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# MEDICAL FACULTY ASSOCIATES

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THE GEORGE WASHINGTON UNIVERSITY

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## BREAST CANCER CONSULTATION & PREOPERATIVE TEACHING

### **Explanation of Specific Type of Breast Cancer and Review of Pathology Report:**

Breast Cancer is staged in the TNM system: Size of the tumor (T), presence of cancer cells in the lymph nodes (N), and spread to other organs (M=metastasis).

The tumor can be limited to the ducts (carcinoma in situ), have broken beyond the ducts into the surrounding tissue (invasive or infiltrating), or involving the skin (inflammatory).

### **4 Modalities: Surgery, Chemotherapy, Radiation, Hormonal Therapy**

Breast cancer is currently treated using any or all of the four modalities of surgery, chemotherapy (powerful anticancer drugs to destroy cancer cells), radiation therapy, and hormonal therapy. Surgical treatment options include a mastectomy (complete removal of the breast), with or without lymph node dissection or a partial mastectomy (otherwise known as breast conserving surgery) with or without lymph node dissection. Lymph nodes are filters along the lymph fluid channels, which catch and trap cancer cells before they reach other parts of the body. (Dissection refers to removal of the fat pad, which holds the lymph nodes). A mastectomy is sometimes followed by radiation, whereas breast conserving surgery is always followed by radiation. Radiation with breast conserving surgery is equivalent to having a mastectomy. Radiation therapy treatments (X-ray treatment to the breast) if indicated, lasts six to seven weeks of daily weekday office visits. If you are a candidate for partial breast irradiation (1 week twice a day), the option will be discussed with you. If a mastectomy is necessary or preferred, immediate or delayed reconstruction (building a new breast) are options. We will be glad to facilitate a referral for you to a plastic surgeon to discuss these options.

In addition to the pathology report, which describes the tumor, there will be additional testing done on the tumor itself. This includes estrogen and progesterone receptors, which indicates whether the tumor needed these hormones to grow, and Her-2 neu (erb-B-2), which is a gene that helps control how cells grow, divide and repair themselves. The above provides an indication as to the aggressiveness of the tumor and, therefore, how aggressively we need to treat this cancer. The decision about chemotherapy is based on the parameters of the tumor type, tumor size, lymph node status, receptor status, and possibly some of the other chemical analyses.

### **Surgery:**

**Partial mastectomy or lumpectomy (breast conservation):** removal of the tumor from the breast. The tumor will be excised by making an incision over the tumor and excising enough tissue around it so that a margin of normal tissue will be removed. If the cancer is not palpable (cannot be felt), wire localization will be necessary (see brochure). Risks and potential complications include but are not limited to bleeding, hematoma (collection of blood), infection, seroma (fluid collection), pain, reaction to medications, positive margins (cancer cells extend to the edge of the additional tissue that was removed around the tumor), missing the abnormality if wire localization is performed, scar formation, and possible deformity of the breast. The recurrence rate is approximately 5-10% with radiation and 25-30% without radiation. The procedure is done under general anesthesia or local anesthesia with intravenous sedation.

### **Sentinel Lymph Node Biopsy/Mapping and Axillary Lymph Node Dissection:**

A sentinel lymph node (SLN) is the first lymph node or nodes to which the breast and tumor drain. There are two techniques used to identify and remove the SLN for evaluation: an injection of a radioisotope before surgery and an injection of blue dye before the time of surgery. On the afternoon before or the morning of surgery, a protein labeled with a

radioisotope material (technetium) will be injected around the areola (darker area that surrounds the nipple) in three places. The injection of the radioisotope can be painful. Applying ice or a numbing cream for 30 minutes prior to the procedure can reduce the discomfort. Xrays (lymphoscintigraphy) will be taken to demonstrate the “activity,” (lighting up of the material) although it is possible that at this point the SLN will not be visible. You will then be taken to the operating room. The procedure will be performed under general anesthesia unless otherwise requested. A gamma probe (pen-like instrument placed directly in the tissue) is used to listen for the site of the SLN and to mark the planned incision to identify the node. Blue ink will then be injected around the tumor or biopsy site. Because of the blue injection, there will be blue staining of your urine for about 24 hours, your first bowel movement will be blue, and there may be blue staining of the skin of your breast for several months. Allergic reactions occur 1% of the time. A 2-3cm incision will be made in the axilla, and the SLNs will be removed. SLN are either blue, radioactive, or both.

While you are on the operating room table, the lymph nodes will then be sent to pathology for immediate evaluation. If they are negative (no cancer is found), they will then be further evaluated by special staining (see booklet). There is a 10-15% chance that a lymph node found to be negative while you are on the operating room table, turns out to be positive (having cancer in it) after further staining. If the lymph node is found to have cancer while you are on the operating room table, then a full axillary lymph node dissection will be performed immediately and sent to pathology for standard evaluation. If the lymph node initially negative, but positive after further evaluation, you may need to undergo a full axillary lymph node dissection at a later time. If no sentinel lymph node is identified, then you will require a full axillary lymph node dissection. Sentinel lymph nodes are identified in 95-98% of patients, and the false negative rate (chance of not detecting cancer cells when there actually are one or more present) is less than 5%.

The axillary lymph node dissection removes the fat and lymph nodes in the armpit area and sometimes the lymph nodes beneath the chest muscles. If a complete (full) axillary lymph node dissection is necessary, then a drain will be inserted, which will be in place for one to two weeks. You will be instructed on the care of the drain, which will be removed when there is less than 30cc (one ounce) of fluid in 24 hours. This drain is necessary to remove fluid that may accumulate in the armpit area. The skin will be closed with an absorbable suture, and paper strips will be placed over the incision. The incision and drains will be covered with a large, sterile bandage. If you do not need an axillary dissection, you will be able to go home on the day of the procedure; most patients prefer to spend one night in the hospital if a full axillary dissection is required. The pathology results will be available in 5-7 working days.

Other risks and potential complications of the procedures include, but are not limited to bleeding, infection, seroma (fluid collection), numbness of the skin on the inner part of the upper arm, injury to nerves involved with arm movement, weakness of the arm, lymphedema, pain, reaction to medications, and scar formation.

### **Mastectomy:**

This procedure is the alternative to breast conservation surgery. It is performed under general anesthesia. An ellipse (egg shaped incision) is made around the areola, removing some skin as well as all of the breast tissue. The breast tissue will be removed from the skin and chest muscle (simple mastectomy); the muscle is not removed unless the tumor is growing into it. If the cancer is invasive (has the potential to spread to other parts of the body), then a sentinel lymph node biopsy (removal of the sentinel lymph node), and if necessary, an axillary dissection will be performed (which is known as a modified radical mastectomy). If immediate reconstruction is planned, then it will be performed at the time of your mastectomy. If immediate reconstruction is not planned, then drains will be placed and the skin will be closed with an absorbable suture. See below for drain care. Paper strips will be placed over the incision, and a large sterile bandage will be placed over the incision and the drains. The pathology results will be available in 3-5 working days.

The risks and potential complications include but are not limited to bleeding, hematoma, infection, seroma (fluid collection), numbness of the skin on the inner part of the upper arm and under the arm, injury to nerves involved with arm movement, pain, reaction to medications, skin necrosis (dead tissue) or wound-healing problems, scar formation, and recurrence (new cancer develops) of breast cancer (3%).

### **Concept of Clear Margins:**

The goal of each surgery described is to remove the entire tumor. To do this, some of the normal tissue surrounding the tumor must also be removed. This rim of normal tissue is called a “margin”. The surgical specimen will be sent to the pathologists who will examine whether the margins are clear of cancer cells. If tumor cells are found along the margins, or very close to the margins, some cancerous cells may have been left behind. Another operation may be necessary in order to obtain “clear margins”.

**Reconstruction:**

There are a variety of surgical reconstruction options for women who require a mastectomy. Most mastectomy patients are candidates for breast reconstruction, either immediately during surgery or at a later time. Options include artificial implants, latissimus dorsi muscle flap (taking a muscle from the side of your back), and TRAM (muscle and tissue from your stomach area) flap reconstruction. Referral to a plastic surgeon for reconstruction consultation is always available and encouraged.

**Preoperative and Postoperative Instructions:**

Do not take aspirin or Vitamin E for 7 days, or motrin (ibuprofen) for 3 days prior to the procedure. On the day of the procedure, wear a button-down, loose fitting top along with a supportive bra (no underwire). Do not wear any jewelry, antiperspirant/deodorant, or talcum powder on the day of your procedure. You may go home following the procedure, with or without a sentinel lymph node biopsy. If you require an axillary lymph node dissection or are having a mastectomy, you should plan to spend one night as you may experience nausea, and will have more discomfort.

Use an ice pack on the area during the first 24 hours as tolerated. You will be prescribed tylenol with codeine for pain, but may take 400-600mg of motrin or ibuprofen 24 hours after the procedure as well. The tylenol with codeine may be constipating, so eat plenty of fiber (fruits, vegetables, grains and drink water). You may eat normally immediately following the procedure. Avoid strenuous exercise for at least 72 hours, and swimming for one to two weeks.

You may remove the dressing 24 hours following the procedure, but leave the paper strips in place (they often are holding the stitch in place). You may shower (no baths) 24-48 hours after the procedure, even with the drain in place, just place a new clean dressing over the drain site on the skin afterward. Watch for signs of infection (redness, pain, fever, drainage), and notify your physician immediately if any occur. Bruising and mild swelling is normal.

Drain Care: You may shower with the drains in place, just place a clean gauze over the drain site afterward. Strip (gently milk the tubing) from insertion site to the drain bulb daily to prevent them from becoming blocked. Fluid leaking from the drain site occurs if there is a blockage. It is not dangerous, but can be annoying. Empty the drains daily and keep track of the amount. Once there is less than 30cc per day, the drain will be removed. This usually occurs within seven to 14 days.

Postoperative Appointment: you will follow up 5-7 days after the procedure. During the appointment your incisions will be checked, drains will be removed if ready, and pathology will be discussed. You will be given a copy of your pathology report once it is available.

**Breast Cancer Conference:**

Either before or after your surgery your case will be reviewed in our multidisciplinary conference, which includes our medical oncologists, radiologists, pathologists, radiation oncologists, plastic surgeon, nurse practitioner, and social worker. Your mammograms, ultrasounds, and pathology slides will be reviewed, and recommendations will be made. The recommendations will be reviewed with you either during a follow up visit or over the telephone.

**Radiation Therapy:**

This is a major component of breast conserving surgery. Unlike chemotherapy, it is considered a local therapy because it treats only the site of the original cancer. The goal of radiation therapy is to destroy any cancer cells that may still remain in the breast after surgery. It is sometimes recommended following a mastectomy if the tumor is very large or if there are many lymph nodes involved with cancer. The full course of treatment runs about 5-7 weeks Monday through Friday. Each treatment lasts only a few minutes, and you won't feel or see anything. Common side effects are fatigue and skin changes similar to a sun burn. Recommendations will be made during a postoperative appointment about a referral to a radiation oncologist. Arrangements can be made for it to be performed closer to your home.

**Adjuvant Therapy:**

Adjuvant therapy is an anticancer treatment (chemotherapy) given in addition to surgery; the goal is to destroy any small, undetected pieces of the cancer that might still remain in the body. It often follows surgery and is given before radiation. If chemotherapy is given, it usually begins 3-4 weeks following surgery, and is usually given 1 day every 2-3 weeks. Prior to chemotherapy, several studies may be performed including a PET/CT scan and MUGA scan (to evaluate the heart). If your tumor tests positive for the Her-2 neu receptor, then Herceptin (Trastuzumab) might be recommended in addition to chemotherapy, and is given every 1 to 3 weeks for a year. Recommendations will be made during a postoperative appointment about a referral to a medical oncologist. If you are an appropriate candidate for any ongoing clinical trials, these will be discussed with you.

**Hormonal Therapy:**

This therapy, a daily pill, is used to prevent cancer cells from growing. Not all types of breast cancer are treated with hormonal therapy. The tumor is tested for estrogen and progesterone receptors (ER and PR). If a tumor is ER or PR positive, it means that it may be stimulated to grow by one of these hormones.

Tamoxifen is the most common type of hormonal therapy given. Tamoxifen binds with the estrogen receptor, blocking the effects of natural estrogen, therefore preventing cells responsive to estrogen from growing. It is usually started a few weeks after chemotherapy and/or radiation therapy (if either or both was indicated for your treatment). The daily pill is given for 5 years. Side effects may include a slight increased incidence in the development of endometrial carcinoma (0.2%), an increased incidence in the development of blood clots, and strokes. There have also been reports of accelerated cataract formation. Common side effects also include hot flashes and vaginal discharge.

Arimidex is another form of hormonal therapy given. It blocks the normal pathway of certain hormones that may convert to estrogens. It can be used only in postmenopausal women, therefore preventing cells responsive to estrogen from growing. It is usually started a few weeks after chemotherapy and/or radiation (if either or both was indicated for your treatment). The daily pill is given for 5 years. Common side effects include bone or joint pain, and risk of osteoporosis.

**Lymphedema:**

This is swelling of the arm that is caused by an interruption of the lymphatic system either due to surgical removal of the lymph nodes or radiation of the lymph nodes. It occurs approximately 3% of patients who have a sentinel lymph node biopsy and 15% of patients who have an axillary lymph node dissection. Ways to avoid lymphedema include: avoid blood pressures or blood draws on the affected arm, wear gloves when gardening or cleaning, and avoid infections in cuticles and fingers. Notify your doctor immediately if there is evidence of infection in the affected arm/hand so that antibiotics can be prescribed. Lymphedema management referral is an option, particularly if you are a high risk for, or if you show signs of developing lymphedema.

**Physical Therapy:**

After your surgery, the area of your incision will have diminished sensation, and your inner arm may feel numb or tingly. Your underarm may feel very tight when you attempt to stretch it over you head. You will be given exercises during your first postoperative appointment. The tightness is temporary and will improve as you begin your exercise program and gradually stretch the area with arm raises, lifts, reaches, and swings to increase the range of motion. It is important not to start exercises until 24 hours after your drains have been removed. It is helpful to remember that using the surgical arm normally will gradually increase strength and range of motion. If you are having difficulty performing the exercises, then a physical therapy referral may be necessary.

I have read the above information, it has been explained to me and my questions have been answered.

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Patient Signature

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Date

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Attending Signature

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Date