

Breast, Simple/Modified/Radical Mastectomy, Tumor

(4.3 Breast_Simple/Modified Radical_Tumor); Created 11/20/2021, by Jeremy Deisch, MD; last updated 12/20/2022 by JKD

SAMPLE DICTATION

(Labeled: __, __; __) Received __ is a __ gram, __ x __ x __ cm [left/right] breast. The nipple/areola complex measures __ x __ x __ cm, with an [everted/retracted] nipple. The surrounding attached skin measures __ x __ cm. The specimen is oriented as follows: __ [give specimen orientation]. A __ x __ x __ cm axillary tail is present.

Major pathologic finding(s): A __ x __ x __ cm [ill-defined/well circumscribed, solid/cystic, firm tan mass] is present in the [quadrant], __ cm from the nipple. The mass lies __ cm to the anterior margin [or skin if overlying], __ cm to the posterior margin, __ cm to the medial margin, __ cm to the lateral margin, __ cm to the superior margin, and __ cm to the inferior margin. A biopsy clip is identified [adjacent to/within] the mass.

Other findings: The background breast tissue comprises approximately __ % fibrous tissue. The skin shows a __ cm linear healed scar. __ lymph node candidates are present in the axillary tail, ranging in size from __ to __ cm.

Specimen Handling: Ink key: Blue = superior, Green = inferior, Black = posterior overlay. (RS, __ caps)

Collection Time: __

Time in Formalin: __

Time out of Formalin: __

SUGGESTED SAMPLING

- 1-4: Mass, entirely submitted (refer to corresponding specimen map)
- 5: Closest [anterior/inferior] margin to mass, perpendicular
- 6: Deep margin closest to mass, perpendicular
- 7: Upper outer quadrant breast tissue
- 8: Upper inner quadrant breast tissue
- 9: Lower inner quadrant breast tissue
- 10: Lower outer quadrant breast tissue
- 11: Skin and breast tissue closest to tumor
- 12: Nipple, serially-sectioned perpendicular to skin surface [longitudinal section of nipple ducts to skin]
- 13: Areola, shave [section to demonstrate cross sections of nipple ducts]
- >13: Axillary lymph node candidates (larger nodes are thinly sectioned)

STAGING CRITERIA (AJCC 8TH EDITION)

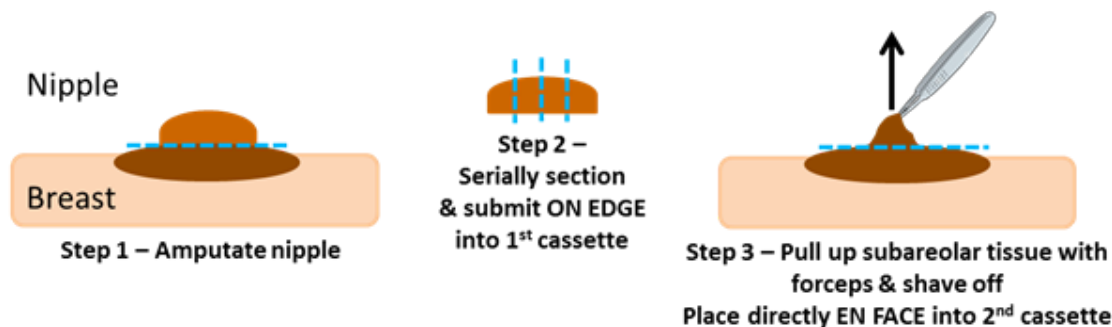
- pT staging of breast carcinoma is based upon:
 - Tumor size: (2 and 5 cm are the staging cutoffs)
 - Invasion of skin or chest wall structures
 - Ulceration of skin by tumor
 - Satellite tumor nodules in ipsilateral breast
 - "Peau-d'orange" appearance of skin overlying tumor, tumor present in dermal lymphatics

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ADDITIONAL CONSIDERATIONS

- Always review the operative note, pre-operative imaging, and oncology notes to determine 1) **how many lesions should be identified**, 2) **location of lesions**, 3) **how many clips are present**, and 4) if there has been **neoadjuvant (preoperative) chemotherapy** (including aromatase inhibitors, Tamoxifen). Knowledge of these data points is critical to guide proper grossing procedures. If there is documented neoadjuvant therapy, refer to the grossing manual entry for post-neoadjuvant mastectomy specimens.
- Key steps/guidelines for grossing radical mastectomy specimens
 - Radical mastectomy specimens are prepared for fixation by carefully sectioning the inked mastectomy specimen **from the posterior aspect** prior to fixation, leaving the anterior aspect and skin intact (leaving the skin intact helps to maintain specimen integrity after fixation cuts).
 - Following fixation, **complete the sectioning through the anterior aspect/skin** - lay each slice out flat and in order, maintaining orientation.
 - **Mastectomy specimens require specimen x-ray in the following situations**
 - **Post-neoadjuvant**: Refer to procedure manual for post-neoadjuvant specimens
 - **Mastectomy specimens for DCIS** - Critical to document location of coarse calcifications, biopsy clips, and for block mapping
 - **Mastectomy specimens with discrepancy between expected gross findings** - i.e., those which the expected clips/lesions cannot be found by gross examination
 - Specimens with grossly apparent lesions and detection of all placed clips by gross examination do not require specimen x-ray
 - For small tumors, **Entirely submit one entire face (two dimensional slice) of the tumor**. If the tumor bed surrounding the clip is not grossly apparent, submit at least five caps of tissue from the region of prior tumor/biopsy site. For very large tumors/tumor beds (i.e. those that cannot be submitted in 5 caps or less), submit (and map) contiguous sections that span the length of tumor in one dimension.
 - Submit one section of tumor/tumor bed from adjacent slices ("bookends")
 - **Always include a section map with all mastectomy (tumor) specimens**. Photograph the oriented breast slices flat and take a gross photograph. Print this image and label the slices to indicate the location of the submitted blocks. This image must also be labeled with the accession number to maintain specimen identity. As this image will accompany the requisition and slides into the pathologists office, this document must be kept clean.
- Breast tissue is very fatty; thin and smaller sections will increase histology quality and decrease risk of need for reprocessing; use paddle forceps to trim tissue into appropriate (~ 2 mm) thickness.
- After specimen grossing, maintain slab order when storing "leftover" slices. If additional sampling is needed, sampling can be directed to specific slices if this step is followed.
- See diagram below for instructions on sampling nipple/areola.



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- Vector Ink Key: Sterile ink kit for use by surgical staff in inking specimens. Below is the standardized ink key provided by the manufacturer. Ink key should be dictated as part of the gross. Follow the ink key if any “touch up” inking is required.

Anterior- Green

Inferior- Blue

Lateral- Orange

Medial- Yellow

Posterior- Black

Superior- Red