

## **BREAST PATHOLOGY GROSSING GUIDELINES**

### **THINGS TO CONSIDER:**

- A. Please review ALL imaging and previous biopsies PRIOR to grossing any breast case.
  - a. It may be helpful to draw out your own guide of prior biopsy site and/or procedure locations. This will be useful when grossing.
- B. Faxitron your breast to look for clips and calcs. Make sure the clip location(s) correlates with imaging.
  - a. Place mastectomies into Faxitron with POSTERIOR surface down
- C. After sectioning your breast into levels, when evaluating the mass size, make sure the dimensions correlate with clinical findings (do not calculate the mass size based off the presence of a mass in certain levels, as this may give you an incorrect and overestimated size).
- D. If you receive a mastectomy with multifocal lesions, measure and document the distance between the lesions in your gross.
- E. Be descriptive in your cassette summary as this is useful when reviewing your slides the following day.
  - a. Document level and location of your sections:
    - i. Level 1- superior OR level 1- upper inner quadrant
    - ii. Level 13- parenchyma between lesion #1 and lesion #2
    - iii. Level 4- lesion #1 at closest approach to posterior margin
    - iv. Level 2- lesion #1 in relation to superior margin

### **FORMALIN FIXATION**

Specimen collection time: The OR nurses record the collection time of all breast specimens in Beaker. This time indicates when the breast specimen has been removed from the patient. The OR staff will contact SurgPath personnel to pick up every breast lumpectomy and mastectomy to try and ensure the ischemic time is within the appropriate limits.

Ischemic time: Breast excisions/re-excisions/lumpectomies/partial mastectomies and all mastectomies (including prophylactic ones) are to be **immediately** (within 1 hour) weighed and placed in 10% neutral buffered formalin (NBF) once received or picked up from the OR. Ideally, this task will be performed by the personnel/technician prior to accessioning the case. The time the specimen was placed in 10% NBF will be written on the specimen container and documented in Case Notes in Beaker. The collection time and the time the specimen has been placed in 10% NBF will be used to calculate ischemic time:

(Time tissue placed in formalin) – (Collection time) = Ischemic Time

Due to CAP-recommended guidelines for ER, PR, and HER2/neu (including FISH) testing, as much as possible, specimens should be placed in formalin within one hour after surgery. Furthermore, the breast tissue should be in contact with formalin for 6-48

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hours, not to exceed 72 hours. Therefore, when a specimen comes in late on Friday, gross the specimen such that you identify the tumor and submit sections of the tumor for the Friday late processor. If the specimen is still very fresh, then please submit the remaining sections (including lymph nodes) during the weekend such that they'll run on the Sunday processor.

When a specimen comes in on the weekend (occasionally on Saturdays), then please gross the entire specimen and submit sections for the Sunday processor. For such Saturday specimens, waiting until Monday to submit sections for the Monday processor will result in suboptimal testing conditions for breast biomarkers, since this will exceed the recommended 48-hour ideal formalin fixation time frame.

As always, RECORD THE ISCHEMIC TIME **AND** THE FORMALIN FIXATION TIME

**Note:** The exception to this is when the requisition states 'Rule out Lymphoma' or a prior core needle biopsy diagnosis was reported as lymphoma. In these cases, call for a lymphoma work-up and DO NOT fix the breast tissue in 10% NBF.

### **Calculating formalin fixation times**

Monday – Friday

calculate fixation time until 12am

Saturday - Sunday

calculate fixation time until 8pm on Sunday

Holiday weekends

contact histology to ensure cassettes are transferred from formalin and placed into alcohol so as not to exceed the formalin fixation time (6-72 hours). The tissue is in formalin for 2 hours on the processor, so please be mindful of accounting for this when calculating fixation times!

### **Calculating formalin fixation times of Breast Biopsies:**

Routine breast core (bx placed in formalin before 2pm) → calculate fixation time until 9pm

Late breast core (bx placed in formalin after 2 pm) → calculate time to 11pm

## **SURGICAL PATHOLOGY SPECIMEN RADIOGRAPHY: FAXITRON**

Faxitron image(s) must be obtained and uploaded into Beaker for the following specimen types:

- 1) All excisional biopsy/lumpectomy/partial mastectomy specimens in order to verify microclip(s) and/or microcalcifications
- 2) All mastectomy specimens

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3) Consider Faxitron imaging paraffin blocks of needle core biopsies as needed for microcalcifications (when initial 3 H&E sections do not show calcs and specimen radiography showed calcs)

When an image is taken, an annotation of the patient's name and surgical case number must be included in each image. Any additional annotations that are relevant to the particular case should also be included, for instance, measurement(s) and relationships of specific anatomic locations to lesion(s), size of tumor, area of calcifications, location of suspicious area(s), summary of sections, etc.

Image(s) should be uploaded into the case in Beaker; this must be noted in the gross description for billing purposes. (i.e., "A Faxitron image was taken of the specimen.")

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**Specimen Type:** WIRE-LOCALIZED LUMPECTOMY

**Procedure:**

1. Review patient's pertinent history and imaging in EPIC in order to correlate with gross findings
2. Weigh (fresh weight should be written on specimen container)
3. Orient specimen (typically- long-lateral; short-superior)
4. Measure (entire specimen, skin ellipse, and nipple if present)
5. Faxitron (prior to inking) and look for microclip(s) and calcifications
  - a. MUST state in gross "A Faxitron image is taken to reveal.....*calcs, no clips, clips present, etc*)
  - b. This is important for billing purposes
  - c. You may increase the magnification if the specimen is small enough to do so. Ask for assistance if needed.
6. Ink specimen:

Blue- superior

Purple-medial

Green- inferior

Yellow- lateral

Orange- anterior/superficial

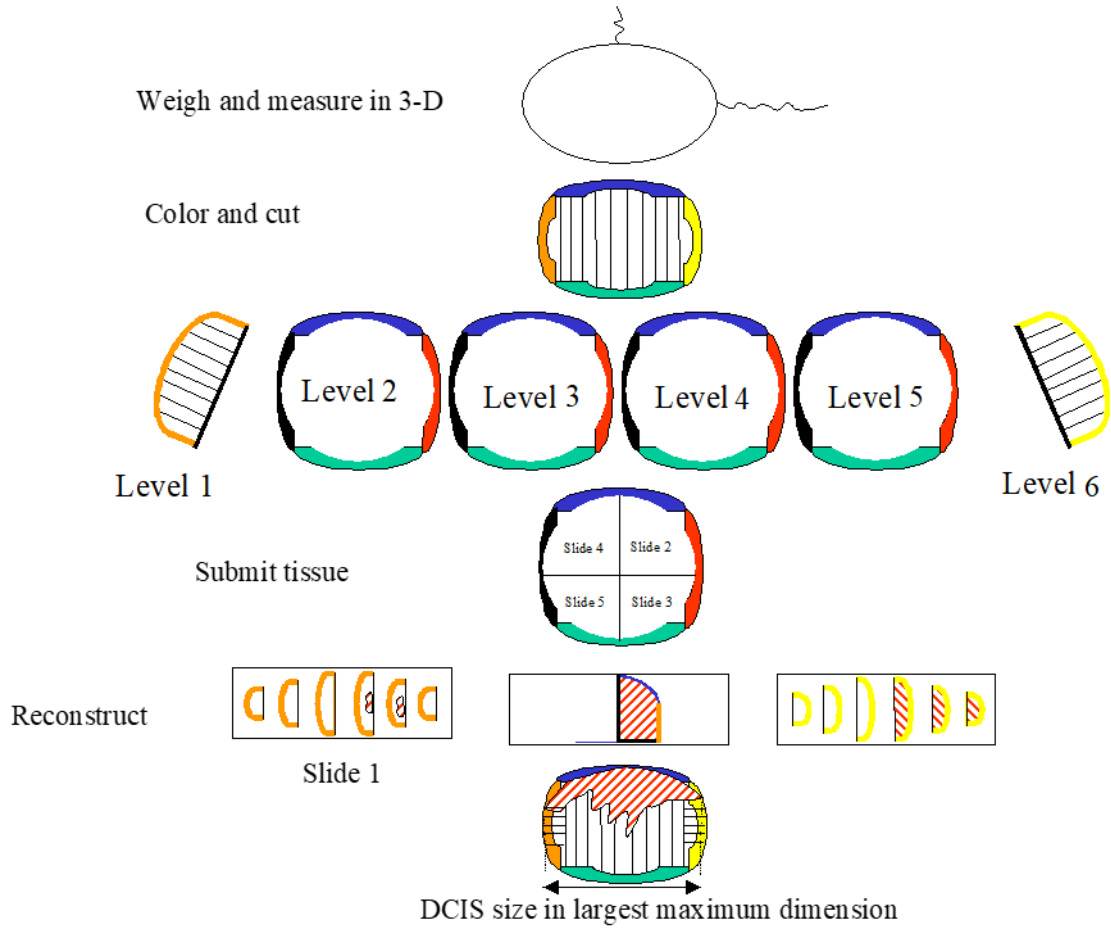
Black- posterior/deep

\*\* If un-oriented- ink entire margin black

7. Serially section perpendicular to longest dimension and describe cut surface
  - a. End margins will be further sectioned perpendicularly
8. Measure lesion and give distance to all margins
9. Submit one level per cassette. Bisect levels if needed.

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**Gross Protocol for Lumpectomy**



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**Suggested sections for histology:**

- If specimen is ≤ 5cm in greatest dimension- **ENTIRELY** submit
- You may consult with an attending if specimen is > 5cm

<p align="center"><b>IDC/ Re-excision with close prior margins (may have lumpectomy cavity)</b></p>	<p align="center">Edges of lesion Flanking levels Lesion in relation to closest margins End margins- perpendicular Representative uninvolved parenchyma</p>
<p align="center"><b>DCIS/ADH/LCIS/ILC Post neo-adjuvant chemotherapy (NAT) Papillary lesion No gross lesion</b></p>	<p align="center">Levels with biopsy site/tumor bed/papillary lesion *2 sections per 1 cm of tumor bed (NAT) Flanking levels End margins Calcifications Representative uninvolved parenchyma</p>
<p align="center"><b>Calcifications</b></p>	<p align="center">All levels with calcifications Flanking levels End margins</p>
<p align="center"><b>Fibroadenoma</b></p>	<p align="center">1 section per 1 cm of lesion Uninvolved breast if present (1-2 cassettes)</p>

**Gross Template:**

**MMODAL COMMAND: "INSERT LUMPECTOMY"**

It consists of a [*weight in grams*\*\*\*] oriented breast lumpectomy. There are sutures indicating [*describe orientation/short -superior*\*\*\*]. The specimen measures [\*\*\*] cm (superior- inferior) x [\*\*\*] cm (medial - lateral) x [\*\*\*] cm (anterior - posterior). A Faxitron image is taken to reveal [*comment on calcifications and presence/absence of biopsy clip(s)*\*\*\*].

The specimen is serially sectioned from [*ex. superior-inferior, medial-lateral*\*\*\*] into [*number of levels*\*\*\*] levels. Sectioning reveals a [*describe mass/lesion/ill-defined area of fibrous tissue measuring in three dimensions*\*\*\*]. The lesion is located in [*level/levels*\*\*\*]. A [*indicate shape of clip*\*\*\*] clip is identified in level [*indicate level and if inside/outside of mass*\*\*\*]. The lesion measures [\*\*\*] cm from anterior, [\*\*\*] cm from posterior, [\*\*\*] cm from medial, [\*\*\*] cm from lateral, [\*\*\*] cm from superior, [\*\*\*] cm from inferior.

The remainder of the uninvolved parenchyma consists of [*give percentage*\*\*\*] tan-yellow adipose tissue and [*give percentage*\*\*\*] white fibrous tissue. No additional lesions or masses are identified. [*The specimen is entirely submitted / Representative sections are submitted*\*\*\*].

**Total Ischemic Time:** [*time in formalin minus collection time*\*\*\*] minutes

**Total Formalin fixation Time:** [*collection time to 12 am Monday-Friday*\*\*\*] hours

**INK KEY:**

Blue	Superior
Green	Inferior
Purple	Medial
Yellow	Lateral

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Orange            Anterior  
Black             Deep

[insert cassette summary\*\*\*]

### **Sample Cassette Submission:**

#### **Lump ≤ 5cm**

A1                Level 1 (medial margin), perpendicular  
A2                Level 2 with lesion and calcification  
A3-A4            Level 3 with lesion and biopsy clip, bisected  
A5                Level 4 with lesion (lateral margin), perpendicular

#### **Lump > 5cm with IDC and calcs**

A1                Level 1 (superior margin), perpendicular  
A2                Level 2, unremarkable parenchyma superior to lesion  
A3-A5            Level 3 with full cross section of lesion, trisected  
A6                Level 4 with lesion, biopsy clip, and calcification  
A7                Level 5, lesion in relation to medial margin  
A8                Level 6, unremarkable parenchyma inferior to lesion  
A9                Level 7 (inferior margin), perpendicular