

Breast, Partial Mastectomy, Tumor

(1.2 Breast_Partial_Mastectomy_Tumor); Created November 2nd, 2019 by Jeremy Deisch, MD; Last edited May 12th, 2021 by Jeremy Deisch, MD

SAMPLE DICTATION

(Labeled: __, __; __) Received __ is a [oriented/unoriented] portion of fibrofatty breast tissue that measures _ cm (anterior-posterior) x _ cm (medial-lateral) x _ cm [superior-inferior]. The specimen is oriented as follows: _ [given specimen orientation]

Major pathologic finding(s): A _ x _ x _ cm [ill-defined/well circumscribed, solid/cystic, firm tan mass] is present in slices _ to _. The mass lies _ cm to the anterior margin, _ 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. The tip of the needle localization wire terminates [within slices _ to _, _ cm from or within the mass]. A single biopsy clip is identified [adjacent to/within the mass, and is in slice _..

Other findings: The background breast tissue comprises approximately 40% fibrous tissue

Specimen Handling: Ink key: Blue = superior, Green = inferior, Black = posterior overlay. Specimen sectioned from _ to _ into _ slices. (RS / TE, ___ caps)

Collection Time: _
Time in Formalin: _
Time out of Formalin: _

SUGGESTED SAMPLING

- Smaller partial mastectomy specimens (20 grams or smaller) can be entirely submitted
- Larger specimens without grossly evident tumors should be sampled **only after pathologist consultation**
- In larger partial mastectomy specimens (20 grams) with a discrete tumor, the entire tumor and sections demonstrating the closest approximation of **all six margins** to the tumor should be submitted
- Always section margins perpendicular to the margin plane; **never shave margins**
- Below is an example block key based on a partial mastectomy with a discrete tumor:
 - A1: Slice 1, medial margin, serially sectioned
 - A2: Slice 4, superior aspect
 - A3: Slice 4, anterior aspect (A3 and A4 are contiguous)
 - A4: Slice 4, posterior aspect
 - A5: Slice 4, inferior aspect
 - A6: Slice 5, superior aspect (A6 and A7 are contiguous)
 - A7: Slice 5, inferior aspect
 - A8: Slice 7, lateral margin, serially sectioned

STAGING CRITERIA (AJCC 8TH EDITION)

- pT staging of breast carcinoma is based upon:
 - Tumor size: (2 and 5 cm are the major cutoffs)
 - Invasion of skin or chest wall structures
 - Tumor ulceration
 - Satellite nodules in ipsilateral breast
 - “Peau-d’orange” appearance of skin overlying tumor
 - Inflammatory carcinoma (tumor present in dermal lymphatics)

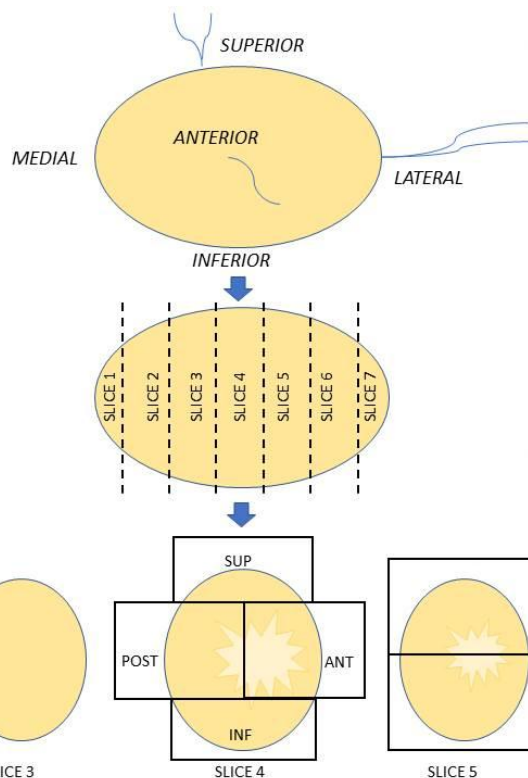
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ADDITIONAL CONSIDERATIONS

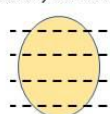
- When approaching partial mastectomy specimens, establishing and maintaining specimen orientation throughout the grossing process is critical, as distance to and identity of margins are key data points in managing patients with breast cancer. Follow the below principles when handling these specimens
 - If specimen orientation does not make sense, stop and call the surgeon to clarify orientation prior to proceeding. Notify the supervising pathologist when this occurs.
 - Ink and section tumors carefully, maintaining orientation and order of each subsequent slice (see diagram below). If the specimen is unusually shaped (i.e. longer in the anterior/posterior or superior/inferior, not the usual “vertical disc” shape, modification of the standard ink pattern to ensure that three colors are present on every slice is necessary; ask PA or pathologist for further information
 - **Always map specimen** - photograph the sectioned specimen (with orientation), print off photograph, and designate location of section on printed image. Submit with requisition for sign-out
- When the specimen orientation is not maintained or the cap key lacks sufficient information, determination of both tumor size (on slides) and relationship to margins is either exceptionally difficult or impossible. Mapping of the specimen will prevent this from happening.
- 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 sectioning, individually wrap and label “leftover” slices and place back in the specimen container; if additional sampling is needed, sampling can be directed to specific slices if this step is followed.

- After proper orientation and specimen inking, serially-section across the long axis of the specimen (5-6 mm thick slices)
- Carefully lay each section out on a paper towel; each section should be laid down in the same orientation, so margin orientation is consistent from the first to last slice
- Always serially section the two “shave margins” (in this case medial and lateral) to demonstrate relationship and distance of ink to tumor if present



- Always dictate detailed block keys for caps submitted from partial mastectomy specimens. Knowing the relationship of adjacent sections is critical for determining how adjacent sections relate, which in turn is necessary for determination microscopic dimensions of tumor, DCIS extent, and distance to margins. Follow example given above in “suggested sampling” for formatting and level of detail
- Map sections on physical or digital image when possible; include orientation and ruler for scale

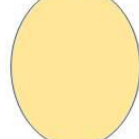
Medial margin, serially sectioned



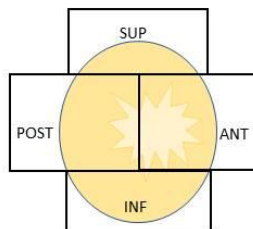
SLICE 1



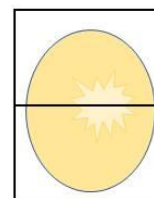
SLICE 2



SLICE 3



SLICE 4

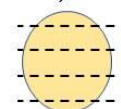


SLICE 5



SLICE 6

Lateral margin, serially sectioned



SLICE 7