###### Purpose

To provide a procedure for the dissection of an excisional breast biopsy (with or without orientation) that contains a needle localization wire and is accompanied by a specimen radiograph.

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. During transport from the OR to radiology and then to pathology, shifting of the needle localization wire may occur.
3. **Procedure**
4. 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)).
5. Calculate the water displacement (in cc.) of the specimen using a graduated cylinder.
6. If the specimen is oriented, discuss how the specimen has been oriented (ie: sutures, clips, etc)
7. Document the placement of the needle localization wire (Is the tip within the specimen or does it protrude?)
8. Examine the specimen radiograph for a circled area or areas.
9. The specimen may also contain a clip which may or may not be in the circled area(s).
10. Note the relationship of the circled area(s) and any possible clips to the localization wire.
11. If present, describe any attached skin including scars and/or lesions and provide a representative section.
12. Ink the external surfaces black or multiple colors (if the specimen is oriented).
13. If multiple colors are used, follow the x margin color code guide and specify in the dictation how the specimen was inked. The specimen may be received inked by the surgeon or at triage and may be bisected at triage.
14. The x margin color code is as follows:
15. Anterior/Superficial – Red
16. Posterior/Deep – Black
17. Superior – Blue
18. Inferior – Green
19. Lateral – Orange
20. Medial – Yellow
21. Apply vinegar to act as a mordant for the ink.
22. Serially section the specimen perpendicular to its long axis.
23. Inspect the cut surfaces for any masses, lesions, or areas of abnormality.
24. Correlate any area(s) circled on the radiograph to the cut surfaces of the specimen.
25. Find any clips and note the kind of clip found.
26. If grossly present, describe any pathology that is identified (size, shape, color, & consistency). This will most likely be in the area(s) identified on the specimen radiograph.
27. Document the relationship between the pathologic area(s) and the closest margin(s).
28. If more than one mass, lesion, or area of abnormality is present, describe and measure the relationship.
29. Describe the uninvolved cut surfaces (% fibrous tissue vs. % adipose tissue).
30. Submit sections according to Breast Grossing Standardization and as follows:
31. **Oriented Excisions with gross lesion**
32. Small Specimens - submit entirely in less than 10 cassettes
33. Large Specimens
34. If tumor is <2 cm then submit entire tumor
35. If tumor is >2 cm, submit:
36. 4-5 cassettes of tumor or complete cross-section of tumor (largest dimension; may take multiple cassettes) +
37. One section of tumor from each involved slice (with some adjacent normal tissue to look for LVI) +
38. Section from each flanking uninvolved breast to determine size in third dimension
39. If more than 1 lesion, submit sections in between lesions
40. Submit representative sections of fibrous tissue if not already included above
41. Margins - at least 1 perpendicular section per margin closest to tumor
42. Skin - 1 representative section
43. **Oriented Excisions with no obvious lesion but clinically highly suspicious or bx-proven ADH/ DCIS**
44. Small specimens - submit entirely in less than 10 cassettes
45. Large specimens
46. Submit entire area of calcification or radiographic abnormality and all fibrous tissue
47. Margins – at least 1 perpendicular section per margin closest to abnormality
48. Skin – 1 representative section
49. **Oriented Excisions for neoadjuvent cases**
50. Small specimens - submit entirely in less than 10 cassettes
51. Large specimens
52. 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)
53. Margins – at least 1 perpendicular section per margin closest to tumor bed
54. Skin – 1 representative section
55. **Oriented Excisions for suspected benign disease**
56. 1 section per cm of lesion (2 sections/cassette)
57. If no gross lesion, then 10 cassettes of fibrous tissue
58. If ADH or DCIS identified on slides, then go back and submit remainder of specimen if feasible at discretion of pathologist (see above IV)
59. If not submitting the entire specimen, include a diagram.
60. Include in the dictation the cold ischemic time and approximate hours of fixation. This is calculated from the time bisected at triage.
61. Specify in the dictation which cassettes contain the area(s) circled on the radiograph, any tissue that contained clips, and any other pathology.
62. If the specimen was oriented, dictate which direction the specimen is submitted (ex: lateral to medial).
63. 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** |  |  |
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| *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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