

Breast-Conserving Surgery/Partial Mastectomy

Article I - Introduction

This American Society of Breast Surgeons (ASBrS) Performance and Practice Guideline summarizes the indications for and technique of breast-conserving surgery/partial mastectomy (BCS). 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

BCS denotes the removal of a breast cancer with clear surgical margins and is variously called a "lumpectomy," "wide local excision," "partial mastectomy," "segmental resection," "tylectomy," or "quadrantectomy."

Current indications for BCS are

- a. A biopsy-proven diagnosis of DCIS or invasive breast cancer clinically assessed as resectable with clear margins and with an acceptable cosmetic result.

Current contraindications for BCS include

- a. Early pregnancy
- b. Multicentric tumor involving 2 or more quadrants of the breast
- c. Diffuse malignant/indeterminate microcalcifications
- d. Inflammatory breast cancer
- e. Persistently positive margins of excision

Relative contraindications for BCS include contraindications to RT (prior breast RT, collagen-vascular disease, morbid obesity, and unavailability), very large breast size (sufficient to pose technical difficulty with breast RT), and very large tumor size relative to breast volume. Of note, neoadjuvant chemotherapy may allow BCS for some patients in whom it would not otherwise be possible, including those with second- or third-trimester pregnancy.

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 BCS is part of the surgical curriculum in all accredited training programs.

Article IV – Procedure Details and Prerequisites

A. Prerequisites

The prerequisites for BCS 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.

Imaging should always include bilateral mammography. Ultrasound is appropriate whenever the sensitivity of mammography is reduced by breast density and/or younger age. MRI is not mandatory, but may be useful whenever tumor size and extent are incompletely characterized by physical exam, mammography, and ultrasound. Most candidates for BCT have stage I-II disease and a metastatic workup is not required. Nonpalpable lesions should be localized preoperatively by guidewire, radioactive seed or, when appropriate, intraoperative ultrasound.

B. Technique

BCS is done under local anesthesia with sedation, regional anesthesia or general anesthesia, in the supine position, with the patient's arm abducted at 90 degrees and (by surgeon preference) sterilely draped into the operative field. Prophylactic antibiotics are given prior to induction.

The skin incision should be planned to optimize cosmesis and allow adequate exposure of the tumor site; this is best accomplished by a circumareolar incision for central lesions and an incision in the natural skin lines of the breast ("Kraissl lines") for most other sites. The incision should be placed to optimize skin-sparing in the event that a mastectomy is unexpectedly required. Excision of overlying skin is appropriate to encompass adherent tumor but should otherwise be done selectively as it may leave the breast (and possibly the nipple) asymmetric. Cancers adherent to the nipple/areola can be encompassed by a central lumpectomy with removal of the overlying structures. Excision of core needle biopsy tracts is unnecessary. Incisions for more complex oncoplastic resections incorporating breast reduction or mastopexy should be designed jointly with the consulting plastic surgeon.

As for excisional breast biopsy procedures, every effort should be made to remove specimens intact, not piecemeal. Excisions carried from the subdermal plane to the pectoral fascia will not require re-excision for a positive anterior or posterior margin. All specimens should be

oriented by the surgeon using sutures, clips, or ink; labeled appropriately; and submitted fresh for identification of the margins (or intraoperative margin assessment), following each institution's protocol. Specimen x-rays or intraoperative ultrasound should confirm removal of the lesion, clips placed (at the preference of the radiation oncologist) to mark the excision cavity, and the excision defect closed in layers as cosmetically as possible.

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 extent of the resection (in particular, whether the excision was carried to the level of the skin and/or to the pectoral fascia), the number/type/orientation of specimens, and results of specimen x-ray. 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 care, and a plan for interval breast imaging 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. Intraoperative ultrasound, gamma probe, specimen radiography, and immediate consultation with the attending radiologist and pathologist should be available as needed.

Article VII – Quality Assessment/Improvement

- a.** Specimen x-ray or ultrasound to confirm removal of the target lesion is required for all excisional biopsies of nonpalpable lesions.
- b.** An institution-specific protocol should be in place for BCS, covering all aspects of the procedure and satisfactory to the surgeons, OR staff, radiologists, and pathologists involved.
- c.** A policy for ongoing review of emerging evidence regarding the indications and outcomes of BCS should be in place.
- d.** The medical record should document a plan for the post-surgical care and long-term follow-up of BCS, including the timing a type of breast imaging.

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