

## **BREAST PATHOLOGY GROSSING GUIDELINES**

### **THINGS TO CONSIDER:**

- A. Please review ALL imaging and pathology (including outside reports, operative and oncology notes) PRIOR to grossing any breast case.
  - a. It may be helpful to create a diagram to assist when grossing
- B. Faxitron all lumpectomy/excisional biopsy/partial mastectomy specimens:
  - a. Place into Faxitron with **POSTERIOR** surface down, and **SUPERIOR** at the top of the screen when possible
  - b. Document presence of clip(s) and wire, if applicable
  - c. Annotate image properly (for identification and orientation) and document in the gross description that a Faxitron image was taken
- C. Evaluate the mass/lesion size after sectioning: correlate with the o'clock location in the clinical and imaging findings and association with clip
- D. Multiple masses/lesions/clips: Document the distance between them in your gross description.
- E. Cassette summary should be descriptive enough to correlate gross sampling with microscopic/clinical/imaging findings.
  - a. Document level and location of your sections (examples):
    - i. Level 1- superior, perpendicular sections
    - ii. Level 3- tissue between lesion #1 (ribbon-shaped clip) and lesion #2 (barrel-shaped clip)
    - iii. Level 4- lesion #3 with smart clip
- F. Breast tissue sections should be thin, no larger than a standard postage stamp size, and have as little fatty tissue as possible to optimize fixation and histology
  - a. There should be space around the tissue on all sides so that tissue is not touching the sides of the cassette.
  - b. Tissue should be around 3mm in thickness and failure to submit appropriately sized sections could result in cassettes needing to be reprocessed and delaying the case
  - c. All breast cassettes should be submitted for the 8-hour processor to ensure proper processing and fixation

### **FORMALIN FIXATION**

**Due to CAP-recommended guidelines for ER and HER2/neu (including FISH) testing, specimens should be placed in formalin within one hour after the time of surgery or biopsy (collection time). Furthermore, the breast tissue should be in contact with formalin for at least 6 hours, not to exceed 72 hours.**

**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, an assessment for a lymphoma work-up should be made (for potential flow cytometric studies or B5 fixation) before placing the breast tissue in 10% NBF.

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Specimen collection time: The OR staff records the collection time of breast specimens in Beaker and contacts SurgPath personnel to pick up specimens in a timely fashion.

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 [documented in case notes]) – (Collection time) = Ischemic Time

**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 8-hour 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.

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

**For long weekends/holiday schedule:** All breast main specimens should be prioritized and grossed in before long weekends. Tissue should be submitted for the 8-hour processor for the same day, or the next available 8-hour process per the holiday schedule without going over 72 hours of total fixation.

Note that you may need to place tissue in alcohol if there is risk of over-fixation. You should review this with a PA and/or pathologist beforehand.

### **Calculating formalin fixation times**

Monday – Friday	calculate fixation time until 12am
Sunday	calculate fixation time until 8pm on Sunday

**Specimen Type:** LUMPECTOMY/EXCISIONAL BIOPSY/PARTIAL MASTECTOMY

### **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 clip(s), wire and calcifications

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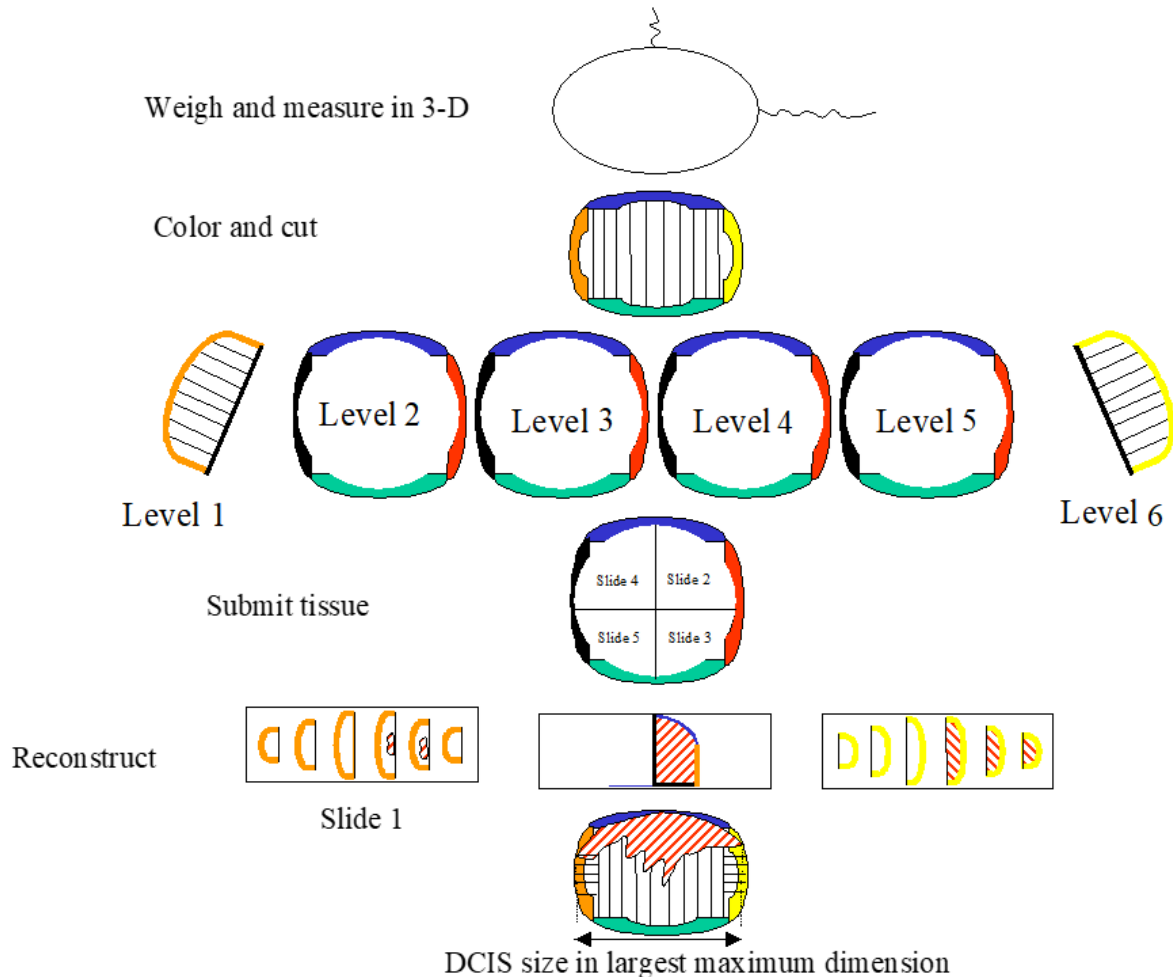
- a. **MUST** state in gross **"A Faxitron image is taken to reveal.....calcs, no clips, clips present, wire, etc).**
  - b. **This is important for billing purposes.**
  - c. You may increase the magnification if the specimen is small enough to do so. Ask for assistance if needed.
6. Ink specimen:

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(s), association with clip(s), and distance to all margins
9. If specimen is less than or equal to 5 cm in greatest dimension, consider submitting entirely. If greater than 5 cm, consider representative sections or consult with attending.

### **Gross Protocol for Lumpectomy**



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### Suggested sections for histology:

- If specimen is  $\leq 5\text{cm}$  in greatest dimension- **ENTIRELY** submit
- If specimen is  $> 5\text{cm}$ , see guidelines below or consult with attending

<b>Invasive carcinoma <math>\pm</math> DCIS</b>	<ul style="list-style-type: none"> <li>▪ <u>Invasive carcinoma</u>: Entire lesion (or every level if <math>&gt;4-6</math> sections) <ul style="list-style-type: none"> <li>- Include close margins, edges of lesion</li> <li>- Include area of biopsy site/clip</li> <li>- Sample between lesions, if applicable</li> <li>- lesion to skin scar, if applicable</li> </ul> </li> <li>▪ <u>One flank level</u> before and &amp; after lesion</li> <li>▪ <u>Extent of DCIS</u>: important to document especially if extensive. See DCIS section for guidelines</li> <li>▪ End margins- perpendicular</li> <li>▪ Representative uninvolved parenchyma</li> </ul>
<b>Re-excision lumpectomy with close prior margins</b>	<ul style="list-style-type: none"> <li>▪ Correlate with prior path and sample close or positive margins</li> <li>▪ Lesion to skin scar, if applicable</li> </ul>
<b>Post neo-adjuvant chemotherapy (NAT)</b>	<ul style="list-style-type: none"> <li>▪ Measure possible tumor bed in 2 dimensions</li> <li>▪ <b>Entirely embed tumor bed (15 cassettes or fewer)</b></li> <li>▪ <b>OR if too large, submit 2 sections per 1 cm of tumor bed</b> <ul style="list-style-type: none"> <li>- Include close margins, end margins, calcs</li> <li>- Include area of biopsy site/clip</li> <li>- Relationship to skin overlying lesion to include scar, if possible</li> </ul> </li> <li>▪ <u>One flank level</u> before and &amp; after the tumor bed</li> <li>▪ Representative uninvolved parenchyma</li> </ul>
<b>DCIS/ADH/LCIS Papillary lesion No gross lesion</b>	<ul style="list-style-type: none"> <li>▪ <b>Entirely embed gross lesion</b></li> <li>▪ Include biopsy/clip site</li> <li>▪ Any calcifications</li> <li>▪ Flanking levels, end margins</li> <li>▪ Representative uninvolved parenchyma</li> </ul>

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<b>Calcifications</b>	All levels with calcifications Flanking levels End margins
<b>Fibroadenoma</b>	1 section per 1 cm of lesion Uninvolved breast if present (1-2 cassettes)

### **Gross Template:**

#### **MMODAL COMMAND: "INSERT LUMPECTOMY"**

It consists of a [weight in grams\*\*\*] grams oriented breast lumpectomy. There [is/is no\*\*\*] localization wire present [if wire is present indicate where it is inserting on the anterior/medial/lateral surface and exiting (if the tip is located outside of the specimen or which level the tip of the wire is in)\*\*\*]. 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\*\*\*].

#### **INK KEY:**

Blue	Superior
Green	Inferior
Purple	Medial
Yellow	Lateral
Orange	Anterior
Black	Deep

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

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

[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**

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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