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 to assist 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 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 (Westwood):

Monday – Thursday	calculate fixation time until 3am
Friday	calculate fixation time until 2am
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 (Santa Monica):

Monday – Thursday	**6:30 pm VIP load**: calculate fixation time until 8:30pm **Late load**: calculate fixation time until 3am
Friday	calculate fixation time until 2am
Saturday - Sunday	calculate fixation time until 8pm on Sunday

Calculating formalin fixation times of **Breast Biopsies** (Westwood and Santa Monica):

Routine breast core →	calculate fixation time until 10pm
Late breast core (bx placed in formalin after 4 pm) →	calculate time to 1:30am

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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
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: SEGMENTAL MASTECTOMY

Procedure:

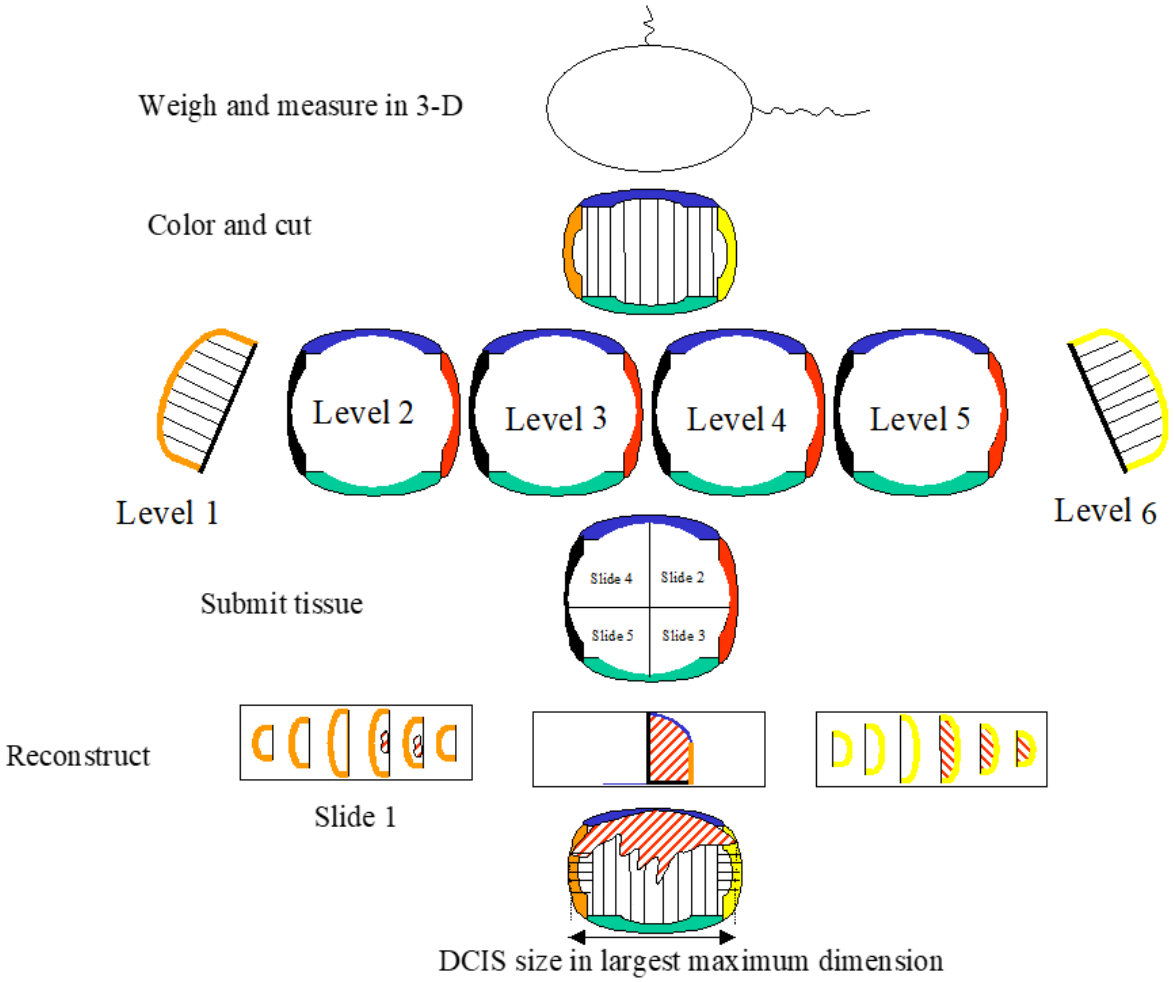
1. Review patient's pertinent history and imaging in EPIC in order to correlate with gross findings
2. Weigh (fresh weight should be written on specimen container)
3. Orient specimen (typically- long-lateral; short-superior)
4. Measure (entire specimen, skin ellipse, and nipple if present)
5. Faxitron (prior to inking) and look for 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.

Gross Protocol for Lumpectomy



BREAST PATHOLOGY GROSSING GUIDELINES

Suggested sections for histology:

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

IDC/ Re-excision with close prior margins (may have lumpectomy cavity)	Edges of lesion Flanking levels Lesion in relation to closest margins End margins- perpendicular Representative uninvolved parenchyma
DCIS/ADH/LCIS/ILC Post neo-adjuvant chemotherapy (NAT) Papillary lesion No gross lesion	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
Calcifications	All levels with calcifications Flanking levels End margins
Fibroadenoma	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****] 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 3am (Monday-Thursday) or 2am (Friday)****] hours

INK KEY:

Blue	Superior
Green	Inferior

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Purple	Medial
Yellow	Lateral
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