

# Breast Tissue Specimen Handling and Management MSJ Operating Rooms (OR)

## Site Applicability

MSJ Operating Rooms.

## Practice Level

Basic:

- Perioperative Nurses
- Pathology Assistants

## Need to Know

### How to submit a specimen: *Fresh vs. Formalin Specimen*

**Fresh specimen(s)** are generally the resection specimen containing the target lesion(s) that the surgeon is attempting to remove from within the patient. Often, these specimens are quite thick and is therefore not appropriate to submit to the pathology laboratory, as-is, in 10% neutral buffered formalin (hereon known as formalin). The rationale is: formalin, like any other fixative, requires time to penetrate tissue before it can preserve it. Submitting a thick specimen in NBF will result in a sub-optimal specimen that has a preserved exterior but a degraded interior. To prevent this, additional preparatory work, also known as “**freshing**” must be performed. Freshing involves carefully slicing the specimen at even intervals in a logical manner, thereby increasing surface area and promoting penetration (and subsequently fixation), of the entire specimen, from both the inner and outmost aspects. Every moment that a specimen spends outside of the patient’s body and not in formalin, irreversible degradation is happening. Hence, **fresh resection specimen(s)** should be sent, **without formalin, IMMEDIATELY** following removal from the patient for freshing in the pathology laboratory.

**Formalin specimen(s)** generally do not contain the target lesion but are also equally important as they may contain metastases or traces of the lesion(s). However, they are typically not the primary specimen of interest and hence it is acceptable to place them into a specimen container with **formalin** to preserve the tissue for pathology examination. It is important to use a much larger container than the specimen as it is necessary to add formalin in a ratio of **10:1 formalin to specimen volume**.

<b>Fresh</b>	<b>Formalin</b>
lesion/mass excision	axillary dissection
mass excision	*small breast biopsies (core and stereotactic)
excisional biopsy	sentinel nodes, lymph nodes
therapeutic biopsy/excision	skin biopsy
lumpectomy	skin lesions (pigmented or non-pigmented)
partial mastectomy	*additional margins or cavities
total mastectomy	breast capsules/implants
	breast reductions

Fig. 1 – Types of breast specimens and how they should be submitted to the pathology lab.

*\*Small breast biopsies (core and stereotactic) can go to formalin directly.*

*\*Additional margins if marked with more than one orienting sutures AND larger than 2 cm, they should be freshed.*

### Breast Specimen orientation information

A technique for **marking oncological breast tissue specimens** is crucial for accurate identification of margins and re-excision of positive margins. The surgeon uses silk sutures to mark the breast tissue margins for specimen orientation. The type/length of suture and the orientation of the breast tissue allow identifying the correct margin.

For example, margins will have clips and secured with silk suture markings:

- short suture for superior margin
- long suture for lateral margin
- double suture medium for medial margin

Excised **breast tissue with fine wire** will have suture markings to identify the margins for orientation and allow for X-ray examination.

**X-ray imaging of breast tissue with fine wire** is performed in the OR using the Trident portable X-ray machine. The X-ray Tech is responsible for operating the Trident machine. Notify the X-ray Tech at extension 78221 or pager 34037 before the procedure starts to set up patient's demographic on Trident machine; also, when the tissue is ready for imaging.

The surgeon will read the X-ray result to confirm that the abnormal area is in the tissue that was removed. If there are cancer cells in the margins, more tissue may be removed during the same surgery.

When the surgeon is satisfied with the specimen(s) submitted, call the PA **IMMEDIATELY** at (778) 919-2817. If they are not occupied with freshening a prior specimen, they will come to collect the specimen(s) as soon as possible. Otherwise, follow their instructions. Such instructions may include leaving the specimen in the OR lab fridge.

For breast reconstruction, weigh and document on periopDoc specimen segments comment section weight of breast tissue as ordered by the surgeon.

## Guideline

1. Care and handling of breast tissue specimen is a multidisciplinary, multistage, and multisystem approach and adheres to steps for sending the specimen to the laboratory.
2. Each individually specimen is identify by type, anatomic site, and number of tissues.
3. The communication of specimen collection and handling begins with the surgeon.
4. The surgeon signs and completes the specimen collection information on the pathology requisition.
5. Both the scrub and circulating nurse must be prepared to respond to a request for specimen processing throughout the procedure.
6. **The surgeon** identifies or specifies the type of specimen, places marking sutures to identify margin and hands off the specimen to the scrub nurse.
7. **The scrub nurse** hands off the specimen to the circulating nurse, repeating what the surgeon said.
8. **The circulating nurse**
  - a. Receives the specimen; places it in the specimen container; labels the specimen container according to the information provided by the surgeon and scrub person, **verifies** the specimen by repeating back the label information.
  - b. Completes imperative information on pathology requisition, individually identify each specimen by type, anatomic site, and number of tissues, specific suture markings, time removed from the patient and time in fixation added.
  - c. Places **fresh breast tissue(s)** in a specimen container **without fixative**. Send the fresh breast tissue **IMMEDIATELY** to the pathology laboratory for "freshening" analysis. Notify the PA at 778 919 2817 to collect breast tissue right away.
  - d. Places **formalin breast tissue(s)** or regular pathology specimen into specimen container **with fixative**. Adds formalin 10 times the volume of the specimen. The size of container is dependent on the size of the specimen and amount of formalin added.

- e. Verifies the patient label(s) on the specimen container(s) and pathology requisition matches. The patient's label is placed on the specimen container, not on the lid.
- f. Notifies PA at 778 919 2817 to collect all breast tissue specimen(s) in the OR, before the procedure ends. Ideally, as soon as the surgeon has completed submission of all necessary specimens.
- g. Documents all specimens obtained in the periopDoc on the Powerchart.
- h. Rectifies any reported discrepancies in the specimen handling and/or documentation such as suture orientation, labelling, laterality and any clarifications from the pathology laboratory staff.

9. **The PA** (Pathology Assistant/Technologist)

- a. Collects all breast specimen(s) in the OR upon receipt of phone call from nurse. They will attend as soon as possible. If they are in the middle of freshening a previous specimen, they will provide instructions for the nurse. Such instructions may include leave the specimen(s) in the OR lab fridge.
- b. Verifies specimen(s) with the circulating nurse to ensure the correct patient label(s) are on the specimen container(s) and will confirm that the label(s) matches the pathology requisition.
- c. Documents receipt of specimen(s) in OR specimen log book in the OR lab using the spare patient label supplied by the nurse.
- d. **Freshes** the breast resection according to Standard Operating Procedures (SOP). If the breast resection is under 2 centimetre in thickness, the pathology assistant will add formalin to the specimen container and document "**time in fixation**" on the pathology requisition.
  - **Applies to:** breast tissue, breast mass, lumpectomy, partial mastectomy, total mastectomy, fine wire
  - **Also applies to:** sentinel node(s) biopsy, skin biopsy, nipple biopsy, non-breast pigmented and non-pigmented lesions, additional margins or cavities
  - If the breast resection is at 2 cm, or over 2 cm, in thickness, the pathology assistant will return to the lab and "**fresh**" the specimen according to SOP.
  - **Applies to:** breast resection(s) including tissue/mass, lumpectomy, partial mastectomy, total mastectomy, +/- fine wire biopsy procedures
- e. Looks for discrepancies in suture orientation, labelling, laterality, etc. during "**freshing**" and will report them to the OR charge nurse (or delegate) for correction.

10. PA assists in the breast tissues specimen collection, handling and management during regular OR hours.

During off hours (after 1700hr) and PA absence, any breast tissues will be handled by the OR nurse according to standard protocol (B-00-13-10042- Surgical Specimen Handling and Management; in the Operating Room).

The PA may be available after hours depending on the specimen type (i.e. total mastectomy) and will communicate that to the nursing staff in the appropriate OR.

11. If the surgeon decides to submit additional breast tissue(s) and the PA has already collected the original documented set, OR nurses may:
  - a. Use the original pathology requisition to document the additional specimen(s) by asking the PA to bring back the form to the OR.
  - or**
  - b. Print out another Pathology requisition; label this form as form #2. Continue to document and label the additional specimen(s) in the appropriate corresponding sequence.

For example,

“C. right breast tissue excisional biopsy”

“D. right breast superficial lesion”, etc.

12. During the debriefing phase of the Surgical Safety Checklist at the procedure’s end, the circulating nurse announces all specimens obtained; if no specimens were obtain, that is also announced.

## Documentation

Document on

- Pathology requisition LA124 (surgeon to sign)
- PeriopDoc PowerChart, Specimen documentation segment
- OR Specimen log book, OR lab

## Related Documents

1. [B-00-13-10042](#)- Surgical Specimen Handling and Management; in the Operating Room
2. [BD-00-11-40012](#) - Surgical and Procedural Safety Checklist Policy

## References

3. Rothrock, J.C. (ed.) (2019). Alexander’s Care of the Patient in Surgery (16<sup>th</sup> ed.). Care and handling of specimens, pp. 26-27.
4. ORNAC. (2019). Standards, Guidelines, and Position Statements for Perioperative Registered Nursing Practice (14<sup>th</sup> ed.), pp.133-137.
5. PHC Anatomic Pathology Manual <https://connect.phcnet.ca/clinical/laboratory-pathology-medicine/anatomic-pathology/policies-manuals>

**Groups/Persons Consulted:**

MSJ OR Charge Nurse

Lead Breast Pathologist, Pathology and Laboratory Medicine

Anatomic Pathologist, Pathology and Laboratory Medicine

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