###### Purpose

To provide a procedure for the dissection of an excisional breast biopsy (with orientation).

1. **Principle**

To take histologic sections to demonstrate any possible pathologic process present so that a diagnosis can be made microscopically by a Pathologist.

###### Equipment

1. Ruler
2. Forceps
3. Scalpel
4. Scissors
5. Large Knife
6. **Safety**
7. **PPE** should be worn.
8. **FORMALIN** is a known carcinogen.
9. **Supplies and Reagents**
10. **10% NEUTRAL BUFFERED FORMALIN** (pH range 6.9 – 7.2)
11. Black Ink
12. Blue Ink
13. Green Ink
14. Orange Ink
15. Red Ink
16. Yellow Ink
17. White Distilled Vinegar
18. **Quality Control**

All remaining tissue should be retained.

1. **Limitations/ Notes**

The following may influence the validity of test results:

1. The specimen should be fixed in formalin for a minimum of 6 ½ hours.
2. **Procedure**
3. Measure the specimen (3 dimensions – cm.) and give orientation (ex: 6 cm (anterior to posterior) x 5.5 cm (medial to lateral) x 5 cm (superior to inferior)).
4. Calculate the water displacement (in cc.) of the specimen using a graduated cylinder.
5. Discuss how the specimen has been oriented (ie: sutures, clips, etc)
6. Ink the external surfaces six colors. If a large piece of skin is present on one aspect, the specimen can be inked five colors.
7. If six colors are used, follow the x margin color code guide and specify in the dictation how the specimen is inked. The specimen may be received inked by the surgeon or at triage and received bisected.
8. The x margin color code is as follows:
9. Anterior/Superficial – Red
10. Posterior/Deep – Black
11. Superior – Blue
12. Inferior – Green
13. Lateral – Orange
14. Medial – Yellow
15. Apply vinegar to act as a mordant for the ink.
16. If present, describe any attached skin including scars and/or lesions and provide a representative section.
17. Serially section the specimen perpendicular to its long axis.
18. Inspect the cut surfaces for any masses, lesions, areas of abnormality, and/or biopsy marker clips.
19. If grossly present, describe any pathology that is identified (size, shape, color, & consistency). Mention if any biopsy marker clips are present and type of clip.
20. Document the relationship between the pathologic area and all margins.
21. If more than one mass, lesion, or area of abnormality is present, describe and measure the relationship.
22. Describe the uninvolved cut surfaces (% fibrous tissue vs. % adipose tissue).
23. Submit sections according to the Breast Grossing Standardization and as follows:
24. **Oriented Excisions with gross lesion**
25. Small Specimens - submit entirely in less than 10 cassettes
26. Large Specimens
27. If tumor is <2 cm then submit entire tumor
28. If tumor is >2 cm, submit:
29. 4-5 cassettes of tumor or complete cross-section of tumor (largest dimension; may take multiple cassettes) +
30. One section of tumor from each involved slice (with some adjacent normal tissue to look for LVI) +
31. Section from each flanking uninvolved breast to determine size in third dimension
32. If more than 1 lesion, submit sections in between lesions
33. Submit representative sections of fibrous tissue if not already included above
34. Margins - at least 1 perpendicular section per margin closest to tumor
35. Skin - 1 representative section
36. **Oriented Excisions with no obvious lesion but clinically highly suspicious or bx-proven ADH/ DCIS**
37. Small specimens - submit entirely in less than 10 cassettes
38. Large specimens
39. Submit entire area of calcification or radiographic abnormality and all fibrous tissue
40. Margins – at least 1 perpendicular section per margin closest to abnormality
41. Skin – 1 representative section
42. **Oriented Excisions for neoadjuvent cases**
43. Small specimens - submit entirely in less than 10 cassettes
44. Large specimens
45. Submit entire area of suspected tumor bed if <10 cassettes, otherwise submit at least 1 section per cm (at least an entire cross-section of the span of the original tumor bed should be submitted)
46. Margins – at least 1 perpendicular section per margin closest to tumor bed
47. Skin – 1 representative section
48. **Oriented Excisions for suspected benign disease**
49. 1 section per cm of lesion (2 sections/cassette)
50. If no gross lesion, then 10 cassettes of fibrous tissue
51. If ADH or DCIS identified on slides, then go back and submit remainder of specimen (if feasible; see above IV)
52. If not entirely submitted, include a diagram.
53. Dictate which direction the specimen is submitted (ex: lateral to medial).
54. Specify in the dictation which cassettes contain the pathology and/or clips.
55. Include in the dictation the cold ischemic time and approximate hours of fixation. This is calculated from the time bisected at triage.
56. Load on the appropriate (for fatty breast tissue) processor. Note: the specimen must fix for a minimum of 6 ½ hours.

1. **References**

Hruban RH, Westra, WH, Phelps, PH, & Isacson, C: Surgical Pathology Dissection An Illustrated Guide, New York, NY, Springer-Verlag Inc., 1996.

Lester, SC: Manual of Surgical Pathology, New York, NY, Churchill

Livingstone, 2001.

1. **Related Documents**

Breast Grossing Standardization RA.SP.PR.GR.BT.09

1. **Authorized Reviewers**
2. Medical Director, Anatomic Pathology
3. Chief, Surgical Pathology

##### Document Control

##### Location of Master: Master electronic file stored on the Beaumont Laboratory server under

S:\ AP\_Grossing\_Manual

**Number of Controlled Copies posted for educational purposes: 0**

**Number of circulating Controlled Copies: 1**

**Location of circulating Controlled Copies: Master Grossing Manual** located in Surgical Pathology

##### Document History

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| Prepared by: *Anne Tranchida, PA(ASCP)* | 7/31/2007 | **r00** |  |  |
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| *Ali-Reza Armin, MD* | 12/10/2008 | **r00** |  |  |
| *Anne R. Tranchida,PA(ASCP)* | 10/20/2009 | **r00** |  |  |
| *Ali-Reza Armin,MD* | 10/20/2011 | **r00** |  |  |
| *Ali-Reza Armin,MD* | 04/02/2013 | **r00** |  |  |
| *Mitual B. Amin,MD* | 02/14/2015 | **r00** |  |  |
| *Zhenhong H. Qu, MD* | 03/12/2015 | **r00** |  |  |
| *Kurt Bernacki, MD* | 10/27/2017 | **r00** |  |  |
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