

Routine Mammography

At least one of the standard views of each breast should show the nipple in profile. XCC's are not part of a routine exam and should be included only if patient has significant breast tissue that cannot be included on routine CC's.

Lumpectomy

Lumpectomy Patients: routine views. If less than 2 years from lumpectomy date, include spot compression (or magnified views if cancer is associated with microcalcifications on mammogram) over the lumpectomy bed. Treated and billed as diagnostic for 2 years, then billed as screening after that. We will check the cases same day through 5 years, unless during years 3 through 5, the patient does not wish to stay and is okay with getting her results in the mail.

Protocol Change: Post-treatment follow-up is no longer every 6 months for 2 years after lumpectomy. It is now every 12 months. If a patient should happen to come in prior to a 12-month follow-up, if exam is benign, the goal is to get the patient back onto the 'every 12-month' protocol. These changes are per National Comprehensive Cancer Network (NCCN) Guidelines Version 1.2016 for Invasive Breast Cancer Follow-up/Surveillance.

Mastectomy

Will just go back to screen the following year after mastectomy. However, we will provide same day readings for those patients through 5 years if desired.

Palpable Lump or Focal Pain

20-35 y/o	Ultrasound first, mammo of affected side per radiologist discretion (bilateral if strong family history)
35-40 y/o	Mammo of both breasts followed by ultrasound
>40 y/o	BB marker on breast. Routine films and focal compression over lump or pain, plus a 90-degree lateral full view.

Generalized Pain

Patients with generalized pain or chronic pain do not need to be checked by the radiologist and are classified as a screening.

Calcifications

Magnified views in CC and 90-degree lateral projections (NOT MLO).

Additional Views

Read screening report or check screen-saved images to see what views have been requested. Check case with radiologist before patient dresses or leaves. Patients should receive a verbal report/recommendation before leaving. DO NOT cone out breast tissue outside of spot paddle.

Patient 35 y/o or Under

Check with radiologist before and after exam.

Markers

- Wire over biopsy scar for first time post biopsy; after that mark on history sheet
- Ring collar for moles; if marked previously may just mark on history sheet
- bb over palpable lump or focal pain
- Following a needle localization, place a BB over the wire entry site on the skin prior to obtaining the post-wire mammogram

Unilateral Nipple Discharge

Standard views plus 90-degree lateral, spot magnified views in retro-areolar area. Check all bloody, black or clear/serous discharge with the radiologist. Ultrasound exam should also be performed of the affected breast. Patients with unilateral, single-pore, spontaneous nipple discharge should be referred for surgical consultation and consideration for breast MRI.

References:

- Manganaro L, D'Ambrosio I, et al. Breast MRI in Patients with Unilateral Bloody and Serous-Bloody Nipple Discharge: A Comparison with Galactography.
- Leis HP. Management of nipple discharge. World J Surg 1989; 13:736-742 "Of the 7 basic types, i.e., milky, multicolored and sticky, purulent, clear (watery), yellow (serous), pink (serosanguineous), and bloody (sanguineous), the last 4 are the surgically significant ones." "There was an increasing likelihood of the discharge being due to cancer when the discharge was, in order of increasing frequency, yellow, pink, bloody, or watery,...."
- Slawson SH, Johnson BA. Ductography: how to and what if? RadioGraphics 2001; 21:133 -150

Bilateral Nipple Discharge

The contralateral nipple is assessed because bilateral, multi-pore, blood-negative, expressed-only nipple discharge need not be assessed with ductography. Such a pattern is common and is best categorized as benign physiologic discharge.

Reference:

- Slawson SH, Johnson BA. Ductography: how to and what if? RadioGraphics 2001; 21:133 -150 suggests that you should not do ductography for bilateral watery discharge.

Strong Family History

Women under 30 who are asymptomatic but have a strong family history of breast cancer at a young age may have a screening mammogram.

Implants

Routine views and Eklund (push back) views in CC and MLO.

Post-TRAM

CC and MLO views of the TRAM mound may be taken during a screening study if requested by the patient's physician or if imaging is requested by the patient. There are no large prospective studies to date showing the benefit of TRAM imaging and there are also no studies showing that it is not beneficial. There is anecdotal evidence that some chest wall recurrences can be depicted on a mammogram of the TRAM flap.

Male Patient with Lump

Adult male: mammography first as general diagnosis of gynecomastia

Asymmetric adolescent male: check with radiologist whether to start with mammo or ultrasound.

General Guidelines:

- US is rarely needed if there is a classic appearance on mammograms. Please be aware that gynecomastia can be unilateral and asymmetric. US should be performed if there is an eccentric mass or in those situations when it is difficult to tell a mass vs. gynecomastia.
- In your impression, remember to always recommend clinical correlation so that the patient's provider can determine if there is a correctable cause for the patient's gynecomastia. Also, as for any lump without an imaging abnormality, recommend management and decision to biopsy based upon the clinical impression.

Axillary Lymphadenopathy

Rare to see Axillary LAN on mammography due to breast cancer. They are usually due to fatty enlargement, hyperplasia, lymphoma, and on occasion, breast cancer.

If related to breast cancer, the cancer is usually apparent on mammography or is palpable.

Unilateral Axillary Lymphadenopathy

In the absence of known infectious or inflammatory cause, isolated unilateral axillary adenopathy should receive a BI-RADS Category 4 assessment (Suspicious Abnormality – Biopsy Should Be Considered). Unilateral axillary adenopathy suggests occult breast carcinoma or, much less commonly, metastatic melanoma, ovarian cancer, or other metastatic cancer. Consequently:

- A careful search of the ipsilateral breast images is warranted
- Bilateral axillary ultrasound should be performed first to help confirm that the finding is asymmetric/unilateral.
- Clinical evaluation for infection or inflammation in the ipsilateral breast, axilla, arm, and hand is recommended at the time of ultrasound, as mastitis, breast abscess, an infected skin lesion, and cat scratch fever are all potential sources of benign unilateral axillary adenopathy.

If no known infectious or inflammatory sources are present, a BI-RADS Category 4 assessment (Suspicious Abnormality – Biopsy Should Be Considered) is appropriate, with intent to biopsy after further evaluation and review of clinical history. It is then appropriate to proceed with ultrasound-guided fine needle aspiration biopsy (FNAB) or core biopsy, and it may be advisable to perform ipsilateral whole breast ultrasound during that visit to search for an occult primary breast carcinoma.

If a benign cause can be elucidated, BI-RADS Category 2 (Benign Finding(s)) is a reasonable assessment.

Bilateral Axillary Lymphadenopathy

- Will most likely not be related to breast cancer. Benign causes would include fatty enlargement, hyperplasia, sarcoid, Tb, and Rheumatoid arthritis. Malignant causes would include lymphoma, leukemia, or mets from other primary (non-breast) cancers.
- For these cases, these should be assessed as BI-RADS Category 2 (Benign Finding(s)) in some situations and as BI-RADS Category 4 (Suspicious Abnormality – Biopsy Should Be Considered) in others.
- Bilateral axillary adenopathy is frequently reactive/infectious in origin such as with inflammatory conditions (sarcoid, systemic lupus erythematosus, psoriasis, other) and HIV. In such situations, the finding is BI-RADS Category 2 (Benign Finding(s)).
- Patients with known lymphoma may also have bilateral axillary adenopathy. In this situation, the BI-RADS assessment should be based on the breasts themselves, but should indicate known lymphoma (e.g., “BI-RADS Category 2 (Benign Finding(s)) with known lymphoma”). It may be helpful to contact the referring healthcare provider to clarify whether there is such a history before issuing a final report.
- If there is no known explanation for the bilateral adenopathy, and particularly if it is new, then it may be a sign of lymphoma and a BI-RADS Category 4 assessment (Suspicious Abnormality – Biopsy Should Be Considered) rendered with a recommendation for ultrasound-guided FNAB or core biopsy. [Note: Ideally the specimen should be kept in saline or RPMI 1640 if lymphoma is suspected, to facilitate fluorescence-activated cell sorting.]. Can also consider a chest CT for further evaluation.

Reference:

The American College of Radiology BI-RADS ATLAS and MQSA: Frequently Asked Questions (updated draft on 8/11/2011).

6 Month Follow-up

All 6-month follow-ups should be checked by the radiologist.

Digital Mammography Tech Workflow

1. Cases with prior digital mammograms should be pulled from PACS and loaded onto the workstation for radiologist review whenever new cases are hung. For left over exams from the day before, these should all be pulled and ready to be interpreted by 8AM the next morning.
2. Patients who will be receiving the results of their exams on the same day (examples- diagnostic cases and additional view cases) and have prior digital mammograms on a CD, should submit these to the breast center staff as soon as possible so that they can be loaded onto PACS by the file room staff. These cases then will be ready to be pulled onto the workstation on the day of the appointment. Since this process can take up to an hour or more, these ideally should be submitted before the appointment date. For screening mammogram patients, prior digital studies on a CD can be brought on the same day as these cases will be read at a later time.
3. For women with larger breasts that require tiling, breast center technologists should all agree on the same process so that the mammographic views are displayed in a consistent manner from year to year. For example, MLO views should only be done either superior to inferior or inferior to superior. CC views should only be done either medial to lateral or lateral to medial. New technologists to the center also should be trained in this same manner.