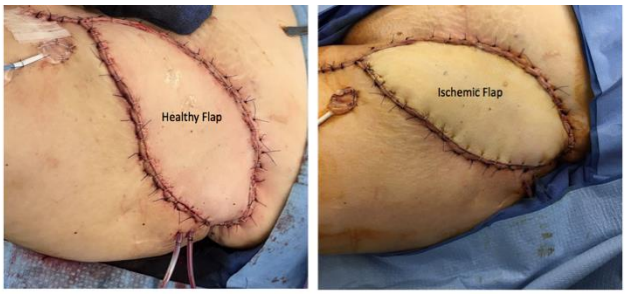
Postoperative Free Flap Discharge Instructions - Free Flap "Must Calls"

You must call us immediately for the following issues

If during business hours, please call the Plastic Surgery Office at (202) 444-8751. If you need to reach someone after hours, you may call the page operator at (202) 444-7243 and ask for the plastic surgery resident on call. There is someone on call 24 hours a day for you to reach out to. **Please do not hesitate**.

Dark, swollen flap: This signifies an issue with venous outflow of the flap. The flap will become enlarged, filled with dark blood. Your drain may be dark in color. 	**Pale flap**: This signifies an issue with arterial inflow of the flap. Flaps usually are warm, and pink with color. If they become cool, pale, and fee lifeless, there may be a problem with the artery. 
Swollen Flap: Swelling of the flap could mean there is blood gathering underneath that compromises the blood flow	**Bleeding, problems with drain:** This may cause fluid to collect that will affect your flap reconstruction
Fever, feelings of illness: This could mean you have an infection	**Chest pain, shortness of breath**: This may indicate something greater is going on

Free Flap Drain and Flap Check

Please check your flap and drains every 4-6 hours while awake. If they are more than 50% full, please empty your drains.

When checking your flaps, use a mirror or camera phone to check for the color size and texture. You may gently feel the flap to see if it is swollen or feels cool and lifeless. We provided a check list below so you can mark that you have done your flap checks. Please call immediately if you see changes or any signs that are listed in the "must calls" section.

Date	Time mL Flap Check	Date	Time mL Flap Check
	____ ____ ☐ ____ ____ ☐ ____ ____ ☐ ____ ____ ☐ 24 hour total: __________		____ ____ ☐ ____ ____ ☐ ____ ____ ☐ ____ ____ ☐ 24 hour total: __________
	____ ____ ☐ ____ ____ ☐ ____ ____ ☐ ____ ____ ☐ 24 hour total: __________		____ ____ ☐ ____ ____ ☐ ____ ____ ☐ ____ ____ ☐ 24 hour total: __________
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Revision of Reconstructions

What type of revisions are typically done?

For implant-based reconstruction, fat grafting is performed to fill in contour defects or camouflage "rippling" of the implant. "Rippling" is when there are visible creases from the implant in areas of thin skin. Some patients also elect to exchange their old implants for new ones due to rupture, capsular contracture, rippling, or "animation deformity". "Animation deformity" is when muscle displaces the implant on movement.

For autologous reconstruction (using your own tissue), we may excise skin to help the flap drape better. We may fill in certain areas with fat or use fat to boost the overall volume of the breast.

What is fat grafting?

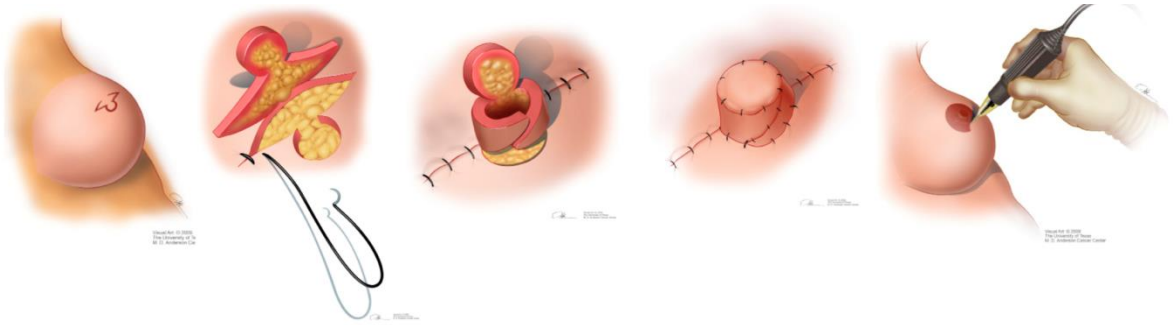
Fat grafting is a technique where we liposuction, wash and reinject clean fat back into your breast. There are no additives to the fat, and processing is performed to remove blood or other tissues that may be present.

We can remove the fat from areas of excess, which in most patients are the thighs and abdomen.

Does revision surgery cause breast cancer to come back?

Current data shows fat grafting is safe. Fat grafting of the reconstructed following mastectomy does not cause an increase rate of recurrence of breast cancer based on a larger study of 829 breasts.[36]

How can I have my nipple reconstructed?



We can use your own tissue to reconstruct your nipple. This is done usually 4-6 months after surgery. If you are considering having a 3D tattoo, your nipple should be reconstructed before your 3D tattoo is done.

Where can I get a 3D tattoo of the areola done?

We recommend Vinnie Myers. He has taken care of dozens of our patients, whom all have good results.

http://www.vinniemyersteam.com

MedStar eVisit

MedStar Plastic and Reconstructive surgery has partnered with the MedStar Telehealth Innovation Center to offer follow-up visits virtually through a secure teleconference platform.

What is a virtual visit?

A virtual visit is a secure, confidential video-conference with your provider. You can now use our virtual visit platform, MedStar eVisit, to connect with your provider from your computer, tablet, or smartphone. To have a virtual visit, all you will need is internet connectivity and a computer, tablet, or smartphone with a video camera and microphone.

Which visits is our practice conducting virtually?

Although virtual visits may be appropriate for a variety of care needs, our practice is currently scheduling virtual visits to replace follow-up appointments for patients in the office.

How much does a virtual visit cost?

Scheduled follow-up virtual visits will cost the same as the follow-up office visit it is replacing. This means there will be no **additional** cost to you or your insurer for this visit.

Note: Having a virtual visit does not guarantee that you will not need to return for an office visit. If the provider feels they cannot adequately assess you during the virtual visit or would like to perform any physical examination, they may request you schedule an office visit.

MedStar eVisit Patient Experience Guide

Before Your Appointment:

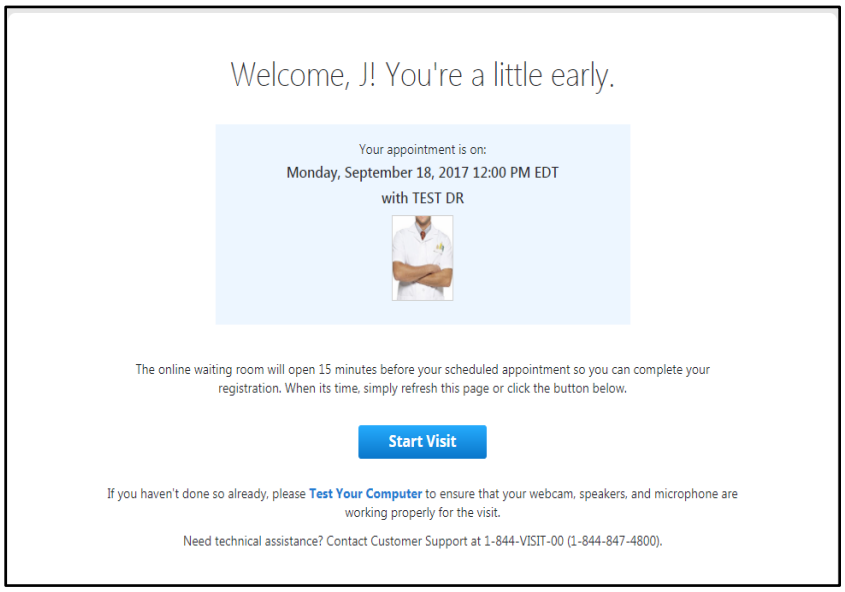
If conducting your visit on a **mobile** device:

1. Open the MedStar eVisit invitation you received in your email and click Get Started. If you cannot find the invitation, please contact your provider.
2. Choose a password for your eVisit account.
3. Click Download App to Continue. You should be brought to the Apple App Store or Google Play Store
4. Download the MedStar eVisit app

If conducting your visit on a **desktop** computer:

1. Open the MedStar eVisit invitation you received in your email and click Get Started. If you cannot find the invitation, please contact your provider.
2. Choose a password for your eVisit account.

You should now see the following screen:



3. Click "Test Your Computer" and follow the prompts to ensure compatibility of your desktop and Wi-Fi connection. Note: You may need to download an enhanced video plug-in.

Note: The eVisit invitation email does not automatically sync your appointment time with your calendar (e.g. Google, Outlook), so you should block off the appointment time on your personal calendar. Additionally, you can set your account to receive appointment text reminders by going to Settings → My Preferences → turn on Appointment Text Reminders.

Note: Windows and Mac operating systems are only allowed for use on eVisit at this time. Linux, including Chromebook devices, are not currently supported. Web browsers supported include Google Chrome, Mozilla Firefox, Microsoft Internet Explorer or Safari.

Time for Your Appointment:

If conducting your visit on a **mobile** device:

1. Ensure you have a strong Wi-Fi or 3G/4G connection
2. Open the MedStar eVisit email invitation
3. Click Get Started
4. Click Start Your Visit Now. The MedStar eVisit app should open
5. Log-in using your eVisit credentials (username = email address)
6. Click Get Started
7. Enter in your Callback Phone Number
8. Upload an image of your surgical site by clicking the "Add an Image" link
9. Check the box acknowledging the Notice of Privacy Practices
10. The waiting room greeting video will begin while the provider is notified that you have checked in and are ready to begin your visit.

If conducting your visit on a **desktop** computer:

1. Open the MedStar eVisit email invitation
2. Click Get Started
3. Click Continue
4. Log-in using your eVisit credentials (username = email address)
5. Enter in your Callback Phone Number
6. Upload an image of your surgical site by clicking the "Add an Image" link
7. Check the box acknowledging the Notice of Privacy Practices
   Note: if you have not previously tested your video, you may need to download an enhanced video plug-in
8. The waiting room greeting video will begin while the provider is notified that you have checked in and are ready to begin your visit.

Thank you for being a valued MedStar patient. We hope you enjoy your eVisit.

Troubleshooting Tips:

- Audio issues? Make sure your speaker volume is sufficient for a successful visit. If it is turned up too high you may receive a lot of feedback from the platform. Headphones are recommended to cut out background noise.
- Video issues? Once connected, select the 'Refresh Video' option in the top left corner. The platform will identify if the enhanced video software is functioning properly or not.
- Need further assistance? Please contact your provider's office.

Insurance Coverage for Breast Reconstruction

Your surgeon's office will submit to insurance prior to your procedure to obtain any needed authorization. Most insurance companies allow us to submit codes **one month prior** to the date of service. Therefore, if your surgery is more than one month away, it is likely that your procedure has not yet been submitted to your insurance company.

We will not perform surgery without the necessary prior authorization on file, or without a statement from your insurance company stating that no prior authorization is required.

Please contact your insurance company for any questions regarding your deductible, plan benefits, out-of-pocket maximum, or financial responsibility.

The Women's Health and Cancer Rights Act of 1998

The following information was obtained directly from the Centers for Medicare & Medicaid Services at https://www.cms.gov/CCIIO/Programs-and-Initiatives/Other-Insurance-Protections/whcra_factsheet.html

The Women's Health and Cancer Rights Act of 1998 (WHCRA) is a federal law that provides protections to patients who choose to have breast reconstruction in connection with a mastectomy.

If WHCRA applies to you and you are receiving benefits in connection with a mastectomy and you elect breast reconstruction, coverage must be provided for:

- All stages of reconstruction of the breast on which the mastectomy has been performed;
- Surgery and reconstruction of the other breast to produce a symmetrical appearance; and
- Prostheses and treatment of physical complications of all stages of the mastectomy, including lymphedema.

This law applies to two different types of coverage:

1. Group health plans (provided by an employer or union);
2. Individual health insurance policies (not based on employment).

Group health plans can either be "insured" plans that purchase health insurance from a health insurance issuer, or "self-funded" plans that pay for coverage directly. How they are regulated depends on whether they are sponsored by private employers, or state or local ("non-federal") governmental employers. Private group health plans are regulated by the Department of Labor. State and local governmental plans, for purposes of WHCRA, are regulated by CMS. If any group health plan buys insurance, the insurance itself is regulated by the State's insurance department.

Contact your employer's plan administrator to find out if your group coverage is insured or self-funded, to determine what entity or entities regulate your benefits.

Health insurance sold to individuals (not through employment) is primarily regulated by State insurance departments.

WHCRA requires group health plans and health insurance companies (including HMOs), to notify individuals regarding coverage required under the law. Notice about the availability of these mastectomy-related benefits must be given:

1. To participants and beneficiaries of a group health plan at the time of enrollment, and to policyholders at the time an individual health insurance policy is issued; and
2. Annually to group health plan participants and beneficiaries, and to policyholders of individual policies.

Contact your State's insurance department to find out whether additional state law protections apply to your coverage if you are in an insured group health plan or have individual (non-employment based) health insurance coverage.

WHCRA does not apply to high risk pools since the pool is a means by which individuals obtain health coverage other than through health insurance policies or group health plans.

WHCRA does NOT require group health plans or health insurance issuers to cover mastectomies in general. If a group health plan or health insurance issuer chooses to cover mastectomies, then the plan or issuer is generally subject to WHCRA requirements.

Note: A non-Federal governmental employer that provides self-funded group health plan coverage to its employees (coverage that is not provided through an insurer) may elect to exempt its plan (opt out) from the requirements of WHCRA by following the "Procedures & Requirements for HIPAA Exemption Election" posted on the Self-Funded Non-Federal Governmental Plans webpage at http://cms.gov/cciio/resources/files/hipaa_exemption_election_instructions_04072011.html. This includes a requirement to issue a notice of opt-out to enrollees at the time of enrollment and on an annual basis. For a list of plans that have opted out of WHCRA, go to http://cms.gov/cciio/resources/other/index.html#nonfed and click on "List of HIPAA Opt-out Elections for Self-funded Non-Federal Governmental Plans."

If you have concerns about your plan's compliance with WHCRA, contact the help line at 1-877-267-2323 extension 6-1565 or at phig@cms.hhs.gov.

Where Can I Learn More?

American Society of Plastic Surgeons (ASPS)
Breast Reconstruction – Know Your Post-Mastectomy Options
https://www.plasticsurgery.org/reconstructive-procedures/breast-reconstruction

National Cancer Institute
Breast Cancer – Patient information
https://www.cancer.gov/types/breast

American Cancer Society
Breast Cancer Patient Information
https://www.cancer.org/cancer/breast-cancer.html

American Cancer Society
Questions to ask your surgeon about breast reconstruction
https://www.cancer.org/cancer/breast-cancer/reconstruction-surgery/questions-to-ask-your-surgeon-about-breast-reconstruction.html

MedStar Georgetown University Hospital - Plastic Surgery
Breast Reconstruction Information
https://www.medstargeorgetown.org/our-services/plastic-surgery/treatments/reconstructive-surgery/breast-reconstructive-procedures/

Notes

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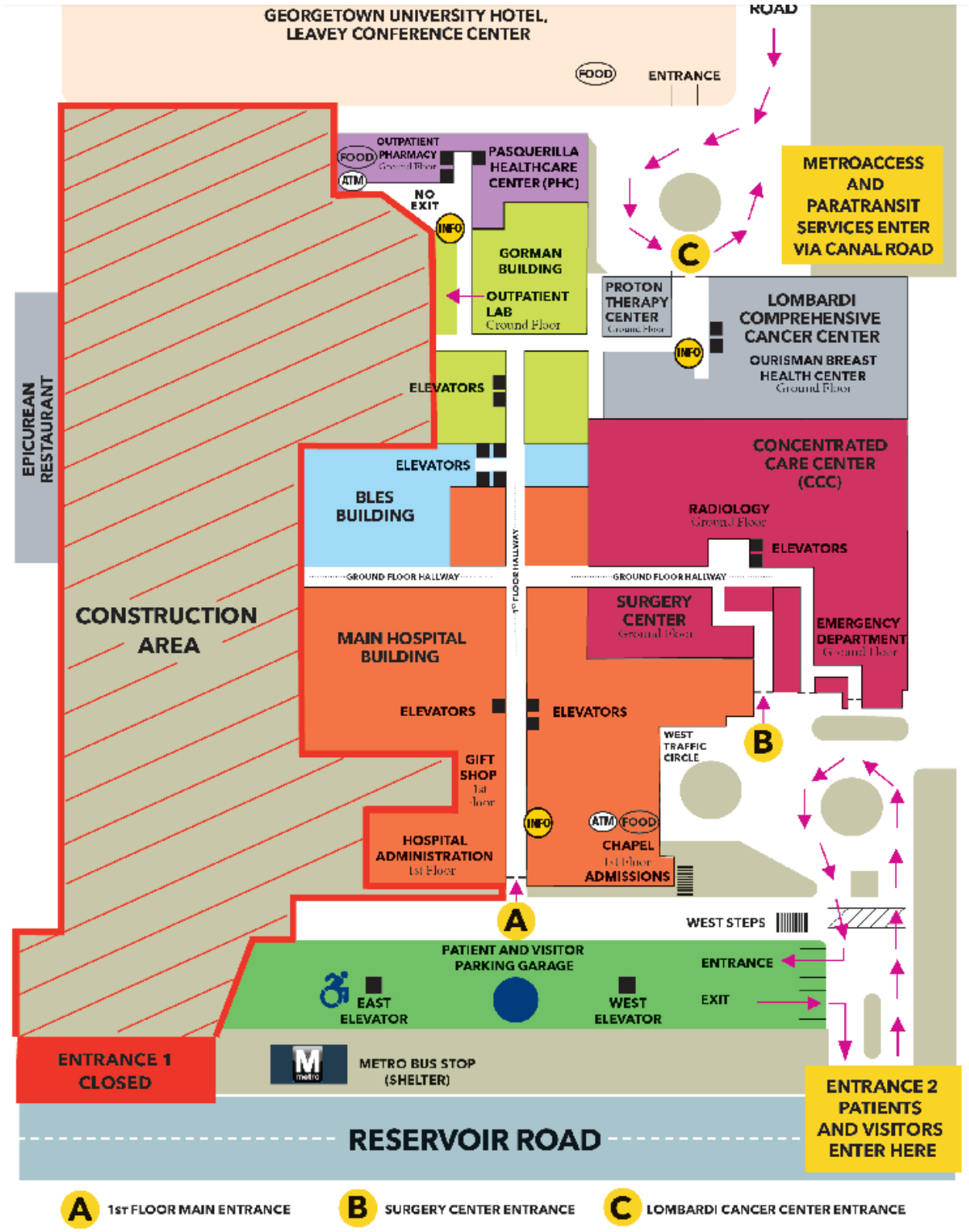
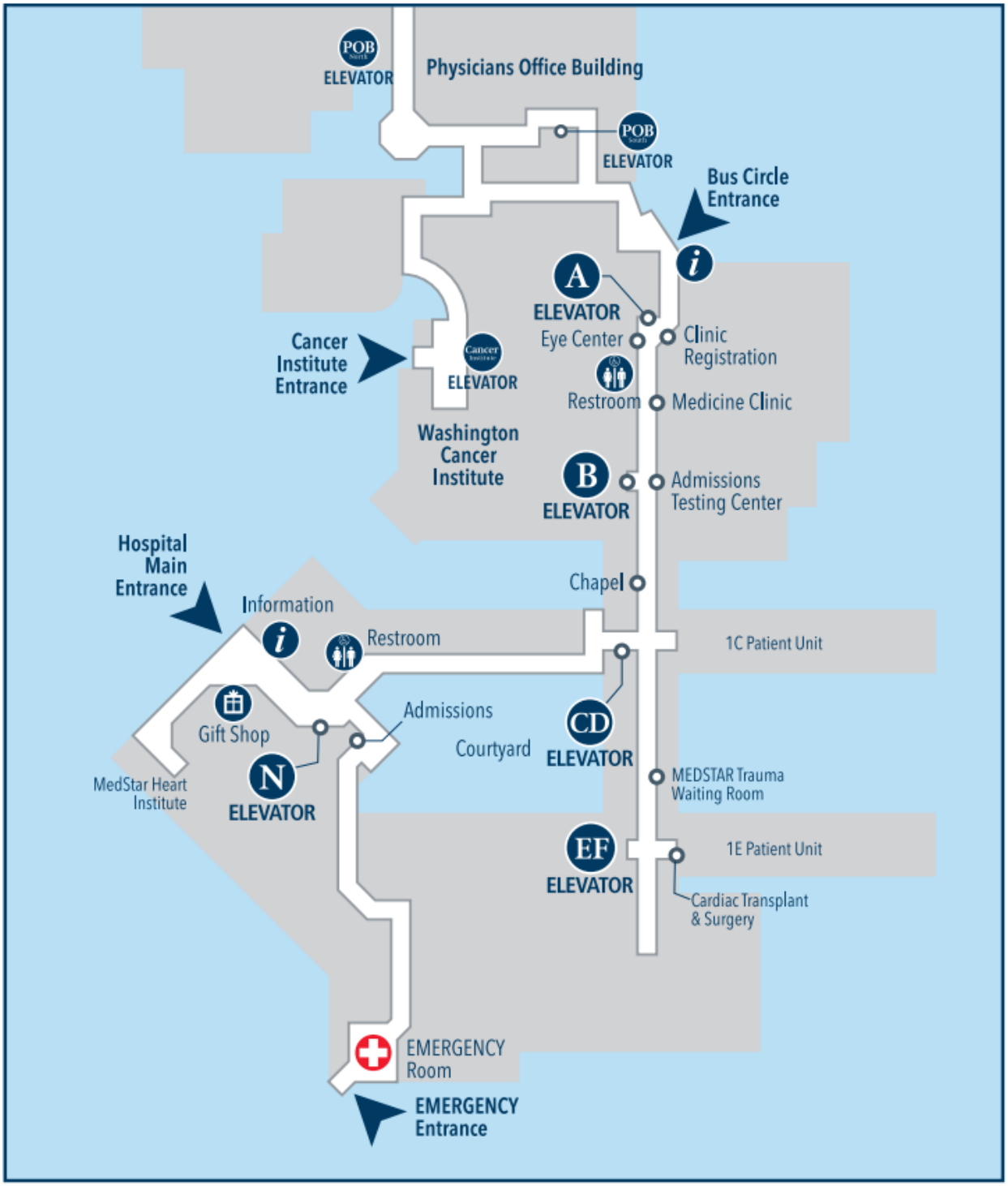
Campus Map – MedStar Georgetown University Hospital



MedStar Plastic & Reconstructive Surgery

Campus Map – MedStar Washington Hospital Center



Park in the Hospital Parking Garage on Irving Street NW and enter through the Hospital Main Entrance.