



Breast Cancer Treatment

Presented by Lori Somers, RN
SHRI Video Training Series | Iowa
Cancer Registry
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NCCN Guidelines

<https://www.nccn.org/guidelines/guidelines-detail?category=1&id=1419>

- 2022 Breast Cancer Invasive
- 2022 Breast Cancer, DCIS
- 2022 Metastatic Breast

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Treatment Options

- Surgery to breast and/or lymph nodes
- Radiation Therapy
- Chemotherapy
- Hormone/Endocrine
- HER2-targeted therapy
- Bone-targeted therapy
- Clinical Trials

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Treatment

- Adjuvant Therapy – “aids or contributes” to therapy. Given postop where no disease is present.
- Neoadjuvant Therapy - systemic or radiation treatment administered prior to surgery in an attempt to shrink the tumor or destroy regional metastases.

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Surgery

Breast Surgery with
or without
reconstruction
LN Surgery

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Surgery of Primary Site

Surgical procedure that removes and/or destroys tissue of primary site that is performed as part of initial diagnostic and staging work-up or first course therapy.

Primary Source Document:
Use entire **operative report to determine best surgery. Read body of report, surgeon's planned procedure as well as description of what was done.

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Surgery of Primary Site

3. Most invasive, extensive, or definitive surgery if patient has multiple procedures of primary site.

- Even if most definitive surgery has no residual

4. Code Excisional biopsy, even with documented as incisional when:

- All disease removed (margins free) OR
- All gross disease is removed and only microscopic residual at margin
- NOTE 1: Do not code incisional biopsy as excisional when macroscopic residual disease.

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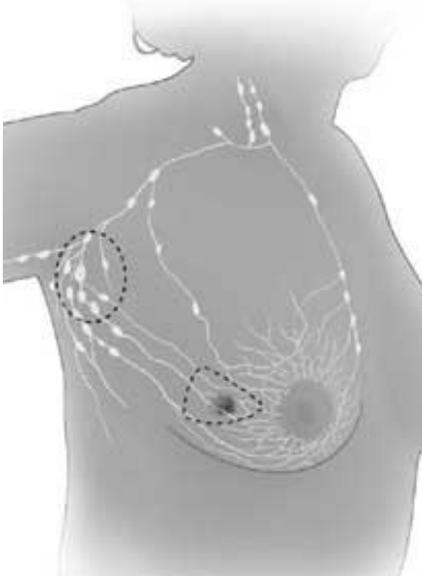
Treatment: Surgery

Breast-conserving surgery, an operation to remove the cancer but not the breast itself, includes the following:

- Lumpectomy: Surgery to remove a tumor (lump) and a small amount of normal tissue around it.
- Partial mastectomy: Surgery to remove the part of the breast that has cancer and some normal tissue around it. This procedure is also called a segmental mastectomy.

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Breast Conserving Surgery

- Dotted lines show the area containing the tumor that is removed and some of the lymph nodes that may be removed.
- Patients who are treated with breast-conserving surgery may also have some of the lymph nodes under the arm removed for biopsy. This procedure is called lymph node dissection. It may be done at the same time as the breast-conserving surgery or after. Lymph node dissection is done through a separate incision.

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Surgery Codes

- 20 Partial mastectomy, NOS; less than total mastectomy, NOS
- 21 Partial mastectomy WITH nipple resection
- 22 Lumpectomy or excisional biopsy
- 23 Reexcision of the biopsy site for gross or microscopic residual disease
- 24 Segmental mastectomy (including wedge resection, quadrantectomy, tylectomy)

Procedures coded 20–24 remove the gross primary tumor and some of the breast tissue (breast-conserving or -preserving surgery). There may be microscopic residual tumor.

[*SEER Note:* When a patient has a procedure coded to 20-24 (e.g., lumpectomy) with reconstruction, code only the procedure (e.g., lumpectomy, code 22) as the surgery.]

[*SEER Note:* Assign code 22 when a patient has a lumpectomy and an additional margin excision during the same procedure.

According to the Commission on Cancer, re-excision of the margins intraoperatively during same surgical event does not require additional resources; it is still 22. Subsequent re-excision of lumpectomy margins during separate surgical event requires additional resources: anesthesia, op room, and surgical staff; it qualifies for code 23.

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Surgery Codes

30 Subcutaneous mastectomy

A subcutaneous mastectomy, also called nipple sparing mastectomy, is the removal of breast tissue without the nipple and areolar complex or overlying skin. It is performed to facilitate immediate breast reconstruction. Cases coded 30 may be considered to have undergone breast reconstruction.

[SEER Note: Code Goldilocks mastectomy in *Surgery of Primary Site* (NAACCR # 1290). Breast surgery code 30 seems to be the best available choice for "Goldilocks" mastectomy. It is essentially a skin-sparing mastectomy with breast reconstruction. The choice between code 30 and codes in the 40-49 range depends on the extent of the breast removal. Review the operative report carefully and assign the code that best reflects the extent of the breast removal.]

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Nipple sparing

A subcutaneous mastectomy (code 30), also called nipple (or skin) sparing mastectomy

- removal of entire breast and LN removal but preserves minimum of 80% of native breast skin
- facilitate immediate breast reconstruction
- Code 30 may be considered to have undergone breast reconstruction

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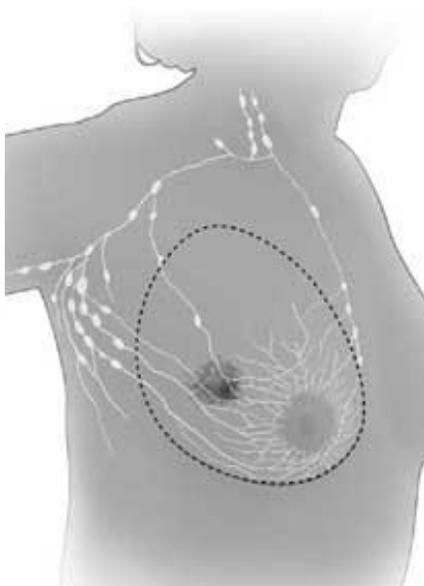
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FORUM SAYS:

- For the data item Surgical Resection of Primary Site [1290] a skin sparing mastectomy would be assigned a code 30 Subcutaneous mastectomy.
- A note is included in the breast surgical code 30 stating a subcutaneous mastectomy, also called a nipple sparing mastectomy, is the removal of breast tissue without the nipple and areolar complex or overlying skin.

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Total (simple) mastectomy

- Total (simple) mastectomy. The dotted line shows where the entire breast is removed. Some lymph nodes under the arm may also be removed.

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Surgery Codes

- 40 Total (simple) mastectomy, NOS
- 41 WITHOUT removal of uninvolved contralateral breast
 - 43 Reconstruction, NOS
 - 44 Tissue
 - 45 Implant
 - 46 Combined (tissue and implant)
- 42 WITH removal of uninvolved contralateral breast
 - 47 Reconstruction, NOS
 - 48 Tissue
 - 49 Implant
 - 75 Combined (tissue and implant)

*****A total simple mastectomy removes all breast tissue, nipple, areolar complex. An axillary dissection is not done.**

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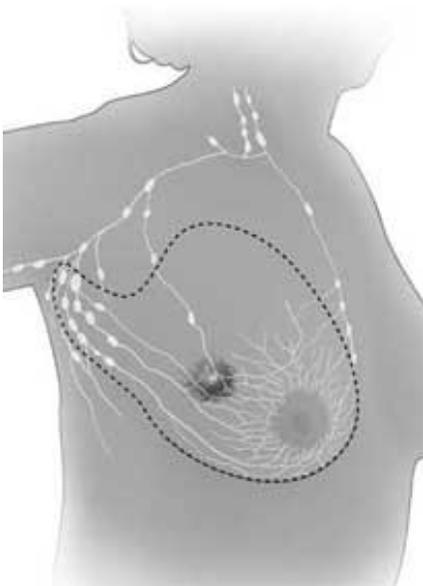
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Notes for Surgery Codes 40-47, 75

- SEER Note: “**TISSUE**” for reconstruction is considered human tissue or skin.
- SEER Note: Assign code 43 for simple mastectomy with tissue expanders and acellular dermal matrix/AlloDerm. **Tissue expander** implies prep for reconstruction.
- For **single** primaries only, code removal of involved contral breast under the data item SURGICAL PROCED/OTHER Site.
 - Example: Inflammatory carcinoma involve bilat breasts. Bilat simple mastectomies. Code (41) and also Other site code (1).
- If **contralat breast** reveals **second primary**, each breast abstracted separately. Surgical procedure is 41 for first primary. Surgical code for contral breast to procedure performed on that breast.
- SEER Note: **Tissue expander** at time of orig surgery means reconstruction planned as first course treatment. Code the mastectomy and reconstruction; 43-49, regardless of timing.

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Modified Radical Mastectomy

- Modified radical mastectomy. The dotted line shows where the entire breast and some lymph nodes are removed. Part of the chest wall muscle may also be removed.

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Notes for Surgery Codes 50-59, 63

- SEER Note: “In continuity with” or “en bloc” means all the tissues removed during same procedure, not necessarily same specimen. **Tissue** for reconstruction = human tissue in contrast to artificial implants like **tissue expanders**. Placement of expanders implies reconstruction is planned as first course.
- Assign code 51 or 52: Excisional biopsy and axillary dissection followed by simple mastectomy during first course therapy. Code **cumulative** result of surgeries, in this case an MRM.
- If contralateral breast reveals second primary, each breast abstracted separately. Code 51 for first primary, code contralateral breast according to procedure on that site.
- For single primaries only, code removal of involved contralateral breast under Surgery Other field.

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Reconstruction

Rebuilds contour of breast

- Saline breast **Implants**
 - Key words: implant, tissue expander, two-stage
- Muscle flap reconstruction
 - Key words: own **tissue**, tram flaps, belly tissue used [human tissue]
 - TRAM: transverse rectus abdominus myocutaneous flap

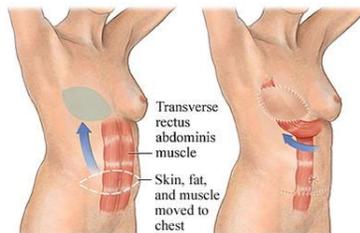
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IMPLANT
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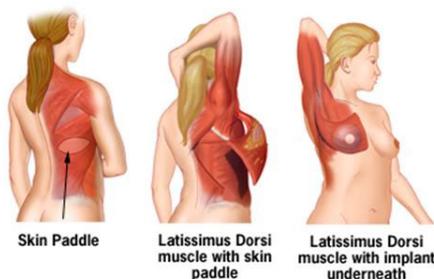
^ Tissue expander used to expand pocket for later placement of permanent implant



^ TRAM reconstruction, example of true patient's "tissue" being used to form new breast.

TISSUE
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Latissimus Dorsi Myocutaneous (LD) Flap



< Example of combined patient's "tissue" being used with an implant

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Common errors in coding breast surgery

- 22 vs 23 SEER Note: Assign code 22 when pt has lumpectomy and an additional margin excision during the same procedure. A separate surgical event qualifies for code 23 (diff anesthesia, op room, staff).
 - Lumpectomy and additional margin excision during the same procedure
 - Code: 22

- 41 vs 51 SEER Note: A total (simple) mastectomy removes all breast tissue, the nipple, and the areolar complex. **An axillary dissection is not done code 41. If dissection is done, move to the 51 codes.**
 - Simple mastectomy and SLN bx
 - CODE: 41
 - Total mastectomy with SLN biopsy plus LN dissection
 - CODE: 51

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LN Surgery

**Breast Surgery with or
without
reconstruction**
Scope LN Surgery

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Scope Regional Lymph Node Surgery

- Sentinel Lymph Node Biopsy
 - First node in lymphatic basin
- Axillary Lymph Node Dissection
 - Multiple nodes along LN chain, regional
- Scope of LN Surgery
 - Describes **procedure** of removal, biopsy, or aspiration of regional lymph nodes during initial workup or first course therapy.

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Scope Regional LN Surgery

Source: **Operative Report**

- Look for sentinel LN biopsy alone (was dye injected?) or combined with a regional LN dissection, or fails to map.
- Regional lymph nodes only
- The Scope of Regional Lymph Node field is **cumulative**.
 - Add all of the lymph nodes removed during each surgical procedure performed as part of the first course of treatment.
- Code the removal of regional nodes for both primaries when the patient has **two primaries with common regional lymph nodes**.

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Sentinel LN Biopsy [SLNB]

- If clinical workup for lymph node mets is negative, a SLNB may be indicated.
- If clinical workup for lymph node mets is positive, a SLNB would NOT be indicated.
- Note: When a SLNBx is performed, **additional non-sentinel nodes can be taken during the same operative procedure. These additional non-sentinel nodes may be discovered by the pathologist or selectively removed (or harvested) as part of the SLNBx procedure by the surgeon. Code this as a SLNBx (code 2).** If review of the operative report confirms that a regional lymph node dissection followed the SLNBx, code these cases as 6.

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Scope Regional LN Surgery

Code	Description
0	No regional lymph nodes removed or aspirated; diagnosed at autopsy.
1	Biopsy or aspiration of regional lymph node, NOS
2	Sentinel lymph node biopsy [only]
3	Number of regional lymph nodes removed unknown, not stated; regional lymph nodes removed, NOS
4	1 to 3 regional lymph nodes removed
5	4 or more regional lymph nodes removed
6	Sentinel node biopsy and code 3, 4, or 5 at same time or timing not noted
7	Sentinel node biopsy and code 3, 4, or 5 at different times
9	Unknown or not applicable

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SLNBx for Breast primary

**SOURCE: Operative
Report takes
precedence**

Code 1: Excisional biopsy or aspiration of regional LNs for breast cancer is uncommon. LN needs to be removed or aspirated.

Code 2: If large number of LNs (>5) path examined, review OP REPORT to confirm SLNBx and did not include an Axillary LND. If fails to map (no SLN found) then look at OP REPORT to see if ALND was carried out and additional axillary incision was made.

Code 3, 4, 5: Generally ALND removes at least 7-9 nodes; however it is possible to harvest fewer than that. Review OP REPORT to confirm no SLNBx done.

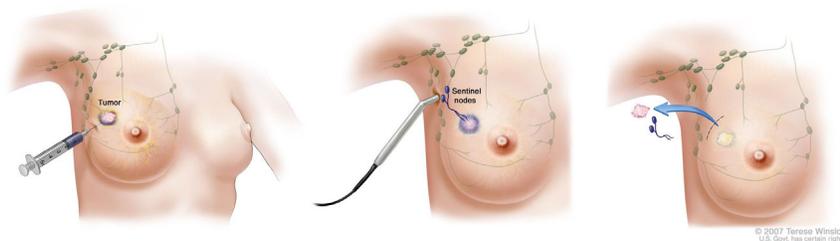
Code 6: SLNBx (code 2) followed by ALND will yield minimum of 7-9 nodes.

Code 7: SLNBx (code 2) and ALND at different times. Same notes as Code 6.

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Sentinel LN procedure



Sentinel lymph node biopsy.

1. Radioactive substance and/or blue dye is injected near the tumor
2. The injected material is followed visually or with a probe
3. The first lymph nodes to take up the material are removed and checked for cancer cells

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Date of SLNBx

- New field for 2018
- Required for breast and cutaneous melanoma only
- Record the date of the SLNBx only
 - Not the FNA, core needle biopsy, core biopsy
- If SLNBx and Axillary LND done at same time dates will be the same.

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SLN Examined

For breast and cutaneous melanoma only

- Document total # sampled during SLN **procedure** (even when sentinel and non-sentinel nodes are sampled during SLNBx procedure.
 - Record total # of nodes from procedure.
- Number of sentinel nodes should be equal or less than number of Reg Nodes Examined field.

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SLN Positive

For Breast and cutaneous lymphoma only

- Document total # of positive nodes identified during SLN **procedure**.
- Number of pos SLN should be less than or equal to total number of Reg Nodes Pos field.

FOR BREAST ONLY:

- Use code 97 when positive SLNs and SLNBx performed during same procedure as regional LND
- SLN are negative when only pos ITC's are identified

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Common errors in coding Scope RLN Surg

- SLN mapping and biopsy only; then correct Code 2
- SLN Biopsy plus a dissection; then correct code 6
- R breast mastectomy w/SLN biopsy; then correct Code 2
- L total (simple) mastectomy, L axillary SLN excision. Total of 0/5 pos LNs; then correct Code 2

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Terms

Per UIHC Breast Surgeon, Lillian Erdahl, MD, FACS

- **Targeted Axillary Dissection** = SLN Bx

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Adjuvant Therapy

Chemotherapy
Radiation therapy
Endocrine therapy
Targeted Therapy
Clinical Trials

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Adjuvant Chemotherapy

- What is the hormone status and HER2?
- Were the lymph nodes involved?
- HER2 positive status
- Triple negative: Chemo is only systemic therapy that can be used

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Common Chemotherapy

Combination Chemotherapy (some combinations include *hormones)

CMF (cytoxan, methotrexate, 5-FU)

CMFP (cytoxan, methotrexate, 5-FU, prednisone)

CAF (cytoxan, adriamycin, 5-FU) (also called FAC)

CA +/- tamoxifen (cytoxan, adriamycin, *tamoxifen) (also called AC +/- tamoxifen)

CMFVP (cytoxan, methotrexate, 5-FU, vincristine, *prednisone)

PAF (L-pam/melphalan, adriamycin, 5-FU)

L-pam and 5-FU

Docetaxel (taxotere)

Paclitaxel (taxol)

AC with Taxol

Search SEERx regimen

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Radiation Therapy

Usually follows lumpectomy or other breast conserving surgery

Pre-op used to shrink tumors before surgery

Post-op if they cannot successfully remove tumor (next to ribs cage or chest wall muscles) or larger than 2 cm

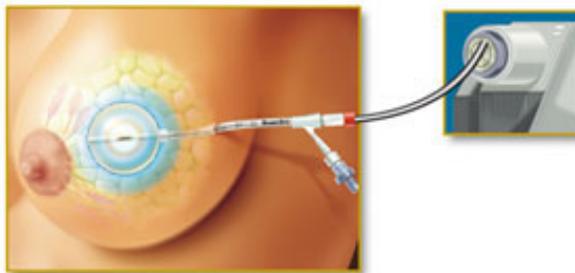
Also used to treat chest wall recurrence or metastatic disease

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MammoSite

- Accelerated Partial Breast Irradiation [APBI]
- MammoSite® 5-Day Targeted Radiation Therapy
- Placement
- Treatment
- Removal



www.mammosite.com

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IORT

- Intraoperative Radiotherapy is administered as a single treatment during surgery. Convenient for patient. No repeated visits.
- Lumpectomy cavity or tumor bed. IORT delivery device inserted. Radiation to cavity, approx. 30 min. Remove device and suture breast.

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Preoperative (neoadjuvant) radiation



- Preop RT followed by radical surgery feasible
- Good long-term locoregional control
- Based on T2-T4 or N2 tumors

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Preoperative (neoadjuvant) radiation

Breast

[Coding Guidelines: Breast \(PDF, 82 KB\)](#)

[Solid Tumor Rules: Breast \(PDF, 1.7 MB\)](#)

SURGERY CODES

- [Breast - \(C500-C509\) \(PDF, 61 KB\)](#)

SITE-SPECIFIC CODES FOR NEOADJUVANT THERAPY TREATMENT EFFECT

 • [Breast \(PDF, 211 KB\)](#)

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Preoperative (neoadjuvant)

- #3922 SSDI Breast | Response to Neoadjuvant Therapy: Clinical Statement of response “treatment effect”

Fields for all sites

- #1632 Neoadjuvant Therapy: Records whether patient had neoadjuvant therapy prior to definitive surgical resection of pri site
- #1633 Neoadjuvant Therapy – Clinical Response: Records clinical outcomes as determined by managing physician (Rad onc, med onc, surg onc)
- #1634 Neoadjuvant Therapy – Treatment Effect [Appendix C | Breast]: From surgical pathology report ONLY following neoadjuvant therapy

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Endocrine

Removes hormones or blocks their action and stops cancer cells from growing

- Ovarian ablation is a hormonal maneuver. Can be done surgically or with LHRH drugs like Lupron or Zoladex to suppress ovaries.
 - Coded in Heme Transplant/Endo Proc
- Aromatase inhibitors: Anastrozole (Arimidex), Letrozole (Femara), exemestane (Aromasin) for post-menopausal women.
- Antiestrogens: Tamoxifen (Nolvadex)

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Herceptin

Only for HER2 pos.

About 25% of breast cancer patients carry this gene (HER2 pos)

- HER2 targeted therapies include:
 - Perjeta, Herceptin, Kadcyła, Enhertu, Tykerb, Nerlynx
- Most often given with chemo
- May be used alone or in combo with endocrine therapy

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Bone Targeted Therapy

Relieves bone pain or reduce risk of bone problems.

Prevent bone loss: Zometa, Aredia, Prolia

Treat bone mets:

Zometa: Ancillary

Aredia: Ancillary

Xgeva: Ancillary or BRM – see note in SEERx

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Other Targeted Therapies

- CDK4/6 inhibitors
- mTor inhibitors (Afinitor)
- PARP inhibitors (Lynparza, Talzenna) for BRCA1 or BRCA2 mutation tumors
- PIK3CA inhibitor (this gene most frequently mutated in breast cancers)

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Other

- Immunotherapy
 - Pembrolizumab (Keytruda)
 - Jemperli
- Clinical Trials

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Questions?
Thank You



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