

The Clinician's Perspective: What do we need?

Barbara L. Bass MD
Professor of Surgery
Weill Cornell Medical College
Houston Methodist Hospital

Breast Cancer Care

Goal: Individualized Therapy

Correct therapy
Correct time
for each individual patient

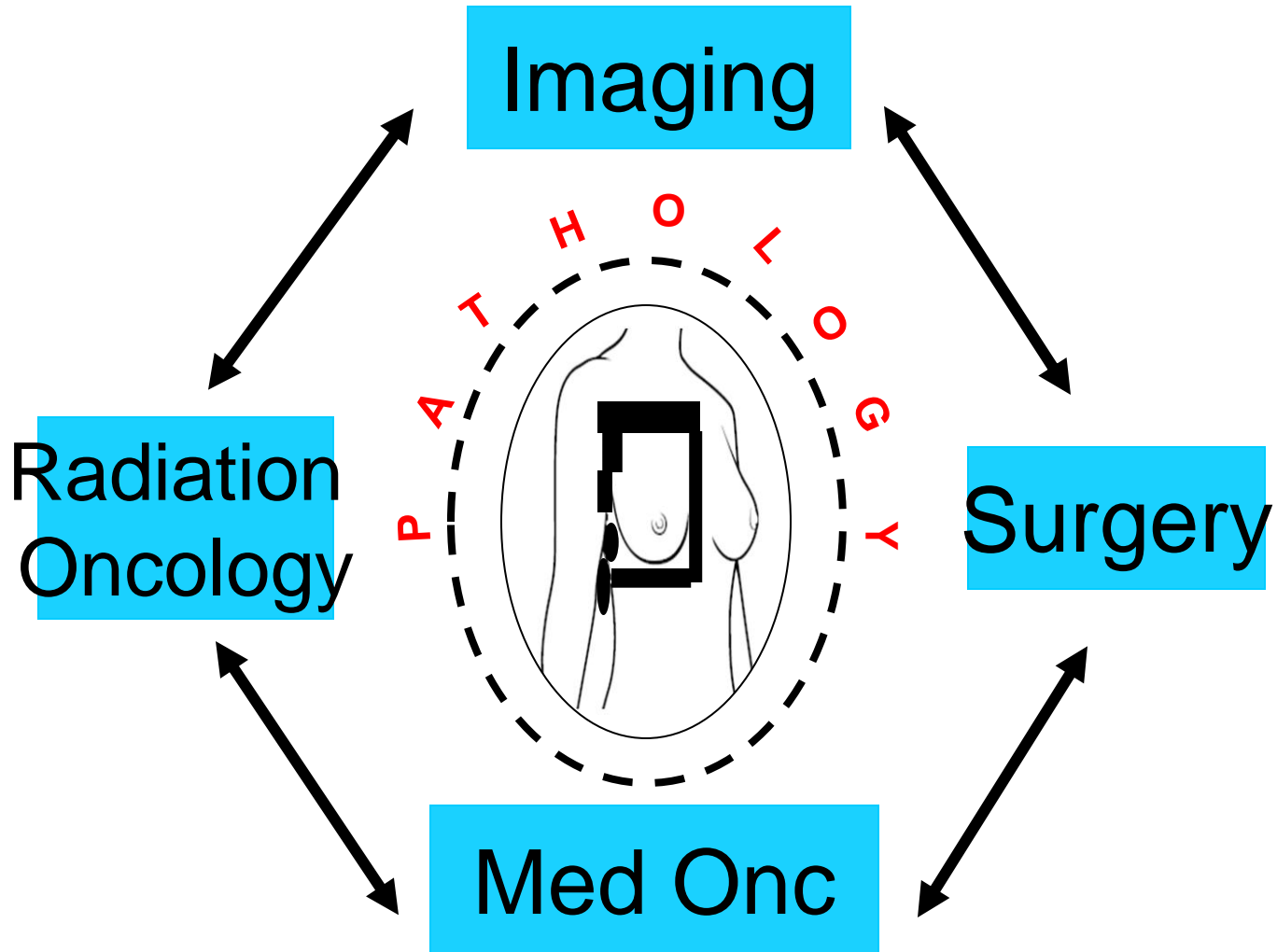
Breast Cancer: one name, many diseases

Heterogeneity of patients

- Age
 - Menopausal status
- Ethnicity
- Germline mutation carriers
- Familial – non-identified germline
- “Sporadic”
- Gender
- Syndrome-linked
- Breast size/shape/position
- Presentation features
- Other medical conditions
- Personal preference

Heterogeneity of Tumors

- Stage: TNM
- Cellular phenotype
 - Ductal/lobular/medullary
 - Proliferative
 - Differentiation
- Molecular features
 - Precision therapy targets
 - Estrogen receptors
 - Her2: EGF moieties
 - Triple negative



NATIONAL ACCREDITATION PROGRAM FOR BREAST CENTERS

ADMINISTERED BY:
AMERICAN COLLEGE OF SURGEONS
633 N. ST. CLAIR ST. | CHICAGO, IL 60611
312-202-5000



Decisions

- Diagnostic imaging?
 - MRI
 - Metastatic workup
- Medical therapy: neoadjuvant, adjuvant, targeted, hormonal,
- Surgical therapy: BCT, mastectomy type
- Radiation therapy: method, field

Decisions

- **Partial Mastectomy**
- **SLN Biopsy**
- **Neoadjuvant Chemotherapy**
- **Hormonal & Biologic Agents**
- **Partial Breast Irradiation**
- **Genetic testing and screening**
- **Total Mastectomy**
- **Axillary Dissection**
- **Adjuvant Chemotherapy**
- **Cytotoxic Chemotherapy**
- **Whole Breast Irradiation**
- **Reconstruction options and prophylactic strategies**



National
Comprehensive
Cancer
Network®

NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)

Breast Cancer

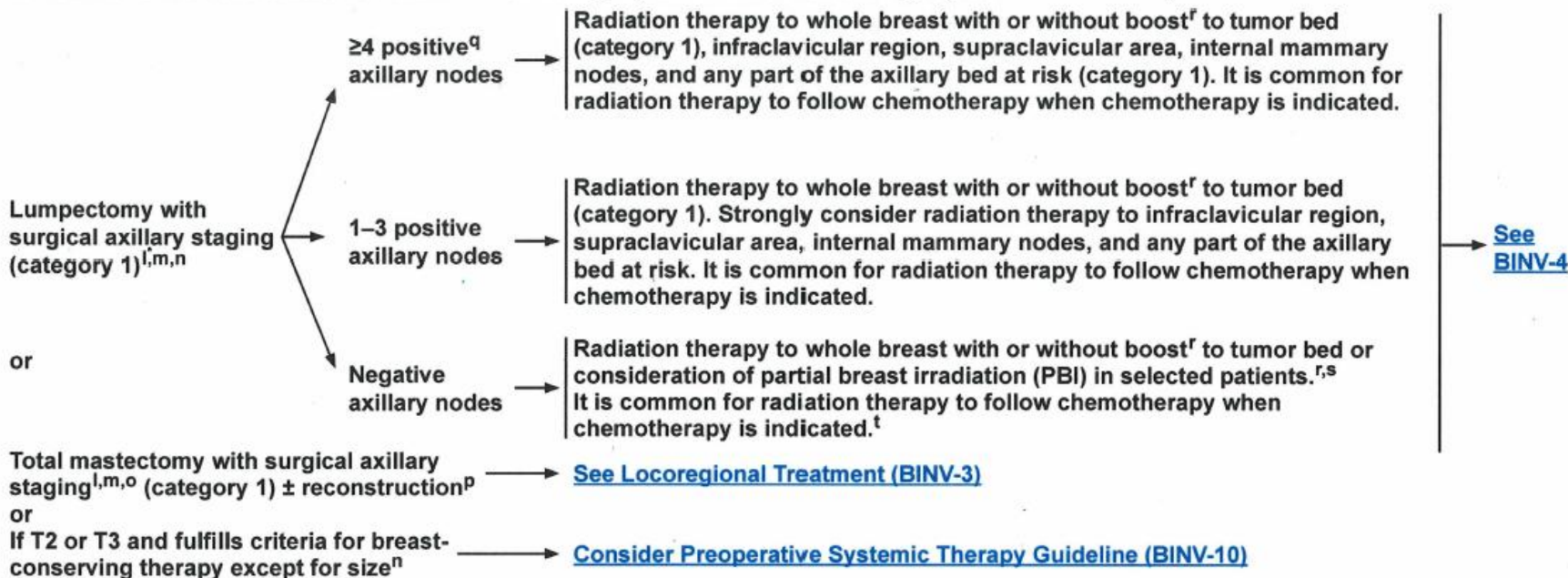
Version 2.2016

NCCN.org

NCCN Guidelines for Patients® available at www.nccn.org/patients

Continue

LOCOREGIONAL TREATMENT OF CLINICAL STAGE I, IIA, OR IIB DISEASE OR T3, N1, M0^k



^kSee [NCCN Guidelines for Older Adult Oncology](#) for special treatment considerations.

^lSee [Surgical Axillary Staging \(BINV-D\)](#).

^mSee [Axillary Lymph Node Staging \(BINV-E\)](#) and [Margin Status in Infiltrating Carcinoma \(BINV-F\)](#).

ⁿSee [Special Considerations to Breast-Conserving Therapy Requiring Radiation Therapy \(BINV-G\)](#).

^oExcept as outlined in the [NCCN Guidelines for Genetic/Familial High-Risk Assessment: Breast and Ovarian](#) and the [NCCN Guidelines for Breast Cancer Risk Reduction](#), prophylactic mastectomy of a breast contralateral to a known unilateral breast cancer is discouraged. When considered, the small benefits from contralateral prophylactic mastectomy for women with unilateral breast cancer must be balanced with the risk of recurrent disease from the known ipsilateral breast cancer, psychological and social issues of bilateral mastectomy, and the risks of contralateral mastectomy. The use of a prophylactic mastectomy contralateral to a breast treated with breast-conserving therapy is very strongly discouraged.

^pSee [Principles of Breast Reconstruction Following Surgery \(BINV-H\)](#).

^qConsider imaging for systemic staging, including diagnostic CT, bone scan, and optional FDG PET/CT (category 2B) ([See BINV-1](#)).

^rSee [Principles of Radiation Therapy \(BINV-I\)](#).

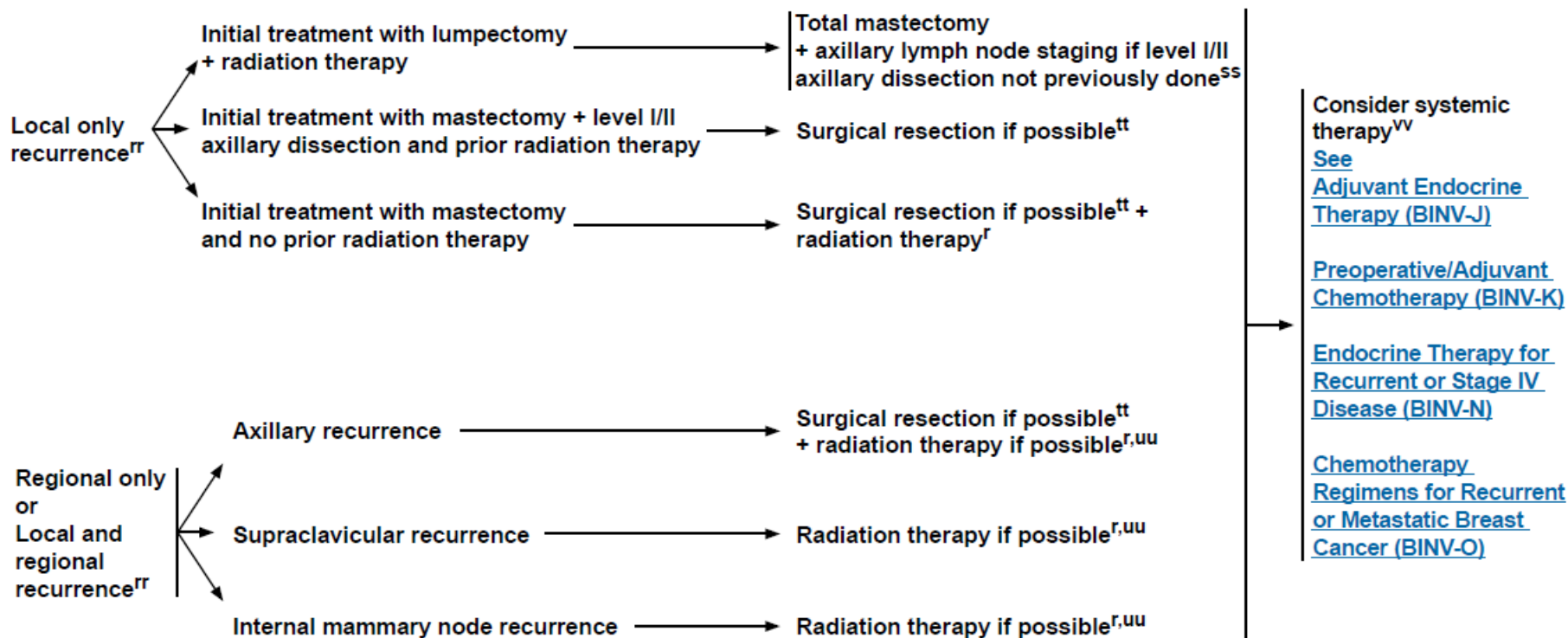
^sPBI may be administered prior to chemotherapy.

^tBreast irradiation may be omitted in patients ≥70 y of age with estrogen-receptor positive, clinically node-negative, T1 tumors who receive adjuvant endocrine therapy (category 1).

Note: All recommendations are category 2A unless otherwise indicated.

Clinical Trials: NCCN believes that the best management of any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.

TREATMENT OF RECURRENCE



^rSee [Principles of Radiation Therapy \(BINV-I\)](#).

^{rr}Multidisciplinary approach is especially important in the management of breast cancer recurrence to consider all potential treatment options for optimal outcomes.

^{ss}In women with a local breast recurrence after breast-conserving surgery who had a prior sentinel node biopsy (SNB), a repeat SNB may be technically possible. The accuracy of repeat SNB is unproven, and the prognostic significance of repeat SNB after mastectomy is unknown and its use is discouraged.

^{tt}If not technically resectable, consider systemic therapy to best response, then resect if possible.

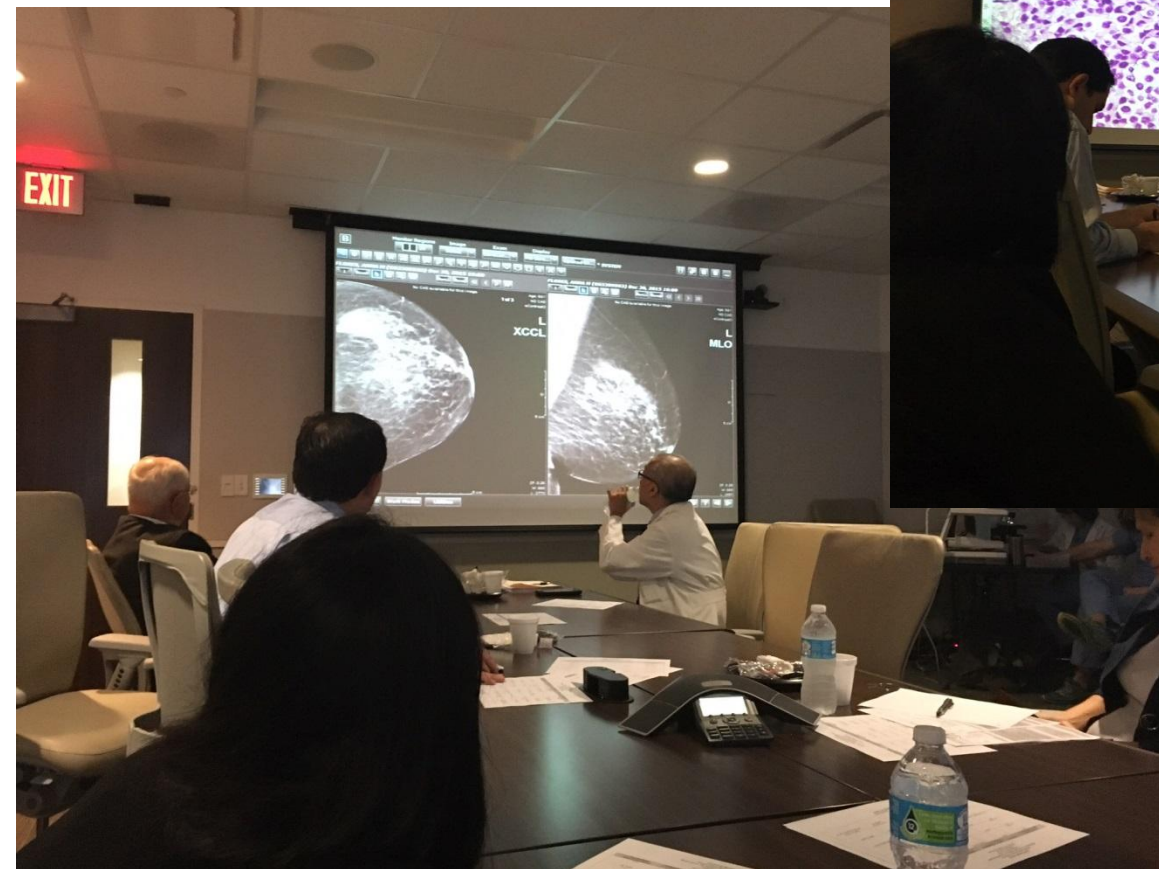
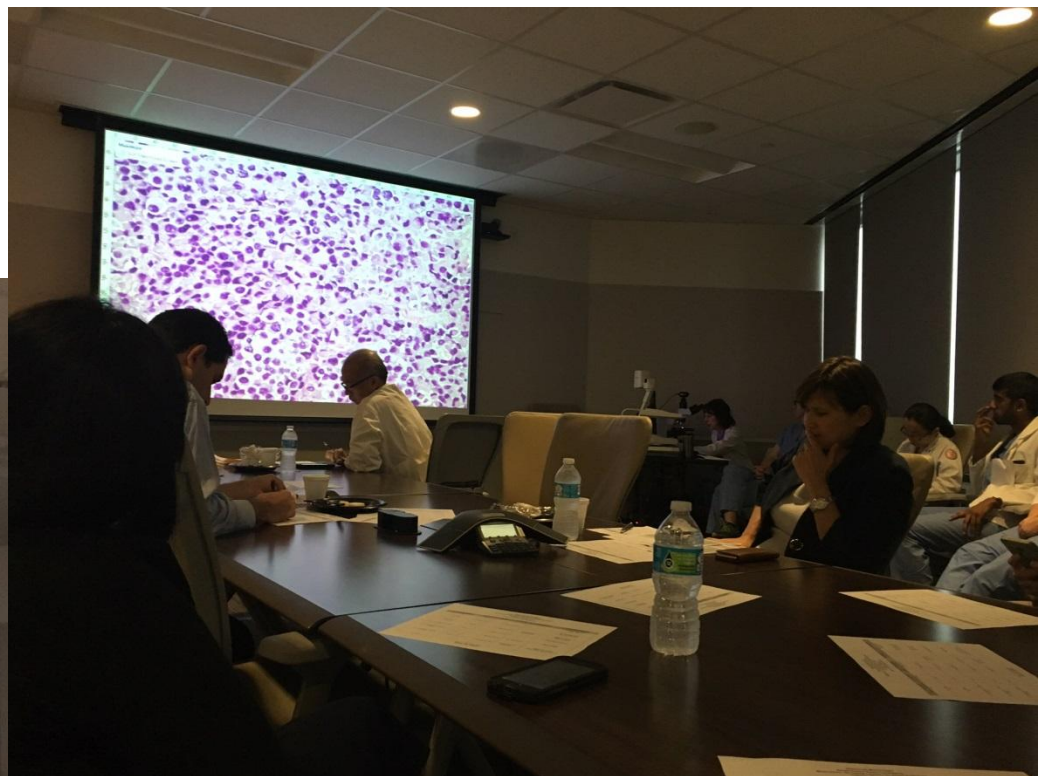
^{uu}The decision to use radiation therapy to treat locoregional recurrence must factor in any prior radiation to the area and the risk of late normal tissue toxicity from the sum of the prior and planned radiation courses.

^{vv}For additional information see the [Discussion section](#).

Note: All recommendations are category 2A unless otherwise indicated.

Clinical Trials: NCCN believes that the best management of any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.

Multidisciplinary Tumor Boards



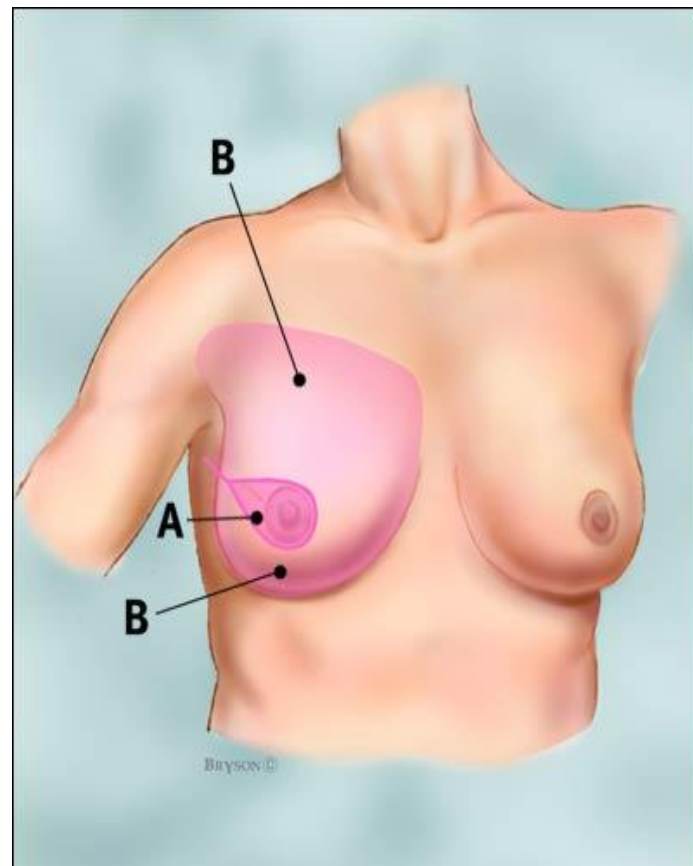
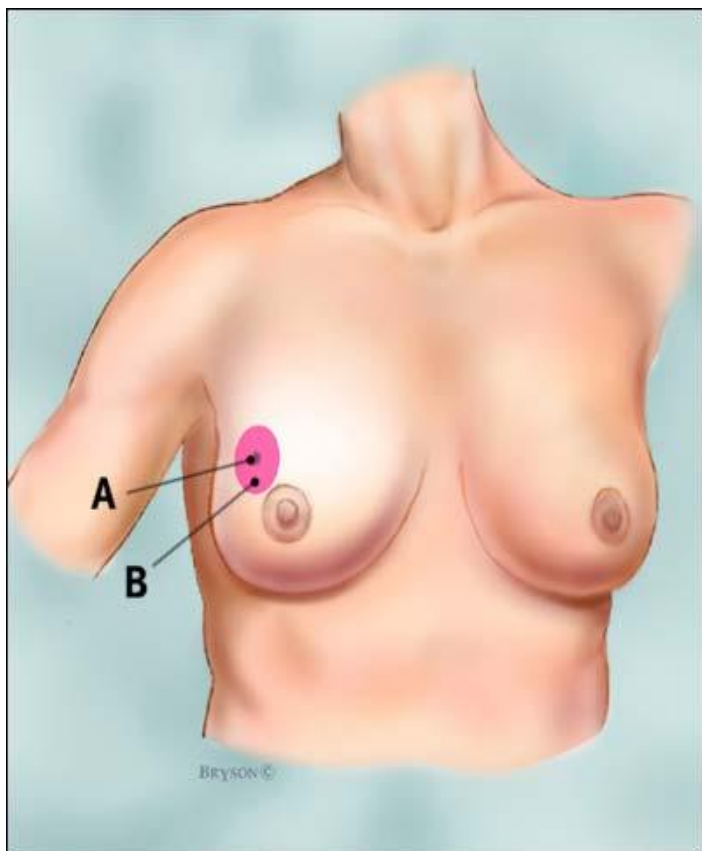
BCT vs. Mastectomy: NSABP B-06

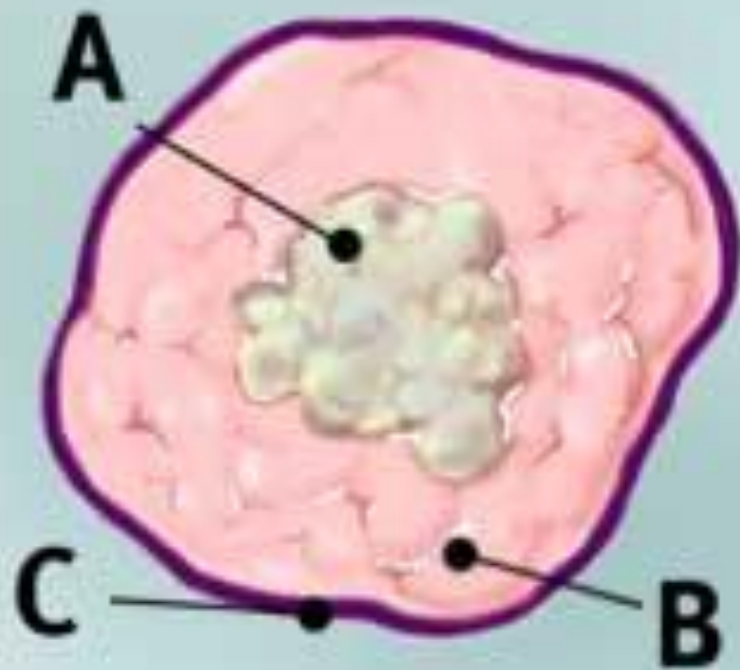
- 2163 women with T < 4 cm
- Randomized to TM vs. BCS
 - +/- XRT
 - 20 year follow-up
 - Local recurrence:
 - 14% BCS + XRT
 - 39% BCS alone
 - Survival: no difference
 - Impact of local recurrence on survival

Breast Conserving Therapy: Advantages

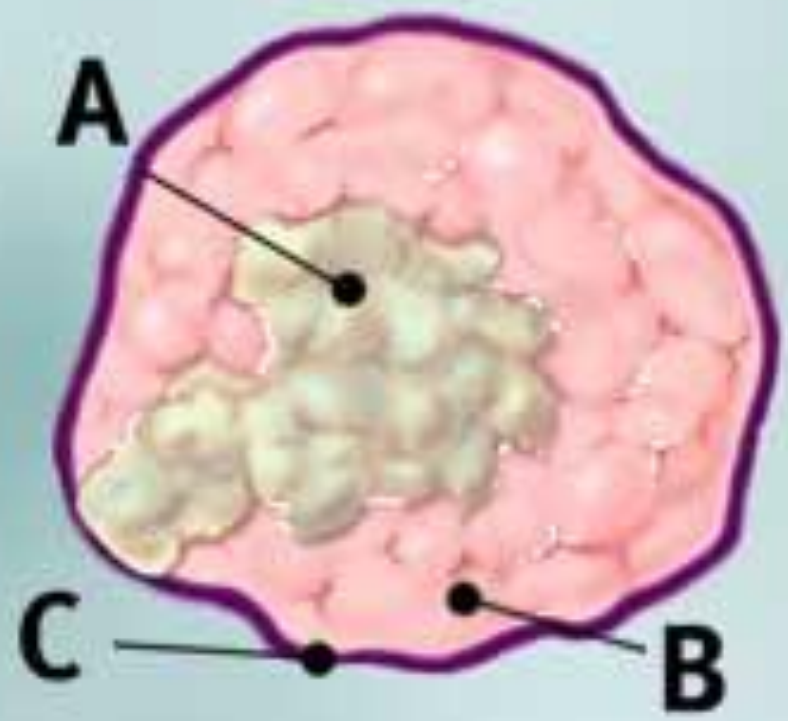
- Appropriate for 65% of patients
 - Neoadjuvant strategies
- Breast preservation
- Operative and post-operative magnitude
- Sensate breast
- Contrast with total mastectomy and reconstructive options

Surgical considerations





Negative Margins



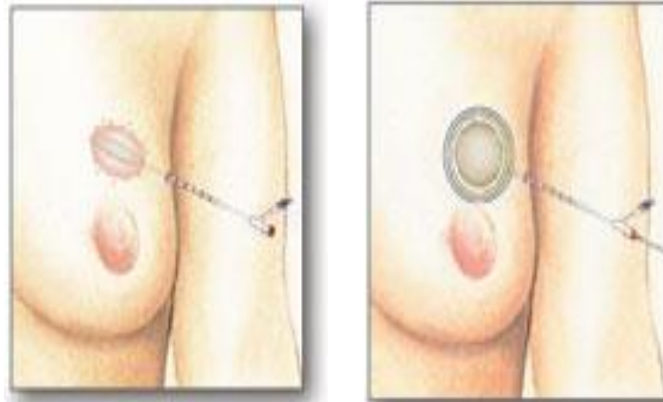
Positive Margins

Radiation Therapy for BCT

- Conventional methods
 - 6 weeks of therapy
 - 5 days/week
 - Whole breast



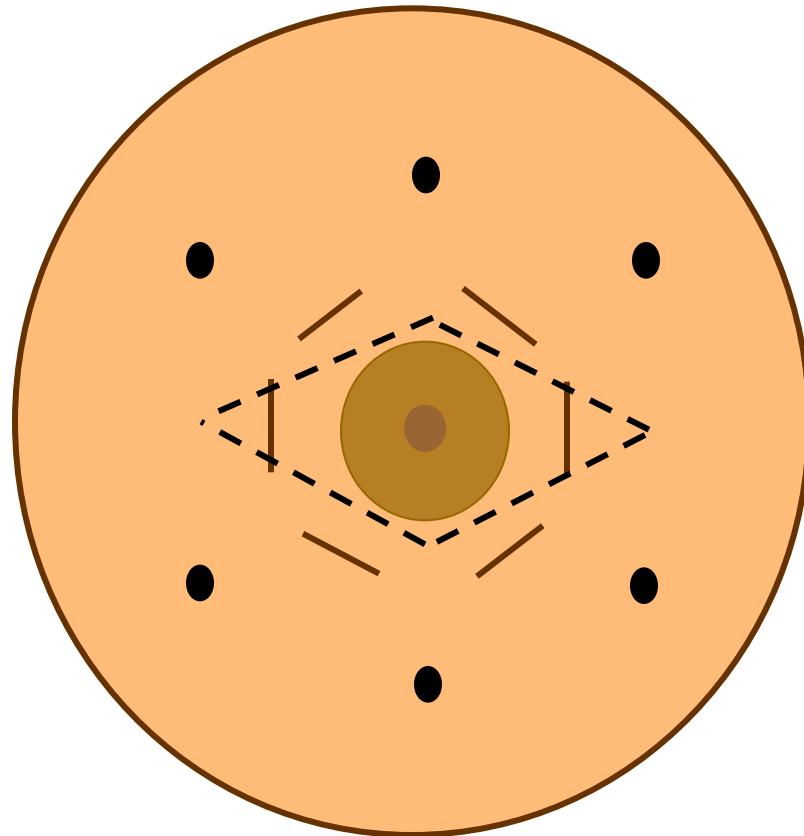
Balloon catheter brachytherapy for early stage breast cancer

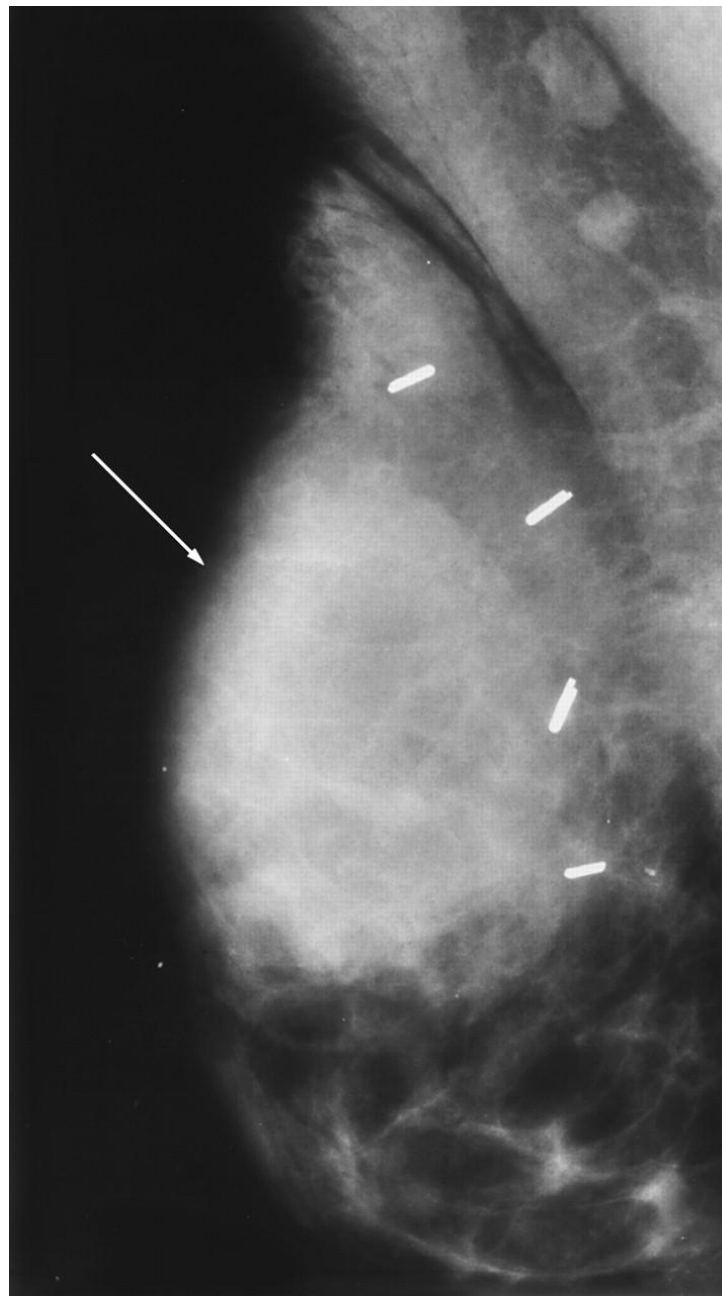


Breast conserving therapy: considerations

- Requirement for dual therapy
- Local recurrence risk; 14% vs 3% at 20 years
- Requirement for ongoing imaging
- Cosmetic result of procedure
 - 20 % dissatisfaction

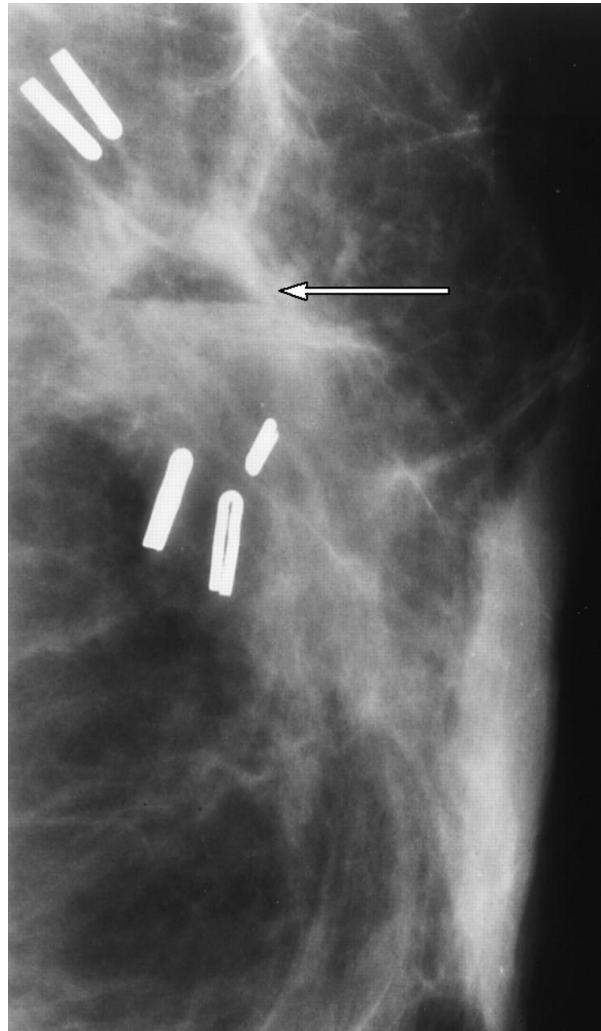
Surgical Planning





Krishnamurthy, R. et al. Radiographics 1999;19:53-62 **RadioGraphics**

No Caption Found



Krishnamurthy, R. et al. Radiographics 1999;19:53-62

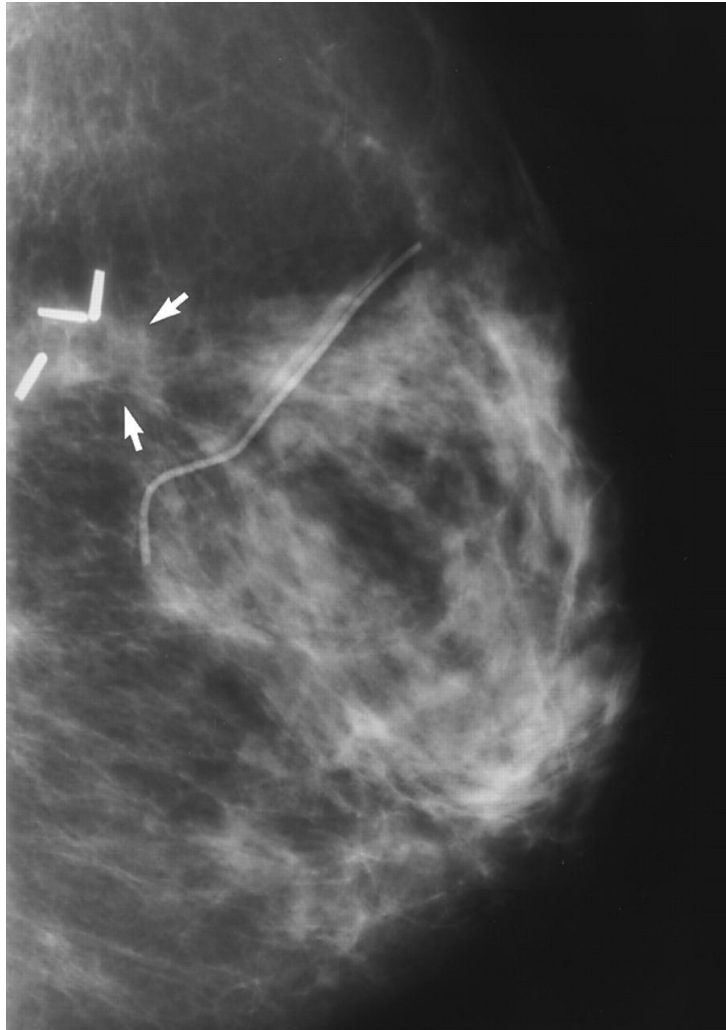
RadioGraphics

Figure 5a. Scar diminishing over time



Krishnamurthy, R. et al. Radiographics 1999;19:53-62

Figure 8a. Architectural distortion at the surgical site



Krishnamurthy, R. et al. Radiographics 1999;19:53-62

Figure 9a. Postoperative architectural distortion



Krishnamurthy, R. et al. Radiographics 1999;19:53-62

The modern epidemic of total mastectomy

- Lowest rate of local recurrence – 3%
 - Impact on survival after cancer diagnosis
- Anxiety reduction
- Misperception regarding risk
- Genetic testing

- Greater perioperative morbidity
- Body image impact
- Reconstructive options

BCT Cosmesis: a black box

- Tumor: Breast mass ratio
- Position of tumor in breast
- Surgical technique and planning
- Need for re-operation
- Wound healing considerations: infection

Goals of Research

- Develop a system to accurately inform a patient anticipating BCT about the impact of the therapy on breast cosmesis
 - Contour
 - Surface topography: nipple position
 - Size
 - Symmetry

Rationale

- Patient and Surgeon Decision Support Tool
 - Allow evidence based treatment choices
 - Inform patients and surgeons of cosmetic outcome
 - Incorporate oncoplastic tissue rearrangements
 - Identify patients who may require oncoplastic revisions after BCT

Summary

- Breast cancer care requires integration of many data points informed by clinical trial data to provide evidence based practice
- Highly heterogeneous disease and patients
- Multidisciplinary communication and management is key to precision therapy
- Physicians and patients would benefit from more fluent and accessible data management tools and communication platforms to guide care in all domains