###### Purpose

To provide a procedure for the dissection of a modified radical mastectomy specimen.

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. White Distilled Vinegar
15. **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. Weigh and measure the specimen which consists of a breast and an attached axillary tail.
4. Look at the patient’s previous specimen history and read any corresponding radiology reports to determine if there are any clips placed.
5. The specimen may be oriented by the surgeon. If oriented, discuss how the specimen is oriented.
6. If the specimen is not oriented, the location of the attached axillary tail can be used to orient the specimen. If orientation is unclear, contact the surgeon. Look for a scar or lesion on the skin surface which may aid the surgeon in providing orientation.
7. Ink the external surfaces three colors (should be inked and bisected at triage) as follows:
8. Anterior/Superficial in superior half – blue
9. Anterior/Superficial in inferior half – green
10. Posterior/Deep – black
11. It is not necessary to ink the axillary tail.
12. Apply vinegar to act as a mordant for the ink.
13. Describe and measure any skin that is attached to the anterior/superficial aspect.
14. Examine the skin for scars and lesions and if present, describe and measure.
15. Describe the nipple/areola complex.
16. Serially section the specimen from lateral to medial (avoid the axillary tail).
17. Inspect the cut surfaces for any masses, lesions, previous biopsy sites, other areas of abnormality, or clips.
18. If grossly present, describe any pathology that is identified (size, shape, color, & consistency). Mention which quadrant contains the pathology. And mention if there is an associated clip.
19. If more than one mass, lesion, previous biopsy site, or other area of abnormality is present, describe and measure the relationship.
20. Document the relationship between the pathologic area(s) and all margins.
21. The axillary tail can be detached as long as the pathology within the breast does not encroach on it. If the pathology is near the axillary tail, first pay attention to the pathology and its relationship to the margins before detaching the axillary tail.
22. Once the axillary tail is detached, all lymph nodes should be dissected from the adipose tissue. Lymph nodes greater than 0.5 cm should be bisected, trisected, or serially sectioned accordingly.
23. Submit sections according to the Breast Grossing Standardization and as follows:
24. **Mastectomy for cancer**
25. Minimum of 12 cassettes including 1 section of nipple, closest 3 margins, and 2 sections per each quadrant (1 block per quadrant with 2 sections in each)
26. If tumor is 2 cm or less, submit entire tumor
27. If tumor is >2cm, submit 1 section per cm of largest dimension of tumor/area of interest
28. If Paget’s disease is suspected, the entire nipple/areola complex should be submitted.
29. Sections should be submitted of skin that include any scars or lesions that have been described.
30. Two sections (in one cassette) should be submitted from each quadrant (upper outer, upper inner, lower inner, and lower outer). If pathology (the lesion of interest) is present in one of the four quadrants, take additional sections of that quadrant that are away from the pathology. More sections may be submitted from the quadrants if the patient has a history of DCIS.
31. Include a diagram with the location of the sections taken.
32. All identifiable lymph nodes should be submitted entirely. Lymph nodes that are bisected, trisected, or serially sectioned should be submitted each in separate cassettes to maintain an accurate lymph node count. The lymph node submission should be carefully described in the cassette summary. If a lymph node is large and grossly positive, a representative section of that node can be submitted. The remainder of the lymph node should be wrapped and labeled for storage so that it can be easily found if more sections are needed.
33. Include in the dictation the cold ischemic time and approximate hours of fixation. This is calculated from the time bisected at triage.
34. Load the cassettes on the appropriate (for fatty breast tissue) processor. Note: the specimen must fix for a minimum of 6 ½ hours.
35. **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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| *Anne R. Tranchida,PA(ASCP)* | 10/20/2009 | **r00** |  |  |
| *Ali-Reza Armin,MD* | 10/20/2011 | **r00** |  |  |
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| *Zhenhong H. Qu, MD* | 03/12/2015 | **r00** |  |  |
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