

Mastectomy

Article I - Introduction

This American Society of Breast Surgeons (ASBrS) Performance and Practice Guideline summarizes the indications for and technique of mastectomy. The Guideline reflects the consensus of a panel comprising members of the Education Committee, the Board of Directors, and the Executive Committee, and is based on multiple sources from the peer-reviewed literature. This Guideline reflects what ASBrS considers to be optimal practice but may require modification based on the clinical circumstance, the physician's judgment, the patient's preference, and as scientific evidence continues to evolve.

Article II - Indications

Breast conserving surgery (BCS) has replaced mastectomy for a majority of breast cancer patients in the developed world, with level I data confirming comparable survival and local control of disease, but many patients still require mastectomy and some prefer it.

Current indications for mastectomy are as follows:

- a. Any cancer unsuitable for BCS, based on
 - Large tumor-to-breast-size ratio
 - multicentric tumor
 - Insufficient response to neoadjuvant chemotherapy or endocrine therapy
 - Persistently positive margins of excision
 - Inflammatory breast cancer
 - Extensive malignant/indeterminate microcalcifications
 - Early pregnancy
 - Proven or suspected genetic susceptibility
 - Local recurrence following bcs/rt
 - Contraindication to rt
- b. For prophylaxis in high-risk but unaffected patients
 - Proven or suspected genetic susceptibility
 - History of prior mantle RT
- c. Patient preference

Article III – Surgeon Qualifications

Surgeons must have successfully completed an American Board of Medical Specialties-approved surgical residency program and must have attained, or be admissible for, board certification by the American Board of Surgery (ABS) or its equivalent. Training in the technique of mastectomy is part of the surgical curriculum in all accredited training programs.

Article IV – Procedure Details and Prerequisites

A. Prerequisites

The prerequisites for mastectomy include a histological diagnosis of cancer, preferably by needle biopsy, sufficient breast imaging to define the extent of the lesion, a complete medical history and physical examination, and a fully informed discussion with the patient of all surgical options, including the risks and benefits of each approach. This discussion should include mastectomy vs BCS, the types of mastectomy (conventional, skin-sparing, nipple-sparing), the options for reconstruction (none, straight-to-implant, tissue expander, and autologous tissue [latissimus, TRAM/DIEP]), the timing of reconstruction (immediate, delayed), the approach to the axilla (none, SLN biopsy, ALND), and the role/timing of systemic therapy and RT. Preoperative consultation should include, if appropriate, the plastic surgeon, medical oncologist, and radiation oncologist. Emotional and psychologic support should be offered whenever necessary.

Imaging should always include bilateral mammography, with ultrasound as appropriate for dense breasts and/or younger age. MRI is not mandatory, but may be useful to confirm the need for mastectomy, to monitor the response to neoadjuvant chemotherapy, and to clear the contralateral breast. A metastatic workup is appropriate for patients with clinical stage III disease.

B. Technique

Mastectomy is done under general (or regional) anesthesia, in the supine position, with the patient's arms abducted at 90 degrees and, depending on the operative plan, with one or both arms sterilely draped into the operative field. Prophylactic antibiotics are given prior to induction.

Mastectomy without reconstruction is typically done through an elliptical incision, encompassing the nipple-areola, sufficient to allow SLN biopsy or ALND, and removing enough skin that the skin flaps will lie flat without redundancy. Mastectomy with reconstruction is typically done through an elliptical "skin-sparing" incision, with the axillary procedure done through a separate counter incision; incision planning is best done collaboratively with the plastic surgeon. Nipple-sparing mastectomy is done through a variety of incisions (inframammary, midlateral, circumareolar, or a combination) and is dependent on patient anatomy and surgeon preference.

Mastectomy requires the elevation of skin flaps sufficiently thin to remove *all breast tissue*, and extended to the anatomic limits of the breast (the sternal border medially, the clavicle superiorly, the latissimus laterally, and the rectus sheath/inframammary fold inferiorly). This is best done under direct vision and can be quite challenging in very thin patients or through incisions which limit exposure (as is typical for nipple-sparing mastectomy, where able assistants and lighted retractors are particularly helpful). In nipple-sparing mastectomy it is particularly important to remove all of the breast tissue directly behind the nipple and to send the “nipple margin” to pathology as a separate specimen. The breast is dissected off the underlying pectoralis major, removing all breast tissue and (by surgeon preference) the pectoral fascia. Tumor adherence to the muscle is encompassed by removing the portion of adherent muscle with the breast specimen, taking additional deep margin specimens and placing clips as needed. The breast specimen is oriented with sutures and submitted fresh to pathology for processing. Any planned reconstructive procedures are carried out, drains are placed, and the incisions are closed conventionally.

Article V – Documentation

Documentation prior to surgery should include an informed consent, encompassing all treatment options and a full discussion of risks and benefits. The operative report should include all appropriate patient identifiers, the name of the operation, the type of anesthesia, and a succinct description of the clinical setting, indication for surgery, and operative findings. The report should describe the incisions, type/extent of the mastectomy and axillary procedures, intraoperative pathology assessment (if done), and type of reconstruction (if done). A copy of the operative report should go to all treating physicians and should be part of the permanent medical record. A plan for follow-up, including discussion of pathology results, wound/drain care, exercises, and consultation with medical/radiation oncology should be part of the overall survivorship program.

Article VI – Equipment Specification and Quality Control

Routine general surgical instruments and operating room equipment are required. Lighted retractors and intraoperative pathology consultation should be available if needed.

Article VII – Quality Assessment/Improvement

- a. An institution-specific protocol should be in place for mastectomy, covering all aspects of the procedure and satisfactory to the surgeons, OR staff, radiologists, and pathologists involved.
- b. A policy for ongoing review of emerging evidence regarding the indications and outcomes of mastectomy should be in place.
- c. The medical record should document a plan for the post-surgical care and long-term follow-up of the mastectomy patient.

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Board of Directors
The American Society of Breast Surgeons

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