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Dear Patient,

As our patient, you are the most important member of your healthcare team. You can help us best by being prepared and letting us know how you feel during your care.

We perform many breast procedures everyday. From this experience, we know there is a typical pattern to recovery and common concerns as you move through the healing process. Our goal is to develop a plan of care to meet your needs. There are many hospital and community resources to assist you on your road to recovery.

We have prepared this guide to outline the key activities that will happen before and after surgery. You will find a description of:

– Procedures and hospital routines
– Types of anesthesia
– Options for breast reconstruction
– Care after surgery

Your journey through this process may be brief or extended. We hope this guide will serve as a helpful reference to inform and reassure you as you move through this process.

We invite you to share this guide with your family and friends. There will be many opportunities for them to help you during your recovery.
The Breast

Each breast has 15 to 20 sections called lobes (see Figure 1). Within each lobe are many smaller lobules. Lobules end in dozens of tiny bulbs that can produce milk. The lobes, lobules, and bulbs are all linked by thin tubes called ducts. These ducts lead to the nipple in the center of a dark area of skin called the areola.

Fat surrounds the lobules and ducts. There are small muscles in the nipple and areola which aide the process of nipple erection for lactation. In addition, the pectoralis muscles lie under each breast and cover the ribs.

Each breast also contains blood vessels and lymph channels, which exist outside the ducts and lobules in the surrounding fat tissue. The lymph vessels carry clear, whitish fluid called lymph and lead to small bean-shaped lymph nodes. As a part of the immune system, the nodes filter out germs and foreign matter. Clusters of lymph nodes are found near the breast in the axilla (under the arm), above the collarbone, and in the chest. Lymph nodes also are found in many other parts of the body.

Understanding the Cancer Process

Cancer refers to a group of many related diseases that begin in cells, the body’s basic unit of life. To understand cancer, it is helpful to know what happens when normal cells become cancerous.

The body is made up of many types of cells. Normally, cells grow and divide to produce more cells — only when the body needs them. This orderly process helps keep the body healthy. Sometimes, however, cells keep dividing when new cells are not needed. These extra cells form a mass of tissue called a growth or tumor.

Tumors can be benign or malignant. Benign tumors are not cancer. They usually can be removed, and in most cases, they do not come back. Cells from benign tumors do not spread to other parts of the body. Most important, benign breast tumors are not a threat to life.

Malignant tumors are cancer. Cells in these tumors are not normal. They divide without control or order. They can invade and damage nearby tissues and organs. Cancer cells also can break away from a malignant tumor and enter the bloodstream or the lymphatic system. That is how cancer spreads from the original (primary) cancer site to form new tumors in other organs. The spread of cancer is called metastasis.

When cancer arises in breast tissue and spreads outside the breast, cancer cells are often found in the lymph nodes under the arm (axillary lymph nodes). Cancer cells may also spread to other parts of the body — other lymph nodes and other organs, such as the bones, liver, or lungs. When cancer spreads, the new tumor has the same name as the primary tumor. For example, if breast cancer spreads to the lung, the cancer cells in the lung are actually breast cancer cells. The disease is called metastatic breast cancer. It is not lung cancer.
Figure 1: Normal Healthy Breast
Types of Procedures

There are many different types of breast surgery procedures. These can be performed alone or in combination depending on your situation. The major types of breast surgeries include:

Biopsy
A biopsy involves removing either a portion of (incisional biopsy) or all of (excisional biopsy) an area of abnormal breast tissue (a lump, a tissue irregularity found on mammography, etc.) to help make a diagnosis. Prior to this surgical procedure, feel free to discuss with your surgeon the placement and length of your incision. The procedure takes about 30 to 60 minutes. After the tissue is removed, it is sent to the pathology department for evaluation. You can go home on the same day as the procedure.

Partial Mastectomy (lumpectomy)
This is performed when a cancer is known to exist (see Figure 2). It involves removing the abnormal tissue and a margin of healthy surrounding tissue. Before this procedure, feel free to discuss the placement and length of the incision with your surgeon. The tissue that has been removed is sent to the pathology department for evaluation. You can go home on the same day after this procedure.

Mastectomy
This involves removing the entire breast including the nipple and areola (the dark circle of skin around the nipple). Drains are placed under the skin to collect fluid during the first week or so after the operation. The removed breast is sent to the pathology department for evaluation. The incisions are made differently depending if reconstruction is planned (see Figures 3 and 4). If a mastectomy is performed without reconstruction, most patients are able to go home the day of the procedure. On occasion, the patient will stay overnight. Some patients may choose to undergo breast reconstruction at the time the mastectomy is performed (immediate reconstruction). Later in this book, we will discuss reconstructive procedures.

Wire Localization
This procedure is performed during the biopsy or partial mastectomy. It is usually done if the mammogram was abnormal but the surgeon feels no lump. A local anesthetic is used for the wire placement. During the procedure, the radiologist uses x-ray guidance to place a slender wire into the patient’s breast to locate the abnormality. Using the wire as a guide, the surgeon then removes the appropriate tissue.

Axillary Node Surgery
This involves removing some lymph nodes from under the arm. For patients with a known breast cancer, a sentinel node mapping and excision may be performed to see if cancer cells have spread (see Figure 5). Sentinel node mapping involves the injection of a dye around the known breast cancer. The dye is taken up by the lymphatic channels in the breast and is carried to the first draining lymph node, or sentinel node, under the arm.

Two dyes can be used: Technitium (Tc) or isosulfane blue (blue dye). Technitium is a radioactive material that is injected in the nuclear medicine radiology department the day before or the day of surgery. At the time of surgery, a gamma probe is used to find the node that contains the Tc, which is identified by its increased radioactivity. The node is removed. If it is cancer-free, the remaining nodes are left untouched. When Tc does not work, blue dye may be used to find the sentinel node.

If the sentinel node contains cancer cells, there is a 50-50 chance that other nodes under the arm may also contain cancer cells. Thus, the surgeon will remove additional lymph nodes for evaluation (axillary dissection). A drain is placed to prevent the buildup of fluid after these lymph nodes have been removed. This drain is typically removed about a week after the surgery. Most patients will go home following this day-surgery procedure.
Figure 2: Lumpectomy or Partial Mastectomy

If reconstruction is not planned at the time of mastectomy, this incision allows the skin to heal flat against the chest wall so that a breast prosthesis can be worn comfortably.

Figure 3: Non-skin Sparing Mastectomy

Figure 4: Skin-sparing Mastectomy

Figure 5: Axillary Node Surgery With Sentinel Node Mapping
Anesthetic Options For Breast Surgery

For most breast surgeries, anesthesia can be provided by various techniques. The choices vary with the type of surgical procedure, your medical history and preferences, and the advice of your surgeon and anesthesiologist. Below is a brief description of anesthetic techniques and how they are usually used. Your surgeon and anesthesiologist can provide more information about each option.

Intravenous Sedation
This is also referred to as Monitored Anesthesia Care, or MAC. It consists of giving sedatives through your intravenous line (IV) or in the breathing mask. The sedatives are used with a local anesthetic that your surgeon will inject into the surgical area to numb the tissues. The level of sedation can be varied to achieve conditions ranging from being able to talk with your doctors to being partially asleep during the procedure. The combination of sedatives and local anesthetic is effective in ensuring your comfort for most minor breast surgical procedures. It is used most commonly for biopsies or the removal of breast lumps.

Regional Anesthesia
This refers to the technique of providing anesthesia to the region of the body where surgery is being performed. Because only the tissues around the site of surgery are made numb, it differs from general anesthesia (see below), in which the entire body is insensitive to pain. To improve patient comfort, regional anesthesia is commonly given with intravenous sedation (see above). Or in some situations, both regional and general anesthesia may be given. In these cases, the regional anesthetic provides long-lasting pain relief after waking up from surgery. The three main kinds of regional anesthetics used for breast surgeries are thoracic epidural anesthesia, paravertebral blocks and intrathecal morphine.

• Thoracic epidural anesthesia. Many people are familiar with epidurals in the setting of childbirth, where they commonly are used to relieve the pain associated with labor and delivery. Epidurals are also for a variety of surgical procedures. In contrast to labor epidurals where the catheter is inserted in the lower back, for breast surgery epidurals are placed higher up the back — between the shoulder blades. A tiny catheter is inserted between the bones of the spine into an area called the epidural space, which contains the nerves to be blocked for surgery. Local anesthetic is injected through the catheter, causing the surgical area to become numb. It is insensitive to pain until the effects of the local anesthetic have worn off.

• With thoracic epidural anesthesia, pain relief can be prolonged after surgery for as long as the catheter remains in place. As a result, it is most appealing for extensive procedures, such as mastectomies with reconstruction, when a longer hospitalization is required. On occasion, it is also performed for procedures that don’t require hospitalization after the operation. In this setting, because pain will be felt within a few hours of the epidural catheter being removed, another form of pain relief will need to be substituted at that time. This is usually done with oral medication prescribed by your surgeon before your discharge from the hospital.

• Paravertebral blocks are another form of regional anesthesia used during breast surgery. Like thoracic epidural anesthesia, this technique involves injecting a local anesthetic into an area of the back where the nerves are located to numb the chest. But there are important differences. Thoracic epidural anesthesia requires the placement of a catheter at a single location in the back. It produces a “block” that usually makes both sides of the chest pain-free but wears off within hours of the catheter’s removal. Paravertebral blocks do not require catheters to be placed in the back. The technique involves a series of injections of local anesthetic at several places along
the back of the ribcage. It is given with intravenous sedation. These injections usually “block” only the nerves on the side of the chest where the surgery will be performed. They have the distinct advantage of lasting 18 to 24 hours or more. These are most popular for patients who are having partial or complete mastectomies and are planning to go home on the same day of surgery. The likelihood of being nauseated after surgery is lower with regional anesthesia.

- Intrathecal morphine is used in combination with general anesthesia for patients who require mastectomies with flap reconstructions. These patients are always hospitalized after surgery. Intrathecal morphine involves an injection of morphine into the lower back, prior to the administration of general anesthesia. The injection is performed within the spinal fluid (similar to a spinal anesthetic). It is different than a traditional spinal anesthetic, in which the lower portion of the body cannot move for several hours. By contrast, intrathecal morphine does not alter the ability to move the lower body. It provides pain relief lasting 18 to 24 hours or more. Intrathecal morphine can depress breathing for a few hours after surgery. Its use is restricted to people who will be in the hospital after surgery.

General Anesthesia
This remains the most common form of anesthesia provided to people undergoing breast surgery. With this choice, you are completely asleep during your operation. General anesthesia is often combined with a local anesthetic to reduce pain at the incision site. Sometimes, a form of regional anesthesia will be used for this purpose. General anesthesia is started with medicine given in your IV or through a breathing mask. If you have a fear of needles, the IV can sometimes be started after you are asleep. Great improvements have been made in recent years with the drugs and techniques used for general anesthesia. Patients are much less likely to be sleepy after the initial recovery time. Also, there are many new effective approaches to control postoperative problems such as nausea and vomiting. Some day-surgery patients feel well enough to go directly from the operating room to a reclining chair in the recovery lounge. Most day-surgery patients are moved to recovery with minimal discomfort from nausea, vomiting, or pain.

If you are in the hospital overnight after your procedure, pain relief is usually provided by an IV pump called an IV-PCA. This stands for Intravenous Patient-Controlled Analgesia. The nurses in the recovery room will start this pump after surgery and will also teach you how to use it properly. The pump is set so you can receive a certain amount of medicine every five to seven minutes. A physician from the anesthesia department will visit you daily (and is available 24 hours each day) to check on you and be sure you are comfortable.
After Breast Surgery

The doctors and nurses will be watching over you until you awaken from anesthesia. When you wake up from surgery, there will be a lot of activity. We will check your heartbeat and blood pressure often. We also will ask you to cough and take deep breaths to keep your lungs clear. Though you may just want to sleep, these activities are important to speed your recovery. You may breathe oxygen through a mask for a short time until you are fully awake. Sometimes patients feel cold when they are waking up. If you feel cold, the nurse will provide extra blankets.

You will be taken to the recovery room or the post-anesthesia care unit (PACU). This is a large open room with many other patients recovering from surgery. You will be asked a lot of questions. This is to make sure you are aware and that you are not experiencing anything out of the ordinary. We want you to be as comfortable as possible, so please let us know how you feel. We may ask you to rate your pain on a scale of 1 to 10 (1 is least pain, 10 the most). This helps us decide the type and amount of pain medication you need. The recovery process and the time you spend in the PACU vary depending on the type of surgery and anesthesia you received.

When you wake up, you may wonder about the pathology results. These results generally are not ready before you leave the hospital. They will be available several days to a week or more after surgery. The surgeon will discuss this information with you as soon as the results become available. A follow-up appointment with your surgeon may be scheduled to do this in person.

Whether you are going home directly or staying in the hospital overnight, the plan for your care after surgery will focus on managing your discomfort, caring for your incision and drains, and increasing your activities.

Managing Discomfort

Managing your discomfort will be an important part of helping you increase your activity. When you are discharged from the hospital, you will be given a prescription for pain medication. This will contain a narcotic (for example, Tylenol® with codeine or percocet), which you should take as directed for pain relief. You should take this medication freely without worrying about addiction. If you wait too long, your pain may not be as easily relieved. To avoid nausea, it is best to take pain medications after you have eaten.

Do not drive while you are taking narcotics. You must be able to move freely in the car to observe oncoming traffic and to react quickly without being limited by pain or weakness. If you are concerned about gogginess and your ability to remain alert while taking your pain medications, please discuss this with your nurse or surgeon to find out what other options may be available.

If your prescribed pain medication is not working or you have nausea, vomiting, or dizziness, call your surgeon’s office. Due to state and federal regulations, any changes or renewals of narcotic prescriptions must be done during regular office hours. They cannot be phoned into the pharmacy. Someone will need to come to the clinic to pick up the prescription for you.

Narcotics often cause constipation. To help prevent this, eat bran cereals or muffins as well as raw fruits and vegetables. Also, drink plenty of fluids. An over-the-counter stool softener also should be taken while you are taking your narcotic medication. This will keep your stool soft, but it will not cause you to have a bowel movement. You may need to take a laxative, such as Milk of Magnesia, until your normal bowel function has returned.
Incision and Drain Care

After surgery, your incision will be covered with a dry sterile dressing. You may notice that the skin around your incision feels thickened or firm. These changes are normal. After your incision is healed (approximately three weeks), you can massage the area with a hypoallergenic, non-scented moisturizing lotion, cocoa butter or vitamin E cream. Or feel free to try other over-the-counter scar creams suggested by your pharmacist. Within a few weeks to several months, your scar will begin to soften.

A drain is usually placed at the time of a mastectomy (see Figure 6, page 12). It is usually removed within a week or so. At that time a small gauze dressing will be used to cover the drain hole for one to two days. The gauze can be removed when the small drain hole is sealed.

Once you leave the hospital, you will need to empty the drain when it is one-third full. The drain requires attention at least twice a day — in the morning and just before you go to bed at night. If the bulb becomes full during the day, you will need to empty it more frequently. It is a good idea to schedule routine times to check your drains so they do not become too full. Of note, a small amount of leakage around the drain exit site is normal.

Please use the “Drain Output Sheet” (page 13) to record the amounts drained at the different times of the day. If you empty the drain between the standard emptying times, record the amount in the “other” category on the chart.

In caring for the drain, follow these guidelines:

1. Gather the supplies you need: a measuring cup and the “Drain Output Sheet.”
2. Wash and dry your hands.
3. Take the stopper out of the bulb. Empty the fluid into the measuring cup.
4. After emptying it, grasp the entire bulb in your hand. Squeeze it tightly and reinsert the stopper into the bulb. The bulb should remain compressed at all times.
5. Record the amount of drainage on the sheet.
6. Flush the removed fluid down the toilet.
7. Wash and dry the measuring cup. Keep it with your supplies and the “Drain Output Sheet.”

The amount of fluid that drains over a 24-hour period will gradually decrease. When the total amount of drainage in a 24-hour period is down to about 30cc (1 ounce), the drain tube is ready to be removed. Contact your surgeon’s office to schedule an appointment for drain removal. If you have any questions or difficulties caring for the drain, call your surgeon. If your surgeon cannot be reached, call the BWH operator at (617) 732-6660 to page the resident who works with your surgeon. A resident physician is available 24 hours a day, seven days a week.

If the drainage suddenly stops, it may mean that the tubing is clogged or leaking. You may try “milking” the drain tube. To do this, grasp the tubing tightly between your thumb and index finger near your skin. With the other hand, compress the tubing and slide your fingers down the tube toward the bulb. This will help dislodge any material that may be blocking the tube and resolve the leakage. Do this at least two times per day until the drain is removed. Milking the tubing is easier using a small alcohol pad. If there is still no drainage, please call your surgeon’s office. Gradually the color of the drainage may change from cherry-red to a red-yellow to a straw color.

What to watch out for:

Be sure to call your surgeon if any of the following occur:
1. Temperature greater than 101.5°F.
2. Signs of infection (redness, swelling)
3. Foul-smelling drainage from the wound
4. Worsening of pain
5. Nausea and vomiting
6. Chest pain, shortness-of-breath, rapid heart beat
7. Leg-calf tenderness or pain
8. Bruising easily
9. Blood in stool or urine
10. Black, tarry stool
11. Unusual weight gain or loss
12. Sudden trouble seeing clearly
13. Loss of speech or trouble talking
14. Sudden weakness or numbness of face, arm, or leg on one side of the body
15. Sudden, severe headache with no known cause
16. Other: _________________________________
Figure 6: Drain Placement After A Mastectomy
Begin recording drainage the day after your surgery. Bring this sheet with you when you have the drain removed. Use the same measuring container so that you can track the amount in the same units, such as ounces or cc’s.

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**Resuming Usual Activities After Breast Surgery**

Most people feel very tired when they leave the hospital. Even when you are told you can resume normal activities, you may not feel up to it. For this reason, it is best to pace yourself as you return to your daily routine. We provide the following general guidelines and suggestions. The list includes common daily activities grouped by how much work or energy they require. Activities at the top of the list take the least energy. Those further down are more strenuous. We encourage you to discuss each item with your nurse and physician.

<table>
<thead>
<tr>
<th>Activity</th>
<th>When to Resume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wearing a bra, getting dressed</td>
<td>After a biopsy, lumpectomy, or mastectomy, you may wear a bra throughout the day and night for comfort and support. After TRAM or latissimus dorsi reconstruction, wearing a bra can limit the circulation, so be sure to check with your doctor or nurse about the best time to start wearing a bra.</td>
</tr>
<tr>
<td>Taking a tub bath, shower</td>
<td>If you had any reconstruction, you should not take a tub bath or shower until the drains are removed. It takes about two weeks for your incision to heal completely. You should not lift your arms to your head to wash your hair. If you did not have reconstruction, and your surgeon has used a plastic dressing to cover your incision, you may shower as usual, letting the water roll off the plastic dressing. The plastic dressing can remain in place for one to two weeks. If you do not have a plastic dressing in place, you can allow the water to run over your incision, but avoid letting the water hit it directly. You may gently wash away dried material from around the incision. Dry the incision completely by gently patting, instead of rubbing.</td>
</tr>
<tr>
<td>Lifting</td>
<td>If you did not have reconstructive surgery, do not lift more than five pounds after your surgery for one to two weeks. If you had reconstructive breast surgery, avoid lifting more than five to 10 pounds for six to eight weeks. Your inner tissues and muscles require time to heal and regain their usual strength. Be sure to ask for help with groceries and housekeeping activities like vacuuming.</td>
</tr>
<tr>
<td>Housework, cooking</td>
<td>Refrain from any heavy push-pull activities like vacuuming and loading the washer/drier. Light housekeeping such as dusting and light meal preparations are permissible.</td>
</tr>
<tr>
<td>Activity</td>
<td>When to Resume</td>
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<tr>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Walking, Exercise</td>
<td>Walking is a good way to get yourself back to your usual level of activity. Walk a little bit every day and gradually increase the distance. Be sure to pace yourself and don’t allow yourself to become too tired. If you did not have reconstructive surgery, you may resume your usual exercises once your drains have been removed, and as your comfort level allows. If you had reconstructive surgery, moderate exercise is generally fine after six weeks, though this first should be confirmed with your plastic surgeon. If you had axillary surgery requiring placement of a drain or reconstructive surgery, the range-of-motion at the shoulder should be limited to 90 degrees until your drains have been removed and your surgeon has confirmed that range-of-motion exercises can begin. This means that your arm should never be above the level of your shoulder when reaching forward or out to the side away from your body. You may use the arm for routine activities (e.g., washing your face), primarily using the wrist and the elbow, thus limiting your shoulder motion. Once your drain is removed, you will be instructed to perform regular exercises to help maintain shoulder range of motion.</td>
</tr>
<tr>
<td>Climbing stairs</td>
<td>If you had an operation on your abdomen, minimize going up and down stairs for the first week until your strength and balance have returned.</td>
</tr>
<tr>
<td>Sexual activity</td>
<td>You may resume sexual activity when you and your partner feel comfortable unless your doctor has instructed otherwise.</td>
</tr>
<tr>
<td>Driving</td>
<td>DO NOT DRIVE until you have completely stopped taking narcotic pain medication. You must be able to move freely in the car to observe oncoming traffic and to react quickly without being limited by pain or weakness.</td>
</tr>
<tr>
<td>Back to work</td>
<td>Returning to work will depend on the type of work you do and the type of surgery you’ve had. Discuss this with your surgeon.</td>
</tr>
<tr>
<td>Travel</td>
<td>You may go outside. Avoid long-distance travel until after your first post-operative visit (unless previously discussed with your surgeon).</td>
</tr>
</tbody>
</table>
**On Your Own at Home**

Before surgery, you can begin planning for your first weeks at home. It is especially important to have family and friends available to help with housework, shopping, and meal preparation. If you do not have help readily available, speak with your care providers about your needs. There may be resources in your community to which we can refer you.

Child care also can be a major challenge after surgery. Checking your children’s social and school calendars may prompt you to organize with other parents and family members the arrangements for your child’s activities and transportation in advance. If you have small children, have them come to you while you are in a seated position rather than trying to pick them up. Lifting and carrying them can be unsafe for both you and the child during your recovery.

In the first week after leaving the hospital, include the following in your daily routine:

- Take your pain medication.
- Check your incision for drainage or signs of infection.
- Care for your drains, if you have them (see “Incision and Drain Care,” page 11).
- Get back to your usual activities. Remember it is important to pace yourself.
- Rest and get plenty of sleep.
- Eat well and drink plenty of fluids. Eating a balanced and healthy diet will provide your body with plenty of the protein and nutrients that it needs to heal.

**Follow-up Appointments**

Following any breast surgery, you will need to schedule an appointment to see your surgeon or nurse, usually within one week. At this time, your surgeon will review the results of your pathology findings and the next step in your treatment plan. Your care team also will review any guidelines for increasing your activities including returning to work and starting an exercise program. You may need to be in touch with your primary care doctor if you have other health issues. This doctor will routinely receive information from the surgeon about your progress after surgery.

**Breast-Fitting Services**

If you had a mastectomy without reconstruction or a mastectomy with a temporary tissue expander, you will be given a gift pack from the Friend’s Boutique of Dana-Farber Cancer Institute’s Gillette Center for Women’s Cancers. The kit contains a temporary breast form and a bra. You can be fitted for a permanent breast form after the swelling is gone, generally four to six weeks after surgery. If you had a lumpectomy with a noticeable loss of breast tissue, you may also want to contact this or another breast-fitting service. Fitters have breast forms especially designed for women who have had either a mastectomy or a lumpectomy.

You can call the Friends Boutique at the Dana-Farber Cancer Institute, (617) 632-2211.

**Emotional Support**

We understand that recovery from breast surgery can be a very emotional time with many feelings of fear and loss. These feelings can influence social relationships and even your physical recovery.

At Brigham and Women’s Hospital, social workers are available who have experience with the emotional impact of breast surgery. If you would like to talk with someone, ask your nurse or doctor to help you arrange for a visit.

For women who find they have breast cancer there is a special volunteer support network serving the Dana-Farber/Brigham and Women’s Cancer Center (DF/BWCC). One-to-One: The Cancer Connection includes cancer survivors and their family members who have volunteered to listen and to share their own experiences with others whose lives are affected by cancer and other related diseases. All One-to-One volunteers have completed a special training program. They can help allay people’s fears and concerns, provide information, guide patients through the DF/BWCC system, and discuss available resources. Most importantly, they provide support and reassurance over the course of one’s illness and treatment.

Referrals can be made by any member of your health care team. Just inform any team member that you want to speak with a One-to-One volunteer, or call the Eleanor and Maxwell Blum Patient and Family Resource Center at (617) 632-5570. A One-to-One coordinator will contact the volunteer who will be most helpful to you. The volunteer
will then call you to schedule a time to talk or meet.

We want you to know that we are here to help you throughout recovery. You also may wish to join a support group with other women recovering from breast surgery. Contact information is listed on page 40 of this guide.

**Exercising After Breast Surgery**

Exercise is an important component of a healthy lifestyle. It also plays a crucial role as a woman recovers from breast surgery. Breast surgery and reconstruction have specific physical side effects, such as skin tightness, postural problems, muscle imbalances, and limited range of motion and flexibility. Exercise is key in reducing these side effects so you can return to your usual daily activities. By exercising and being active, you can take control of your rehabilitation, leading to a more complete and timely recovery.*

**Overall Fitness**

The first component of rehabilitation is cardiovascular fitness. This may begin the day after surgery. Women who undergo chemotherapy often experience **sarcopenia**, a rapid loss of muscle mass and gain of fat tissue, which can lead to the onset of obesity. For healthy women, the percent of body fat increases about 2.5 percent between the ages of 40 and 50. But for a 40-year-old undergoing chemotherapy, this decade worth of increase in body fat may occur within one year. A walking-based cardiovascular program will help counter these effects by helping to reduce body fat and retain muscle. Strength training further helps in maintaining and building muscle mass.

**Stretching**

The second component of an overall exercise program is stretching. After breast surgery, women commonly experience body stiffness, skin or muscle tightness, muscle imbalances, and a decrease in range-of-motion at their joints, particularly at the shoulder on the side of surgery. In addition, inactivity after surgery and being forced to maintain less-than-ideal postural positions can tighten and shorten muscles and tendons. Stretching is critical to lessen these side effects and to regain flexibility.

Flexibility training can help:

- Stretch and lengthen tight areas to relieve muscle stiffness.
- Improve muscle imbalances.
- Realign muscles and joints.
- Improve your posture and balance.

On the next few pages, you will find some simple guidelines for stretching exercises you can begin after surgery. In the first week, you can begin with two simple exercises: the “Hand Wall Climb” and the “Butterfly Stretch”. Depending on the type of surgery you’ve had, you may begin doing other exercises as soon as two weeks after surgery. Be sure to check with your surgeon before you start to exercise and stretch.

* References:
  - **Breast Cancer Survivor’s Guide to Fitness.** Reebok University with Brigham and Women’s Hospital, Dynamix, 2005.
Weeks 1 to 2

Hand Wall Climb: Front

<table>
<thead>
<tr>
<th>Purpose</th>
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</thead>
<tbody>
<tr>
<td>This stretch helps in regaining shoulder range-of-motion, specifically to be able to reach up above your head. The primary muscle groups stretched in this exercise are the chest muscles (pectoralis), the underarm region (choracobrachialis), and the back muscle (latissimus dorsi).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Getting started</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stand facing the wall, about a foot away. Place one hand on the wall at shoulder height.</td>
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</table>

<table>
<thead>
<tr>
<th>How to complete the exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>• With your elbow kept straight, walk the hand up the wall as high as you can to the point of tightness. If you can, step in towards the wall to increase the stretch. Hold for five seconds. Return to starting position.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Counting and pacing</th>
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</thead>
<tbody>
<tr>
<td>• Walk up the wall three counts slowly and hold for five counts, then walk down for three counts. Repeat three to five times.</td>
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</table>

<table>
<thead>
<tr>
<th>Things to keep in mind</th>
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</thead>
<tbody>
<tr>
<td>• First, walk the unaffected arm up the wall to get a sense of your range-of-motion. Then repeat with the operated arm.</td>
</tr>
<tr>
<td>• If the unaffected arm achieves full range-of-motion easily, then just perform this exercise on the operated side.</td>
</tr>
<tr>
<td>• Stop at your point of tightness, then try to go a little farther.</td>
</tr>
<tr>
<td>• No pain at any time!</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of times you need to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeat each stretch three to five times at least once a day. Repeat this exercise twice a day if possible.</td>
</tr>
</tbody>
</table>
Hand Wall Climb: Side

**Purpose**
This stretch helps in regaining shoulder range-of-motion, and specifically to be able to reach up above your head. The primary muscle groups involved in this exercise are the chest muscles (pectoralis), the underarm region (choraco-brachialis), the side of the back from the underarm to the waist (latissimus dorsi), and the front of your shoulder/upper arm (anterior deltoid).

**Getting started**
- With your affected side, stand about two feet from the wall with the wall at your side. Place the palm of your hand on the wall.

**How to complete the exercise**
- Keeping your elbow straight, walk your hand up the wall as high as you can to the point of tightness. If you can, step in closer to the wall. Hold the stretch.

**Counting and pacing**
- Walk up the wall three counts slowly and hold for five counts, then walk down for three counts. Repeat three to five times.

**Things to keep in mind**
- Walk the unaffected arm up the wall to get a sense of your range-of-motion. Then turn and repeat with the operated arm.
- If the unaffected arm achieves full range-of-motion easily, then just perform this exercise on the operated side.
- Stop at your point of tightness. Then try to go a little farther each time.
- No pain at any time!

**Number of times you need to complete**
- Repeat each stretch three to five times at least once a day. Repeat this exercise twice a day if possible.

Over a three-week period, you will find that you can gradually extend your reach a couple inches up and outward. Do not pull on any of these muscles — just a simple and gentle stretch. If you are unable to achieve your full reach at the end of three weeks, you may benefit from physical therapy. Be sure to discuss this option with your surgeon.
Week 2

By the end of the second week you can begin the following exercises.

**Butterfly Stretch**

<table>
<thead>
<tr>
<th>Purpose</th>
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</thead>
<tbody>
<tr>
<td>When performed lying down, this stretch externally rotates your shoulders back and down and stretches your chest and underarm areas. The primary muscles stretched in this exercise are the major and minor chest muscles (pectoralis).</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Getting started</th>
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</thead>
<tbody>
<tr>
<td>• Lie on your back with your knees bent and feet on the floor.</td>
</tr>
<tr>
<td>• Place your hands behind your head with your elbows pointing towards the ceiling.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How to complete the exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lower your elbows to the sides towards the floor.</td>
</tr>
<tr>
<td>• Hold the stretch five to 30 seconds. Return slowly to the starting position.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Counting and pacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Hold each stretch five to 30 seconds.</td>
</tr>
<tr>
<td>• After 20 seconds, you may feel a release in the muscles being stretched.</td>
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</table>

<table>
<thead>
<tr>
<th>Things to keep in mind</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Slowly lower your elbows to the floor with control.</td>
</tr>
<tr>
<td>• Stop at the point of tightness.</td>
</tr>
<tr>
<td>• Do not bounce.</td>
</tr>
<tr>
<td>• Inhale and exhale and try to go an inch farther.</td>
</tr>
<tr>
<td>• Maintain slow, rhythmic breathing — in through the nose and out through the mouth.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>If you are having trouble, try the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pillow press: Place a pillow to the side of each elbow. As you lower your elbows, press them into the pillow. If you are very tight on the operated side or underarm area, this is a good way to start this stretch because it safely limits your range-of-motion.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Number of times you need to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Repeat each stretch three to five times at least once a day. Repeat twice a day if possible.</td>
</tr>
</tbody>
</table>
Butterfly Stretch
## Weeks 2 to 4

### Single Arm Overhead Stretch

**Purpose**

This stretch helps in regaining overhead arm range-of-motion. The primary muscle group stretched in this exercise is the latissimus dorsi (side of back from the underarm to waist).

**Getting started**

- Lie on back with knees bent and feet on floor. With the other hand, hold the affected arm just above the wrist.
- The thumb of the affected arm should point to the ceiling.

**How to complete the exercise**

- Relax the affected arm. Let the other arm do the work. Exhale and lift the affected arm slowly up and overhead as far as possible.
- Stop at the point of tightness. Hold the stretch. Then, return to the starting position.

**Counting and pacing**

- Hold each stretch five to 50 seconds.
- After 20 seconds, you may feel a release in the muscles being stretched.

**Things to keep in mind**

- Start slowly and lift the arm to point of tightness.

**If you are having trouble, try the following**

- Pillow press: Place a pillow on the floor above your shoulder. As you raise the affected arm overhead, press into the pillow. This smaller range-of-motion may be easier when starting to stretch after surgery.
- Perform the stretch while holding a dowel or a towel shoulder-width apart with your palms facing forward.

**Number of times you need to complete**

- Repeat each stretch three to five times at least once a day. Repeat twice a day if possible.
Single Arm Overhead Stretch
# Leg Stretch

## Purpose

The front of the hip may be very tight due to bending forward, particularly after TRAM reconstruction. The purpose of this exercise is to help you regain comfortable upright posture. Muscles used in this movement include the hip flexors and the abdominal muscles.

## Getting started

- Lie on your back with knees bent and feet on the floor. Your arms are at your side.

## How to complete the exercise

- Extend one leg out straight so your knee touches the floor.
- Hold for five seconds, then return slowly to starting position.
- Repeat using the opposite leg.
- When each leg can be comfortably extended, repeat by extending both legs at the same time.

## Counting and pacing

- Extend slowly for a count of five, hold, then return slowly for a count of five.
- Breathe normally or count out loud.

## Things to keep in mind

- Move slowly and with control.
- Stretch only to the point of tightness.

## If you are having trouble, try the following

- Use a pillow under your head for additional support and comfort

## Number of times you need to do

- Repeat stretch three to five times at least once a day. Repeat twice a day if possible.
- *Once you are comfortably able to perform the Single Arm Overhead Stretch and the Leg Stretch, these two stretches should be combined with the goal of achieving comfort when fully stretch out on the floor.*
The following series of stretches will help strengthen your abdominal muscles.

**Heel Lift**
Lie flat on your back in bed or on the floor. Lift one leg at a time six inches and hold to a count of 10. Start with 10 lifts twice a day, every morning and night. Add five lifts each week until you reach 50.

![Heel Lift](image)

**Side-to-Side Heel Reach**
Lie on the floor (or bed), flat on your back with legs extended. Place the palms of your hands flat on the floor, fingertips pointing to your feet. Slide your torso side-to-side, reaching for your heels — right hand to right heel, then left hand to left heel. Hold the position and count to 5. Be sure to keep your back flat on the floor and your hands in contact with the floor while reaching for each heel.

![Side-to-Side Heel Reach](image)
Right/left Middle Heel Reach

This is a low-level modified sit-up. Lie flat with knees bent at a 90-degree angle and the palms of your hand flat on the floor (or bed). Do not lift your back off the floor. Each hand should simultaneously reach for each heel. Keep your back and hands in contact with the floor at all times.

Once you have mastered these exercises, speak with your doctor about the next steps for advancing your activity.
**Strength Training**

The third and final component of a comprehensive exercise program is strength training. Two important steps must be taken before initiating a strength-training program:

Obtain your surgeon’s permission. Your surgeon will tell you when the surgical area is properly healed and will confirm when you can safely begin strength training.

Regain full, upright posture, and full comfortable range-of-motion at your joints. If sound posture and joint range-of-motion are not fully recovered, prematurely beginning a strength-training program can result in injury.

Strength training usually may begin between two and six weeks after surgery, depending on the nature of your specific surgery. It plays a crucial role in countering the effects of sarcopenia, a rapid loss of muscle mass and gain of fat tissue, by stimulating muscle growth. Muscle imbalances resulting from surgery may be corrected or minimized by strengthening the muscles that surround those areas.

In addition, some women undergoing chemotherapy experience accelerated bone loss, which can increase their risk of developing osteoporosis. Women who experience chemotherapy-induced menopause are even more at risk because this type of bone loss is sudden and exacerbated by the decreased estrogen levels. Research has shown that weight-bearing exercise may help maintain bone density.

Strength training makes it easier to perform activities of daily living. It can be empowering, both physically and mentally, allowing you to regain the feeling of control that may have been lost during treatment.

Exercising after breast surgery is the key to a complete recovery. Many side effects of surgery and breast cancer treatment can be alleviated by incorporating a program of cardiovascular walking, stretching exercises, and strength training.

Exercising may be difficult at first, especially if you have not exercised before. Remember to start slow, go slow, and be patient with yourself. With consistent and continuous effort, you will be on your way to a new and healthy you!

**Lymph Node Removal and Lymphedema**

In certain cases, lymph nodes from under the arm are removed as part of the surgery for breast cancer. This is called an axillary node dissection. This may lead to a condition called lymphedema. This is the swelling of a body part — in this case the arm.

The job of the lymph vessels is to carry lymph fluid (a protein-rich fluid that contains water, fat, bacteria, and old blood cells) to the larger lymph ducts and into the main circulatory system. When the lymph vessels are altered by surgery or radiation, the body may be unable to properly drain this fluid, thus resulting in swelling in the arm. The body responds by enlarging the remaining lymph channels to take over the work of those removed or altered.

You will need to take steps to prevent lymphedema. Below are measures to help:

**Avoid exposure to excessive heat and burns**

The following will minimize increased lymph production.

- Wear sunscreen when in the sun and minimize sun exposure to prevent burning.
- Avoid extreme heat with sun exposure.
- Avoid extreme heat when bathing and washing dishes.
- Do not use the sauna or hot tub.

**Avoid muscle strain**

This also will minimize increased lymph production.

- Use the arm normally, not excessively, and minimize heavy lifting.
- Warm up muscles before exercise.
- Avoid long durations of repetitive vigorous movements against resistance (scrubbing, pushing, and pulling).
- Initiate new exercise gradually, and limit sports with forceful repetitive arm strokes. If the arm begins to ache, lie down and elevate it. Speak to your surgeon before starting any program of exercise.
Avoid compressing the affected area
This will help lymph channels stay open. They can collapse if too much pressure is applied.

- Avoid having blood pressure taken on the treated side. Use the untreated side.
- Avoid tight clothing and accessories on the shoulder, arm, and hand such as:
  - Pocketbooks slung over the shoulder
  - Narrow bra straps that leave an indentation in the skin
  - Shirts with tight elastic sleeves
  - Tight bracelets, watches, and rings

Maintain skin integrity to minimize infection
The following are recommended to minimize the chance of infection, which can cause scarring and narrowing of the lymphatic channels.

- Use an antibacterial soap (e.g., Dial®, Lever 2000®) for daily bathing.
- Use hypoallergenic moisturizing lotion (e.g., Lubriderm®) on the arm and hand to keep the skin moist. In the dry winter months, apply twice daily.
- Use an electric shaver, wax, or consider laser hair removal to remove underarm hair. If using a razor blade when shaving under your arm, do so in front of a mirror with great care to avoid breaks in the skin.
- Avoid cutting cuticles during a manicure/pedicure.
- Wear protective gloves when doing dishes and gardening.
- Avoid pet scratches and bites, especially with kittens.
- Wear long sleeves and insect repellent when outdoors during insect season.
- Avoid taking your blood pressure, blood draws and IV placement in the arm.

If you get a cut, burn, or scrape
- Cleanse the area well with antibacterial soap.
- Apply antibiotic ointment (e.g., Bacitracin®, Neosporin®, triple antibiotic).
- Cover with a bandage.
- If signs of an infection develop, such as redness, warmth, or swelling, call the Breast Health Center at (617) 732-8111 or your surgeon’s office. You may need to be evaluated for a prescription for an antibiotic to help treat the infection.

Keep your weight in a healthy range for your body type and height
At the time of your surgery, you will receive information about buying a “lymphedema alert” bracelet to wear for your protection.

With air travel, you may need to wear a compression sleeve because cabin-pressure changes may cause lymphedema. The sleeve needs to be refitted if it is worn often or if your weight changes. You can be fitted at the Friends Boutique at Dana-Farber Cancer Institute or at a medical supply company.

For more information, please contact the Greater Boston Area Lymphedema Support Group at (781) 894-2309 or the National Lymphedema Network at (800) 541-3259.
Reconstructive Surgery

If you choose reconstruction, there are several options to consider. Reconstruction can be performed on the same day as your mastectomy (immediate reconstruction), or at any time in the future following your mastectomy (delayed reconstruction). Sometimes it is better to wait for reconstructive surgery depending on factors such as tumor size, nodal involvement, the need for chemotherapy or radiation therapy, or your own physique.

Reconstruction is intended to help restore your confidence and physical appearance. It will provide a breast mound to closely match your other breast. Sometimes a breast reduction on the unaffected side may be recommended to achieve a more balanced appearance. Women also may choose not to undergo surgical reconstruction. In this situation, they may consider a breast prosthesis, fitted to match your remaining breast. It is worn in a special bra or, in the case of a custom-made prosthesis, is worn with your usual bra.

Your plastic surgeon will help you decide which type of reconstruction is best for you. This decision will be based on your:

- Past history
- Body type
- Presence of scars on the breast and at a possible reconstruction donor site
- Physical activity level
- Need for additional therapy such as radiation
- Personal preferences

Types of Procedures and General Guidelines

There are two major categories for reconstructive procedures used to create a new breast mound:

- **Flaps**
  Involve using tissue from one part of your body and transferring it to your breast area.

- **Saline implants**
  Involve an initial placement of a silicone envelope (tissue expander), a series of saline injections to expand the silicone envelope, and later removal of the tissue expander and placement of a permanent saline or silicone implant.

Flaps can be performed in two ways, either as a **pedicle flap** or a **free flap**. A pedicle flap uses tissue that remains attached to its blood vessel source and is tunneled under the skin to the chest surgical site. This tissue can be taken from your abdomen or your back. A pedicle flap from the abdomen is called a TRAM flap, which refers to the transverse rectus abdominus muscle used to rebuild the breast. A pedicle flap from the back is called a latissimus dorsi muscle flap, or Lat-flap.

A free flap involves using tissue that is totally disconnected from its blood supply at the source and reconnected to blood vessels at the new site. A free flap is usually taken from the abdomen muscle (TRAM) although in some instances a buttock muscle may be used.

After any breast reconstruction, plans may be made to add a nipple and areola. This can be done about three months following your flap reconstruction or your saline implant, allowing for any swelling to subside and the breast to heal and develop a more natural shape. This procedure is usually performed as an outpatient under local anesthesia.
Approximately two months following the reconstruction of a nipple and areola, they will be tattooed to match the color of the nipple areola complex of your other breast. This will be done on an outpatient basis, usually in your plastic surgeon’s office.

If your reconstruction is scheduled to be performed on the day of your mastectomy, you will go through the routine procedures to prepare for surgery. You will visit the Weiner Center for Pre-Operative Evaluation in the week(s) beforehand. You will be admitted to the hospital on the day of surgery. Similar to other breast surgery procedures, your care after this surgery will be focused on managing pain, caring for your incision and drains, and progressing your activity. You may refer to earlier sections of this book for a review of these routines. You will find the following general guidelines helpful after any breast reconstruction procedure:

**Incision**
Following any type of reconstruction, your breast may be swollen and slightly bruised for two to six weeks. This is normal. Your bandages/dressings will be removed prior to leaving the hospital, and your incisions may be left open to air. You may choose to keep a dry dressing around your drain sites.

In most cases, incisions are closed with stitches beneath the skin (intra-dermal) and will be covered with steri-strips or a non-adherent gauze. The sutures will be absorbed by your body over the next four to six weeks and do not have to be removed. The steri-strips will fall off or can be removed in two weeks. On occasion, a surgeon may decide to use external nylon sutures that will be removed during one of your follow up visits (about 10 to 14 days after surgery). To minimize infection, you will be discharged with an antibiotic medication to take as long as the drains are in place.

You should never apply hot water bottles or heating pads to any surgical site. Your suture lines and flaps are not as sensitive to heat, so burns easily can occur. Also avoid other heat situations such as saunas, hot tubs, sunbathing, phototherapy, or tanning salons. Cold packs should never be placed over a flap because this will cause constriction of blood vessels and hinder circulation in the flap.

**Drains**
You will have one or more drains in place until the drainage is less than 20 to 30 cc’s (about an ounce) per drain in a 24-hour period. Empty the drains as needed when they are one-third full and record the amounts. After emptying it, grasp the entire bulb in your hand, squeeze it tightly, and reinsert the stopper into the bulb. The bulb should remain compressed at all times. This is important for the drain to work properly.

In general, by the time of you leave the hospital, the drainage will have become pink or yellow in color. If you see new leakage from around a drain site, you may try *stripping the drain*. Grasp the tubing tightly between your thumb and index finger near your skin. With the other hand, pinch the tubing and slide your fingers down the tube toward the bulb. This maneuver may dislodge any material that may be blocking the tube and end the leakage. Call your plastic surgeon’s office when the drainage in your drains is less than 20 to 30 cc’s per drain for a 24-hour period and arrange to come to the office for removal of one or more drains.

**Diet and nutrition**
Return to your normal diet as soon as possible. You need plenty of proteins to help your body heal. Protein can be found in lean meats, poultry, and fish or in beans, legumes, or nuts. Carbohydrates found in grains, fruits, and vegetables are important for energy. Narcotic medications and decreased physical activity are causes of constipation. Try to include bran cereals or muffins as well as raw fruits and vegetables to counteract this. You also should drink plenty of fluids. An over-the-counter stool softener should be taken while you are taking your narcotic medication. This will keep your stool soft, however, it will not cause you to have a bowel movement. If need be you may take a laxative, such as Milk of Magnesia, until your normal bowel function has returned.

**Daily activities**
Resume normal activities as your strength allows. You should alternate periods of activity with periods of rest during the first two weeks after your operation. You may go up and down stairs but try to restrict this to a minimum for the first week. Walking is a good form of exercise for the first two weeks. Until your incisions are healed, you do not need to do any arm stretching.
A tissue expander is a silicone envelope with an injection port, which you may be able to feel under your skin. The port is about the size of a quarter and is usually placed centrally in the breast. A small amount of saline may be injected at the time of your mastectomy, but your incisions must be allowed to heal before any significant expansion can begin.

**What to expect**

After placement of the tissue expander, your newly reconstructed breast will be smaller than your unaffected breast. You may want to wear a temporary breast form to balance your bust line. If so, please call the Friend's Boutique at Dana-Farber Cancer Institute. They will provide a temporary breast form and a bra.

**First few weeks after surgery**

Approximately two to six weeks after your surgery, a series of injections into the expander will begin. Two to four ounces of saline will be injected every week or two until the desired size is reached. At the completion of this process, the expander will be larger than the desired breast size in order to have enough soft, loose skin to drape nicely over the implant. These injections usually are not painful, but you may experience some tightness in your breast for 24 to 48 hours following each injection. Tylenol® or Advil® is helpful for the relief of this discomfort.

Once the expansion process is completed, there will be a waiting period of four to six weeks to allow the tissues to relax. After this period, you will be ready for the insertion of a permanent saline implant. There are two types: smooth surface and textured surface. You will be scheduled for a day surgery in the operating room. The expander will be removed and the permanent saline implant will be inserted through the previous mastectomy incision.

After the permanent implant is placed, it will need time to settle into place. You must avoid shoulder movement in any direction above 90 degrees for one week. This means that your upper arm should not be raised above the level of your shoulder when reaching forward or sideways away from your body. You may move your elbow and wrist to do such things as combing or washing your hair. You should also avoid lifting more than 10 pounds for the same period of time. If your shoulder feels stiff, bend over slightly and do circle exercises with your arm. This will help the flexibility of your shoulder joint.
In addition to a dressing, you may have a bra or chest wrap in place for the first few post-operative days to minimize the chance of the implant from changing position in its pocket. After this dressing is removed, you may wear a supportive bra. You may return to your normal activities in four to six weeks. Check “Resuming Usual Activities After Breast Surgery” on page 14 for more specific details. Be sure to check with your surgeon or nurse if you have specific questions.

Figure 9: Tissue Expander and Saline Implant Insertion
TRAM Flap Reconstruction
A TRAM flap is an acronym for transverse rectus abdominus muscle flap. There are two such muscles in your abdomen. In this procedure, a portion of one muscle, along with its overlying skin and fat, will be raised up but still left connected to its blood supply in the muscle (see Figure 7). A tunnel will be prepared so that this tissue flap can be passed along through it, beneath your skin, to the breast area to create a new breast mound. The flap is then trimmed and sewn into place. The abdominal wound will be closed, and you will have a single scar across your lower abdomen. To complete the abdominal repair, a small incision will be made in the abdominal wall and the umbilicus (belly button) will be brought out and sutured into place.

What to expect
This surgical procedure will require you to be in the hospital for 3 to 4 days on average. Right after surgery, you will awaken in the Post Anesthesia Care Unit. Usually, patients receive their pain medication through an intravenous line (IV), which is connected to a PCA (patient-controlled analgesia) pump. Using this pump helps you to better control the pain by allowing you to push a button to receive a dose of medication when you need it. The pump is set to allow you to receive the correct amount of medication at certain time intervals, usually about every seven minutes. Do not be concerned that you are using it too much; it will not allow you to overdose. When you are able to tolerate food, the pump will be stopped and you can begin to take your pain medication by mouth. You will be instructed to cough and take deep breaths frequently as this is helpful in getting your lungs to expand fully.

After your surgery is completed and you are fully awake, you may be offered ice chips. This will be followed by a short period of clear liquids, after which you can begin your regular diet when you are up to it. On the evening of your surgery or early the next day, you will be encouraged to get out of bed. It is important for your circulation to become active. You will be asked to walk and to sit in a chair for short periods.

During the days after surgery, you may feel that your hands and face are puffy. This is caused by the fluids you were given intravenously during surgery. Your body must rid itself of this fluid in your urine, which usually occurs during the first 48 hours. A bladder catheter may be in place for most of this time. When you are able to be out of bed and walk to the bathroom, your catheter will be removed.

At first, you will probably feel most comfortable lying on your back. You may lie on your unaffected side as well. Right after surgery, your operative breast will be swollen. There may be some bruising either on the flap itself or on the skin left behind after the mastectomy (your native skin). This bruising should subside over the next few days.

After two days, it is unlikely that there will be additional drainage from any of your incisions. Dressings are generally not required after this time. To manage drainage of wound fluid, you will be discharged with several drains in place, both in your breast and abdomen. These will remain until the drainage is less than 20 to 30 cc’s for a 24-hour period. Your drains will be removed in the plastic surgery clinic during one of your follow-up visits (see “Incision and Drain Care,” on page 11).

First few weeks after surgery
After a TRAM flap procedure, your abdomen will feel quite tight for several weeks. This tightness will eventually lessen as you increase your activity and the tissues relax. You may feel more comfortable wearing loose clothing. It is important to avoid lifting more than 10 pounds or doing any heavy activity for up to two months. This will allow the interfacing layers of tissue to completely seal together and heal.

After a TRAM flap procedure, you should not wear a bra for one month. Tight-fitting garments can cause pressure over the blood supply to your flap, resulting in poor circulation. After a month, a new blood supply will have been established at the base of the flap and you may resume wearing a bra.

You should not raise your shoulder on the operated side more than 90 degrees for one week to avoid any stretch on your incisions. This means that your arm should never be above the level of your shoulder when reaching forward or out to the side away from your body. If your shoulder begins to feel stiff, bend over slightly and do circle exercises with your arm. This will maintain the flexibility of your shoulder joint.
It will take three to four months for your incisions to completely heal and for your breast swelling to totally resolve. At this time you can begin to make plans for your nipple/areola reconstruction and any minor revisions of your reconstructed breast to achieve greater symmetry with your remaining breast.

You may return to all of your usual daily activities in about six to eight weeks. Check the instructions for “Resuming Usual Activities After Breast Surgery” (page 14) for more specific details. If you have specific questions, please ask your surgeon or nurse.

Figure 7: TRAM Flap Reconstruction
Latissimus Dorsi Flap Reconstruction

A latissimus dorsi flap reconstruction involves lifting up the latissimus dorsi muscle in your back, along with a portion of overlying fat and skin (see Figure 8, page 36). A tunnel is prepared under the skin of your armpit (axilla). The flap is passed through this tunnel and brought out to your breast area. The flap is then trimmed to fit and secured into place. Frequently a small saline implant is placed under the flap to increase the breast size and achieve a better likeness to the remaining breast. This procedure usually requires a stay in the hospital for two to three days.

What to expect

After your surgery, a PCA (patient-controlled analgesia) pump may deliver your pain medication. You will be instructed to push a button to receive intravenously a dose of your prescribed narcotic. The pump is set to allow you to receive the right amount of medication. You do not need to be afraid of using it too much. When you are able to eat, the pump will be stopped and you can take your pain medication by mouth.

Once fully awake from anesthesia, you will be offered ice chips. This will be followed by a short period of clear liquids, after which you will advance to a regular diet. On the evening of your surgery or the next day, you will be encouraged to get out of bed. It is important for your circulation for you to move about, walk, and sit in a chair for short periods. You will need to cough and take deep breaths frequently. This will help your lungs fully expand. You will probably be most comfortable sleeping partially on your back, with pillows behind to prop you up off your incision. You should not lie directly on the incision area until this it is healed fully and it is comfortable to do so. You also may lie on the unaffected side with a pillow between your arms to avoid stretching the back incision.

After surgery, your hands and face may be puffy. This is because during your operation you were given fluids intravenously and now your body must get rid of this fluid in the urine. This will naturally happen over the next 48 hours. A bladder catheter may be in place for most of this time. When you are able to be out of bed and walk to the bathroom, your catheter will be removed.

Your back will likely feel tight for several weeks. This tightness will go away as you increase your activity and the tight tissues relax. You will feel most comfortable wearing loose clothing. It is important to avoid lifting more than 20 pounds or doing any heavy activity for up to two months. This will allow the newly connecting tissues to completely seal together and heal.

You will have two drains in your back. These may remain in place for more than two weeks. This will prevent fluid buildup under the skin of your back, which occasionally happens. Your drains will be removed in the Plastic Surgery Clinic as soon as they drain less than 20 to 30 cc's (about half an ounce) over a 24-hour period. After the drains are removed, you will need to watch for any new swelling, especially in your back. Please contact the Plastic Surgery Clinic if swelling occurs. There may be an accumulation of wound fluid called a seroma. This can be drained in the clinic. It is not a painful procedure because the skin at the operative site is still numb from your surgery.

After a month, a new blood supply will have formed at the base of your flap, and you may resume wearing a bra. It will take at least three to four months for your incisions to fully heal and for the breast swelling to completely go away. You can then begin planning for your nipple/areola reconstruction and any minor revisions to your reconstructed breast to achieve the greatest possible symmetry to your other breast.

You may return your normal activities in about six to eight weeks. Check “Resuming Usual Activities After Breast Surgery” on page 14 for more specific details. Be sure to check with your surgeon or nurse if you have any questions.

In general, do not raise your shoulder on the affected side more than 90 degrees for one week. This precaution is to avoid any stretch on the incisions. This means that your upper arm should not be raised above the level of your shoulder when reaching forward or out to the side away from your body. If your shoulder begins to feel stiff, bend over slightly and do circle exercises with your arm. This will keep flexibility in your shoulder joint. Also, do not use the arm on your operated side to push yourself to a sitting
position or to get up from a chair for two weeks. This is to avoid stretching your new incisions. You will be taught when and how to begin an exercise program at your first follow-up appointment.

Please refer to the exercise schedule in this guide.

**Figure 8: Latissimus Dorsi Flap Reconstruction**
Summary
We know that having breast surgery, and possibly having chemotherapy and radiation, is a very stressful time in your life. We want you to know that we will do everything possible to help you through this time. There also are many agencies that you may contact for support. You will find a list of these resources at the back of this guide.

After breast surgery with or without reconstruction, it is important to have confidence in your ability to move ahead. The process of getting back to your usual lifestyle will take several months, and will be aided by a great deal of patience and a positive attitude on your part.
Resources

Books
- *American College of Physicians home medical guide to breast problems*, Horowitz, 0-7894-4174-8, Dorling Kindersly, 2000
- *Diseases of the Breast*, Harris, 0-781718-39-2, Lippincott Williams & Wilkins Publishers, 2000
- *Prepare for Surgery; Heal Faster*, Huddleston, 0-96457-5744, Angel River Press, 2002
- *The Victoria's Secret Catalog Never Stops Coming, and Other Lessons I Learned from Breast Cancer*, Nash, 0-452-28366-3, Plume, 2001
Books for Children:
• *Michael’s Mommy has Breast Cancer*, Torrey, 0-964776-36-7, Hibiscus Press, 1999

eBooks
• *The Breast Sourcebook: Everything You Need to Know About Cancer Detection, Treatment, and Prevention*

Brigham and Women’s Hospital Publications
• *Breast Care and You*
• *Your Guide to Cancer Prevention & Screening*

Magazines
• *Coping with Cancer*
• *MAMM: Women, Cancer and Community*

eMagazines
• *New Medical Therapies – Breast Cancer*

dVDs/Videos
• *Breast Cancer Survivor’s Guide to Fitness* (www.brighamandwomens.org/breastcancerexercisedvd)
• *Breast Health For Women Over 60*
• *Breast Reconstruction: Is it Right for You?*
• *DCIS: Choosing Your Treatment*
• *Early Stage Breast Cancer: Choosing your Surgery*
• *Get Up & Go after Breast Surgery*
• *Hormone Therapy and Chemotherapy*
• *On with Life: Practical Information on Living with Advanced Breast Cancer*
• *A Significant Journey: Breast Cancer Survivors and the Men Who Love Them*

CD-ROMs
• *Surgery*

Web sites
• American Cancer Society: [www.cancer.org](http://www.cancer.org)
• National Cancer Institute: [www.nci.nih.gov](http://www.nci.nih.gov)
• National Lymphedema Network: [www.lymphnet.org](http://www.lymphnet.org)
• Women’s Pavilion: [www.obgyn.net](http://www.obgyn.net)
Contact Information

Important Telephone Numbers

Your Surgeon ..........................................................................................................................
Your Plastic Surgeon ..............................................................................................................

If you cannot reach your surgeon, please call (617) 732-6987.
Ask the page operator to page the “physician on call” for your surgeon.

Primary Nurse ....................................................................................................................

Hospital Telephone Numbers

Comprehensive Breast Health Center (617) 732-8111
Main Hospital Number (617) 732-5500
Plastic Surgery Resident on Call (617) 732-5700 Beeper 14000
Plastic Surgery Nurse Practitioner on Call (617) 732-5700 Beeper 34343
Pre-Admitting Test Center (617) 732-7484
Day Surgery Unit (617) 732-7625
Admitting Office (617) 732-7450
Rehabilitation Services (outpatient) (617) 732-5304
Patient Relations (617) 732-6636

Social Work Services
Monday–Friday, 8:30 a.m.–5:00 p.m. (617) 732-6462
Evenings/Weekends/Holidays (617) 732-6987
Ask the operator to page the “social worker on call”

Services
Friends Boutique at Dana-Farber Cancer Institute (617) 632-2211 (800) 322-2232

Resource Centers
Kessler Health Education Library (617) 732-8103 at Brigham & Women’s Hospital TTY (617) 525-7337
Blum Patient and Family Resource Center (617) 632-5570 at Dana-Farber Cancer Institute (800) 525-5068

Other Resources
American Cancer Society: Boston (617) 556-7400 For local chapters: (800) 227-2345
Cancer Information Service: (800) 4-CANCER (800-422-6237)
National Cancer Institute
Greater Boston Lymphedema Network (781) 894-2309
National Lymphedema Network (800) 541-3259