



# Collecting Cancer Data: Breast



NAACCR 2015-2016 Webinar Series

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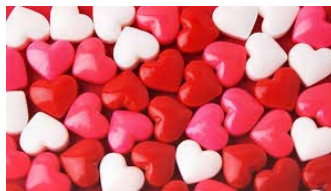


## Q&A

- Please submit all questions concerning webinar content through the Q&A panel.
- Reminder:
  - If you have participants watching this webinar at your site, please collect their names and emails.
  - We will be distributing a Q&A document in about one week. This document will fully answer questions asked during the webinar and will contain any corrections that we may discover after the webinar.

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## ●●●● Fabulous Prizes

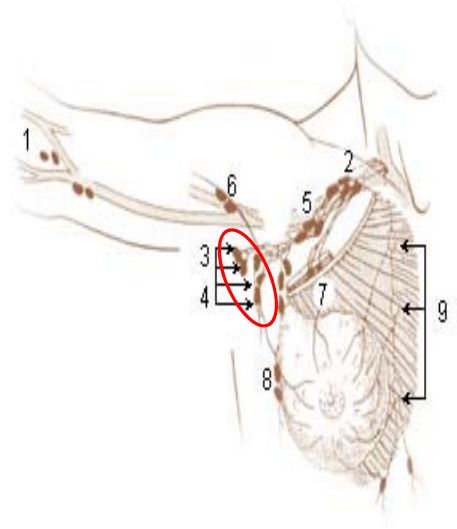
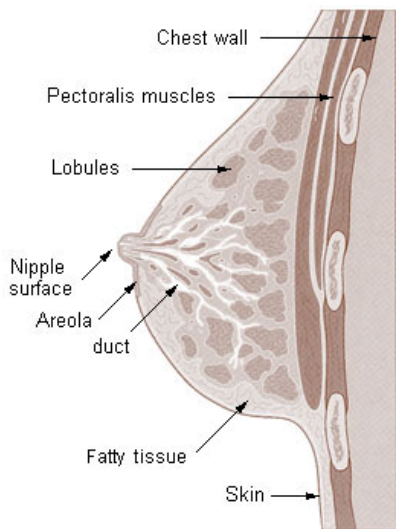


## ●●●● Agenda

- Anatomy
- Staging
- Epi Moment
- Site Specific Factors
- Treatment



# Anatomy



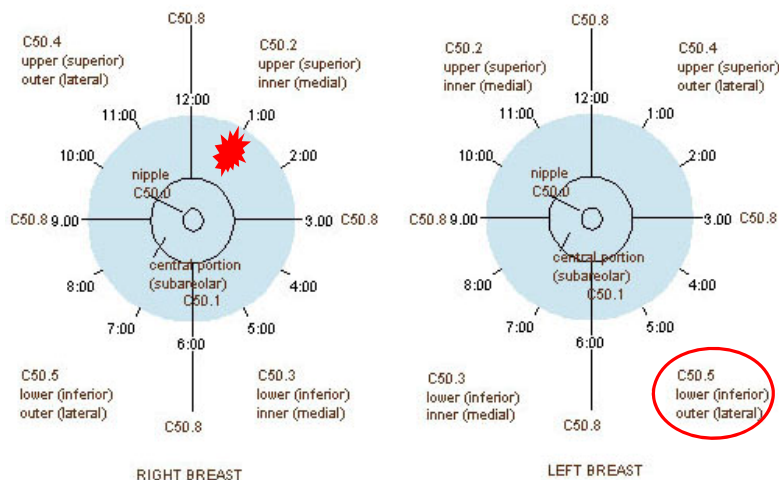
SEER Training Modules, Breast Cancer. U. S. National Institutes of Health, National Cancer Institute. 12 January 2016 (of access) <<http://training.seer.cancer.gov/breast/anatomy/>>.

[http://training.seer.cancer.gov/ss\\_module08\\_lymph\\_leuk/lymph\\_unit02\\_sec03\\_lymph\\_chains\\_03.html](http://training.seer.cancer.gov/ss_module08_lymph_leuk/lymph_unit02_sec03_lymph_chains_03.html)

## Where is my primary tumor located?



"Clock" Positions, Quadrants and ICD-O Codes of the Breast



SEER Training Modules, *Breast Cancer*. U. S. National Institutes of Health, National Cancer Institute. 12 Jan 2016 (of access) <<http://training.seer.cancer.gov/breast/anatomy/quadrants.html>>

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## Where is my primary tumor located?



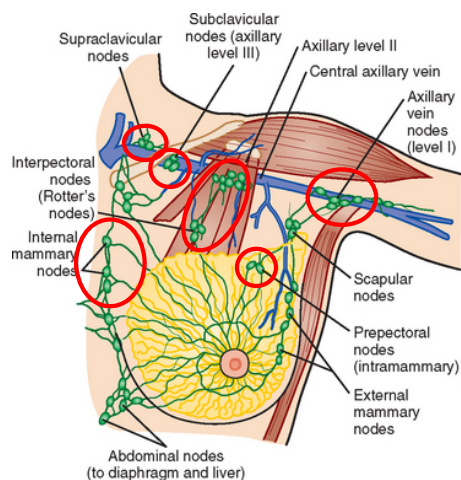
- Priority order for information
- Code subsite of invasive tumor
- Code specific quadrant for multifocal tumors in one quadrant
- Code C508
  - Single tumor in two or more subsites unknown where originated
  - 12, 3, 6, 9 o'clock positions
- Code C509
  - Multiple tumors (2 or more) in at least two quadrants of breast

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## Regional Nodes



- Axillary
  - Level I (low-axilla)
  - Level II (mid-axilla)
  - Level III (infraclavicular)
- Internal Mammary
- Supraclavicular
- Intramammary

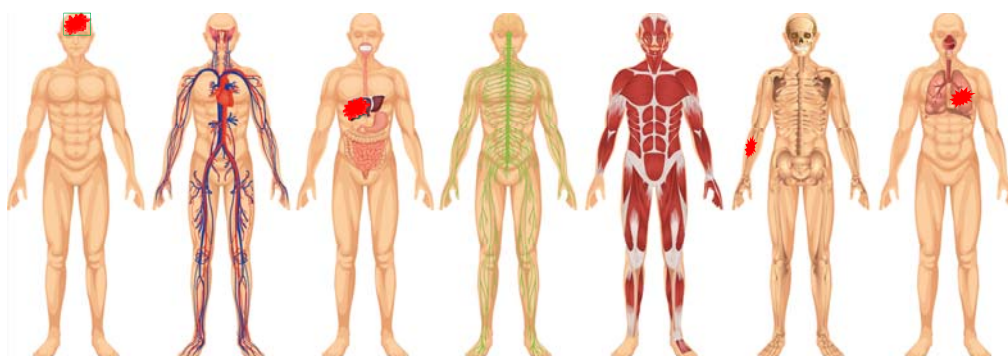


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## Distant Metastatic Sites



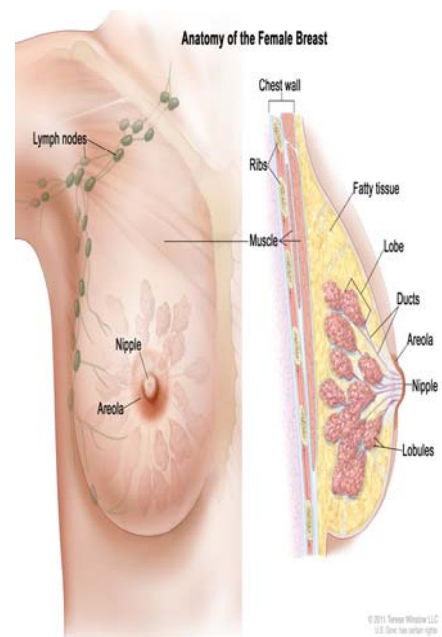
- Common Sites
  - Bone
  - Lung
  - Brain
  - Liver



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## Multiple Primary Rules

- A patient was diagnosed with stage I ductal carcinoma of the upper outer quadrant of the left breast in 2009. The patient was treated with a simple mastectomy and chemotherapy.
- She returned in 2016 with a comedocarcinoma located in the axillary tail of the left breast.
- Is this a new primary?



## Staging

Summary Stage  
AJCC Staging  
SSF's

## Summary Stage



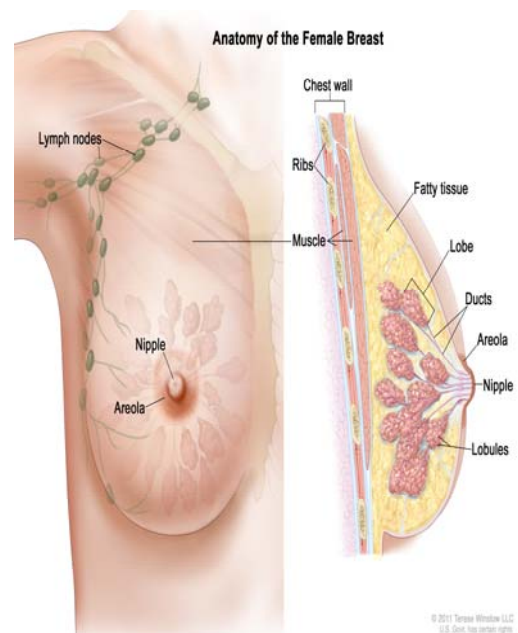
Summary Stage Manual Page 186

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## Summary Stage

- 0 In situ
  - Non invasive
- 1 Localized
  - Confined to breast tissue and fat including nipple and areola
- 2 Regional by direct extension only
- 3 Ipsilateral regional lymph node only
- 4 Regional by both direction ext and regional lymph nodes
- 5 Regional NOS
- 7 Distant sites/lymph nodes

Summary Stage Manual Page 186



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## TNM Staging



Conversion  
Rules for Classification  
T, N, M, and Stage Group  
Site Specific Factors

AJCC Staging Manual page 349

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## Conversion to NAACCR Layout v16

- Registrars are currently abstracting all cases in NAACCR Layout v15.
- NAACCR Layout V16 will be released this spring.
  - Once conversion is complete registrars will be able to assign T, N, and M values with a “c” or “p” classification descriptor.
    - c1, c2, c3,...
    - p1, p2, p3, ...
    - Will not be used with stage groups
  - Registrars should **not** use “c” or “p” descriptors until their registry software has been converted to v16 unless specifically instructed to do so by the CoC or their state registry.

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## Rules for Classification



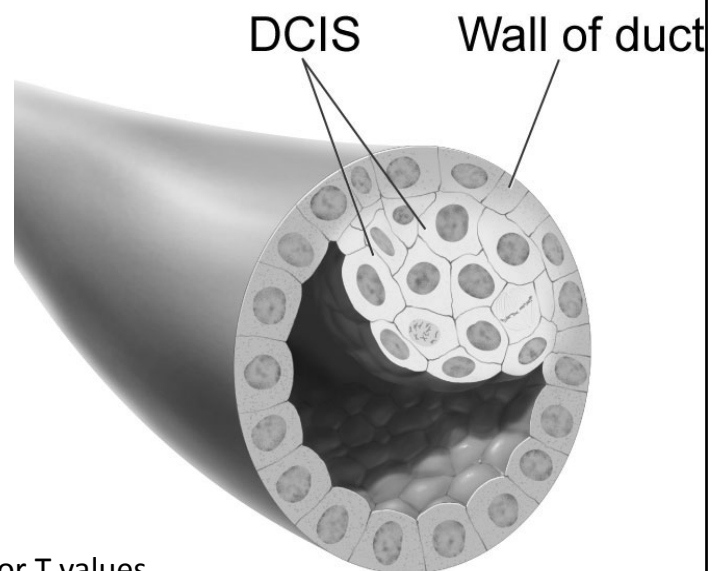
- Clinical
  - Physical examination with inspection of the skin, mammary gland, and lymph nodes
  - Imaging
  - Pathologic examination sufficient to make a diagnosis
- Pathologic
  - Resection of the primary tumor
    - May have microscopic residual, but not macroscopic residual
  - Removal of at least a level I axillary node if the tumor is invasive

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## In Situ



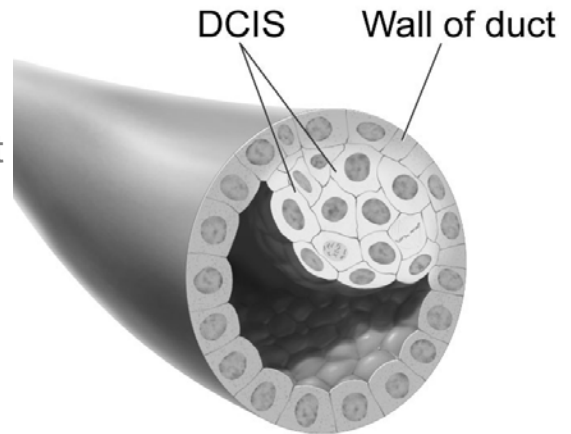
- Ductal Carcinoma In Situ (DCIS)
- Lobular Carcinoma In Situ (LCIS)
- Paget's Disease of the Breast
  - T value is based on underlying tumor
  - If no underlying tumor, code as Tis
- Do not enter DCIS, LCIS, or Paget's in the T data items.



See page 358 for T values

## ●●●● In Situ

- By definition in situ indicates there is not spread to regional/distant organs or lymph nodes
- In order to call a tumor in situ a pathologist must review the entire tumor under a microscope.
- Results from the pathologic review of the entire tumor is recorded in the pT not cT
  - **Cannot have a cTis**
- **See page 12 of the AJCC manual**



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## ●●●● In Situ Stage Grouping Exception

- An exception was made that allows us to use the pTis for both the clinical and pathologic stage and to use the cN0 for both the clinical and pathologic stage.

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## Example 1- v15

- A breast cancer patient has lumpectomy and is found to have ductal carcinoma in situ with negative margins. Clinically there is no indication of lymph node involvement or distant mets.

Data Items as Coded in Current NAACCR Layout				
	T	N	M	Stage Group
Clin	pis	0	0	0
Path	is	c0	c0	0

Implied value

Implied value

Implied value

$$pTis + cN0 + cM0 = cStage 0$$

$$pTis + cN0 + cM0 = pStage 0$$

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## Example 1- v16

- A breast cancer patient has lumpectomy and is found to have ductal carcinoma in situ with negative margins. Clinically there is no indication of lymph node involvement or distant mets.

Data Items as Coded in Current NAACCR Layout				
	T	N	M	Stage Group
Clin	pis	c0	c0	0
Path	pis	c0	c0	0

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## ●●●● In Situ Core Biopsy 2015



- If patient has a breast biopsy that is positive for ductal carcinoma in situ. There is no clinical evidence of regional or distant mets. She then has a segmental mastectomy that reveals a 1 cm invasive ductal ca, how do I record AJCC clinical T, N, M and stage group?

	Data Items as Coded in Current NAACCR Layout			
	T	N	M	Stage Group
Clin	pis	0	0	0
Path	1b	X	0	99

$$pTis + cN0 + cM0 = cStage 0$$

$$pT1c + pNx + cM0 = pStage 99$$

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## ●●●● In Situ Core Biopsy post v16 conversion



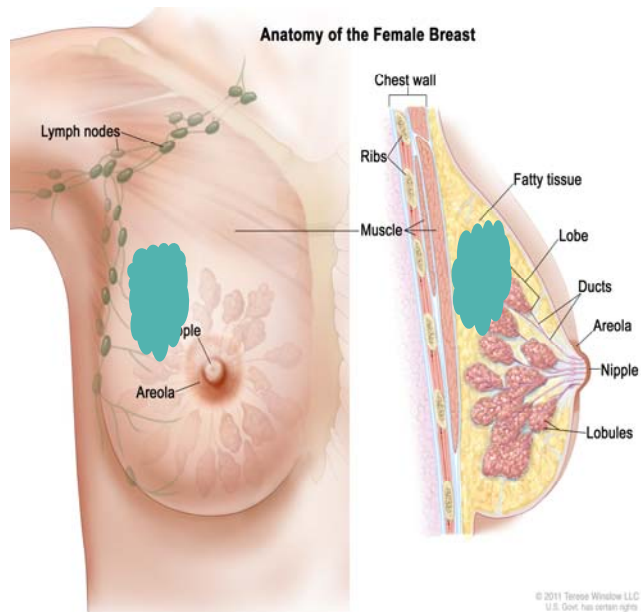
- If patient has a breast biopsy that is positive for ductal carcinoma in situ. There is no clinical evidence of regional or distant mets. She then has a segmental mastectomy that reveals a 1 cm invasive ductal ca, how do I record AJCC clinical T, N, M and stage group?

	Data Items as Coded in Current NAACCR Layout			
	T	N	M	Stage Group
Clin	pis	c0	c0	0
Path	p1b	X	c0	99

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## Assessing the Primary Tumor

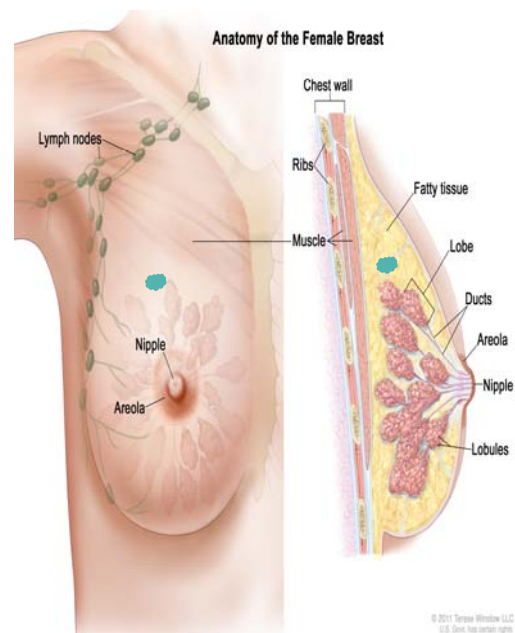
- T values 1-3 are driven by tumor size
  - $\leq 20\text{mm}$
  - $>20\text{mm}$  but  $\geq 50\text{mm}$
  - $>50\text{mm}$
- Record multiple tumors in clin or path stage descriptor



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## Tumors less than 20mm (T1)

- Micrometastasis (mi)
  - Invasive tumor that is no bigger than 1mm
- a  $>1\text{mm}$  but  $\leq 5\text{mm}$
- b  $>5\text{mm}$  but  $\leq 10\text{mm}$
- c  $>10\text{mm}$  but  $\leq 20$



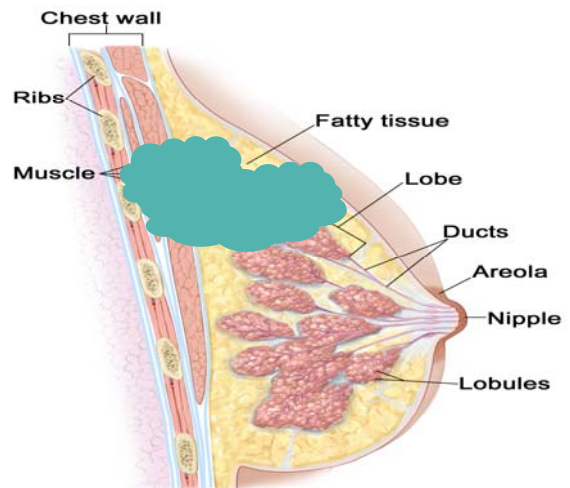
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## Direct Invasion Beyond the Breast (T4)

NAACCR

- Extension to the chest wall
  - Ribs, intercostal muscle, serratus anterior muscle
  - Not the pectoral muscles
- Ulceration, edema, peau d'orange of the skin of the breast

**e Female Breast**

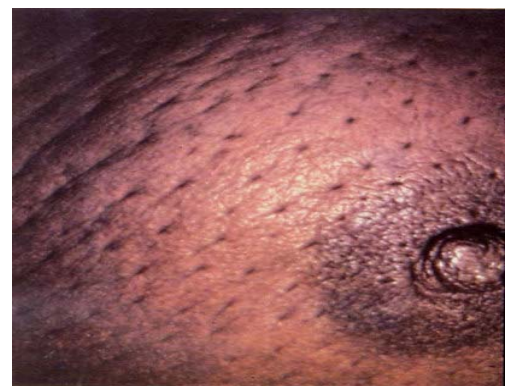
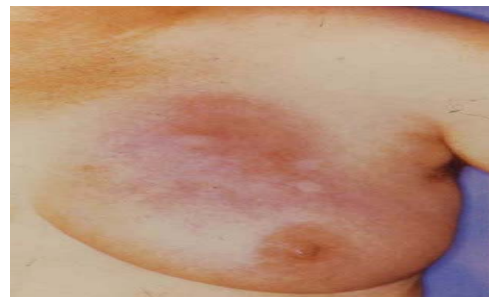


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## Inflammatory Carcinoma (T4d)

NAACCR

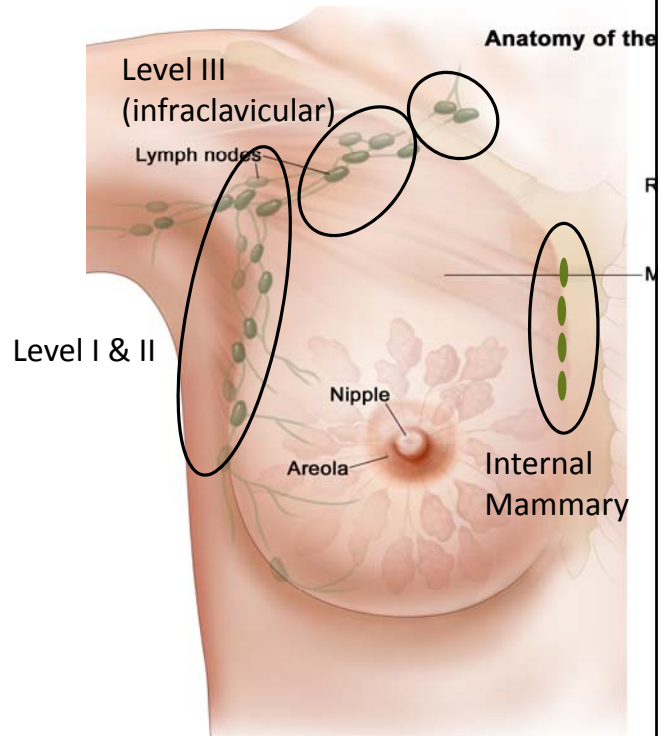
- Primarily a clinical diagnosis
  - Edema, peau d'orange of more than 1/3 of the skin of the breast
  - Skin changes are due to lymph edema caused by tumor emboli within the dermal lymphatics
  - Usually, an underlying tumor is present



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## ●●●● (cN) Macrometastases

- Regional lymph nodes that are clinically positive
  - Movable level I or II axillary nodes
  - Mets in fixed or matted level I or II or internal mammary nodes only
  - Mets in level III nodes or axillary nodes and internal mammary or mets in supraclavicular nodes



## ●●●● (cN) Valid Values

- Do not use the pN values to assign the cN unless an exception has been documented.
  - cN is based on clinically detected lymph nodes or
  - Sentinel lymph node biopsy done in the absence of pT
  - A “c” will be added with v16. Values will not change otherwise

See page 359 AJCC Manual

### Clinical N Values

X

0

1

2

2a

2b

3

3a

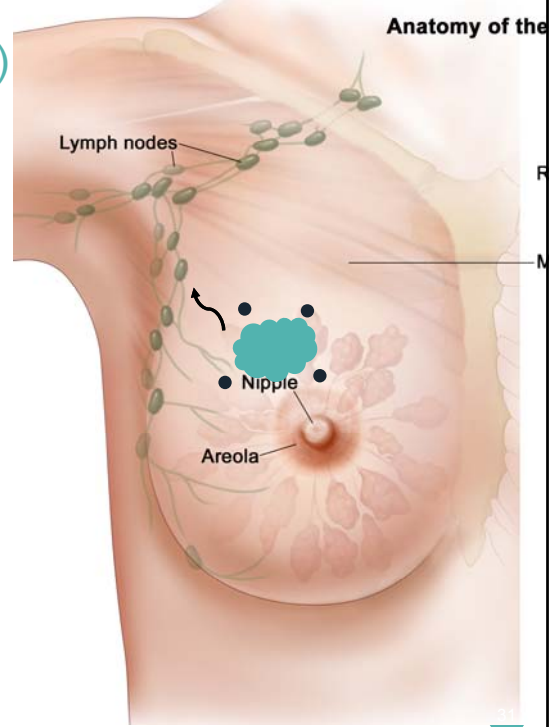
3b

3c

## ●●●● Sentinel Lymph Node Biopsy (SLNB)

- If the clinical work-up for lymph node metastasis is negative (cN0), a SLNB may be indicated.
- If the clinical work-up for lymph node metastasis is positive (cN1-3), a SLNB would **not** be indicated.

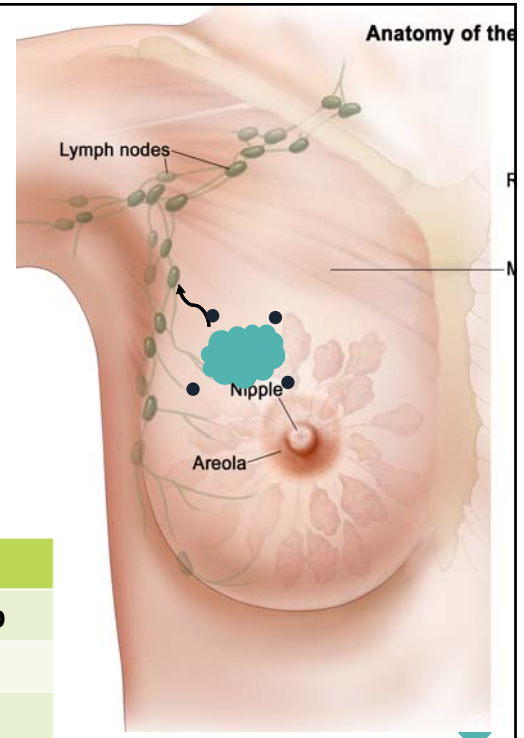
- *Scope it Out: A Change in Sentinel Lymph Node Surgery Coding Practice*, Jerri Linn Phillips, MA, CTR; Andrew Stewart, MA. Journal of Registry Management 2012 Volume 39 Number 1



## ●●●● Pop Quiz

- Imaging showed a 1cm malignant appearing tumor in the right breast. No enlarged lymph nodes.
- Sentinel lymph node biopsy and excisional biopsy is done on 1/1/16.
  - Path showed 1.3 cm invasive carcinoma.
  - Sentinel lymph node is positive for micrometastasis.

	Data Items as Coded in Current NAACCR Layout			
	T	N	M	Stage Group
<b>Clin</b>	c1b	c0	c0	IA
<b>Path</b>	p1c	p1mi	c0	IB

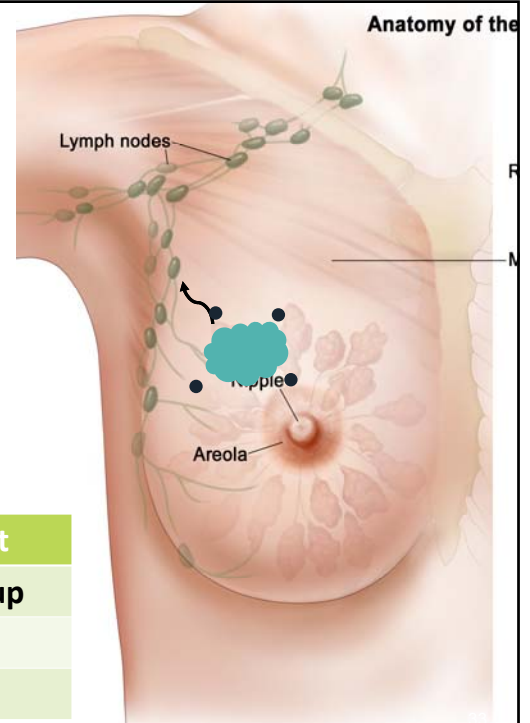




## Pop Quiz

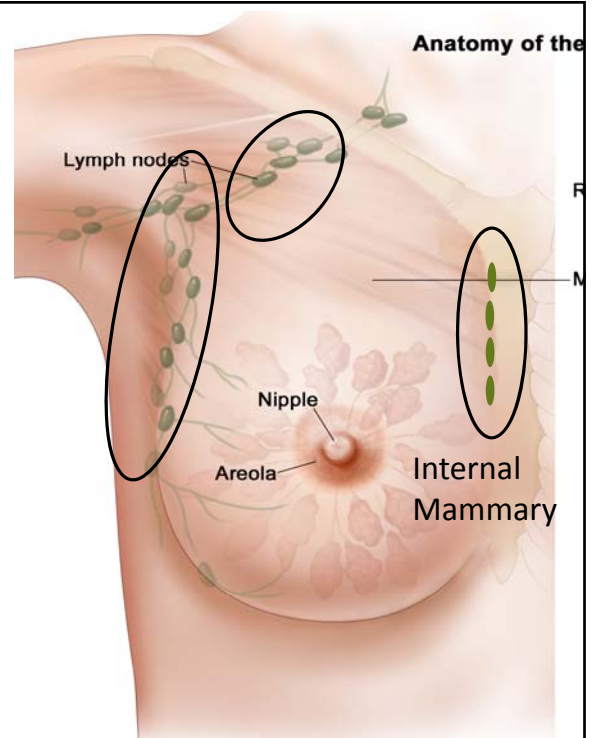
- Imaging showed a 1cm malignant appearing tumor in the right breast. No enlarged lymph nodes
  - Sentinel lymph node biopsy is done on 1/1/16 and patient is found have micrometastasis.
  - An excisional biopsy was done on 1/15/16 showing 1.3cm invasive carcinoma (no lymph nodes removed).

Data Items as Coded in Current NAACCR Layout				
	T	N	M	Stage Group
Clin	c1b	c1	c0	IB
Path	p1c	p1mi	c0	IB



## Pathologic N Values

Pathologic N Values	Pathologic N Values
X	2
0	2a
0(i-)	2b
0(i+)	3
0(mol-)	3a
0(mol+)	3b
1	3c
1mi	
1a	
1b	
1c	



## ●●●● Pathologic Assessment of Lymph Nodes (pN)



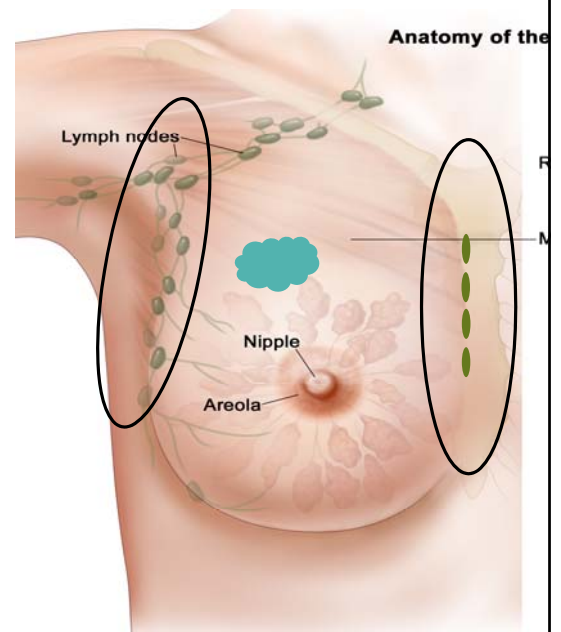
- Cannot have a pN without a pT
  - If pT has not been established, pN must be blank.
- Isolated Tumor Cells (ITC) vs Micrometastases (mi)
  - ITC's are clusters of cells not greater than 0.2mm
    - May be assessed by immunohistochemical (i+ or i-) or
    - May be assessed by molecular (mol+ or mol-)
    - pN0
  - Micrometastases (mi) lymph node metastases are >0.2mm and <2.0mm
    - pN1
  - ITC and mi descriptors are only used with pN

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## ●●●● Pathologic Assessment of Lymph Nodes (pN1)

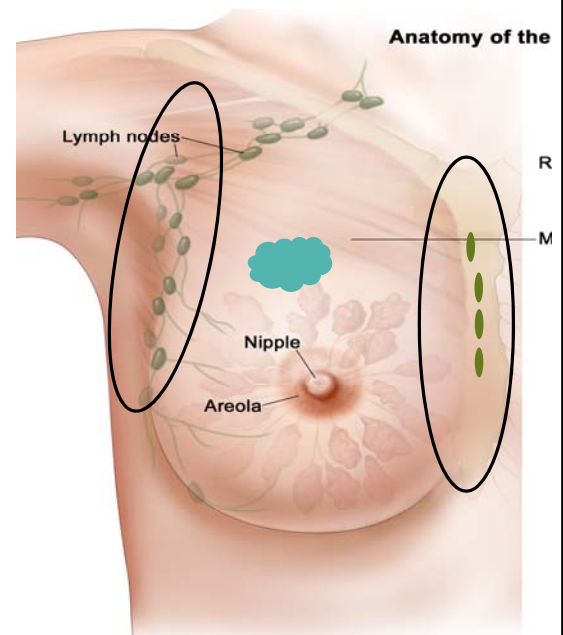


- Micrometastasis pN1mi only
- Metastasis in 1-3 axillary level I or II lymph nodes
- cN negative internal mammary mets
- 1-3 axillary level I or II lymph node mets and cN negative internal mammary node mets



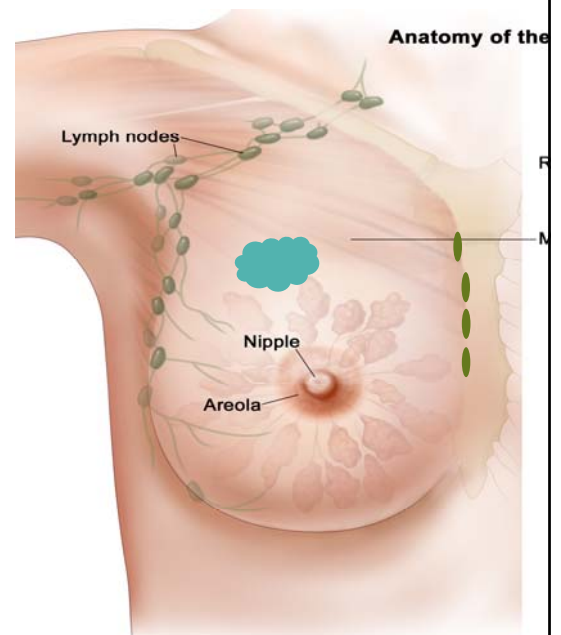
### ●●●● Pathologic Assessment of Lymph Nodes (pN2)

- Metastasis in 4-9 axillary level I or II lymph nodes
- cN positive internal mammary mets, but no axillary node metastasis.



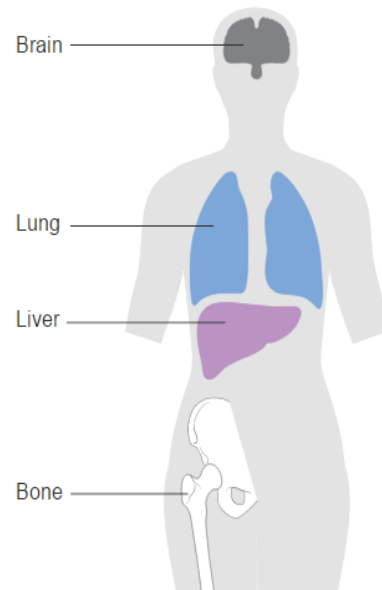
### ●●●● Pathologic Assessment of Lymph Nodes (pN3)

- Metastasis in 10 or more axillary level I or II lymph nodes or mets in level III axillary nodes (infraclavicular)
- cN positive internal mammary mets and axillary node metastasis
- 3 or more level I or II axillary lymph nodes and cN negative internal mammary nodes with pathologically confirmed mets
- Supraclavicular lymph node metastasis



## ●●●● Metastasis

- Unless there is documented evidence of distant metastasis cM0
- Metastasis detected clinically but without pathologic confirmation is cM1
- Metastasis detected pathologically is pM1 regardless of whether metastasis is detected clinically.
- Circulating tumor cells in the blood, bone marrow, or other non-regional tissue is cM0+



## ●●●● Neoadjuvant Treatment

- Indicate neoadjuvant treatment in TNM Path Descriptor
  - 4 Y (Classification during or after initial multimodality therapy) pathologic staging only
- Patients with distant mets (M1) diagnosed prior to neoadjuvant treatment, will still have M1 disease after neoadjuvant treatment regardless of their status post neoadjuvant treatment.
- We do not collect yc only yp

## ●●●● Pop Quiz

- A patient presents with a 5cm tumor in her left breast extending to the skin causing ulceration. A needle biopsy confirms ductal carcinoma. Imaging showed malignant appearing level I and II axillary nodes and a metastatic lesion in the liver.
- The patient received neoadjuvant chemotherapy followed by a modified radical mastectomy. Final pathology showed a 1.5cm tumor confined to the breast. 23 lymph nodes were negative. Imaging did not show any metastasis.

Data Items as Coded in Current NAACCR Layout				
	T	N	M	Stage Group
<b>Clin</b>	c4b	c1	c1	IV
<b>Path</b>	p1c	p0	<b>c1</b>	IV
<b>Path Descriptor</b>		4		

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## ●●●● Neoadjuvant Treatment

- How should we handle hormone treatment give prior to surgery?
  - When was the treatment started?
  - Is there documentation that the physician does not consider this hormone treatment?
- If it is not being given as neoadjuvant treatment, then do not code TNM Path Descriptor as “4”
- Code treatment items the same as you would if the treatment was neoadjuvant.

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# Questions?



Quiz 1



And now a brief pause for...

## An Epi Moment

(insert "I Am Woman" here)

## ●●●● Merrily Sherman, 1945-1994



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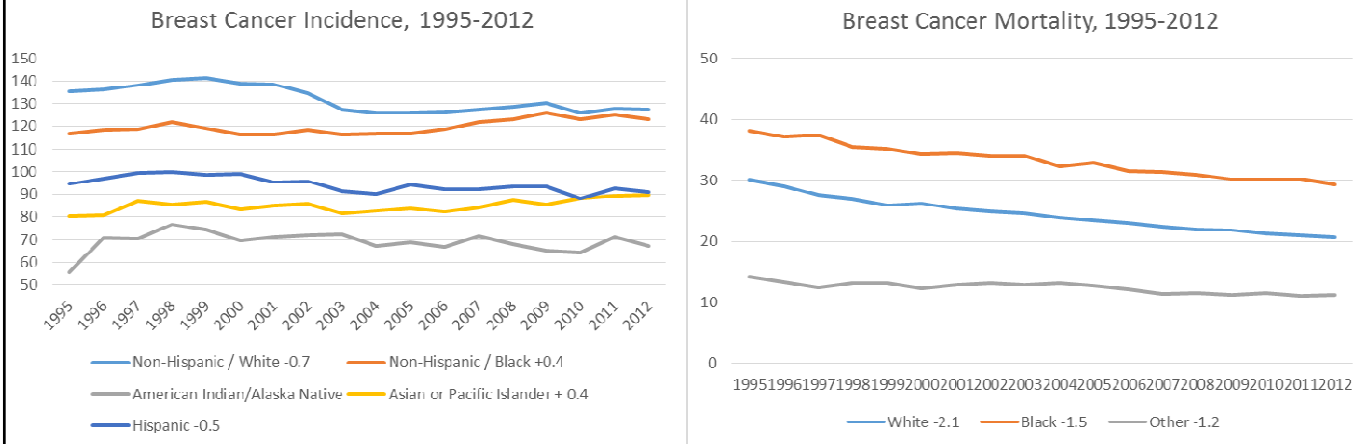
## ●●●● Breast cancer



- More common in women than men
  - 2015 incidence estimates 246,660 women (plus 61,000 *in situ*) and 2,350 men
  - 2015 mortality estimates 40,450 women and 440 men
- Risk Factors
  - Age, sex, genetics (BRCA1&2—risk of developing 45-65%; other genetic conditions); dense breast tissue (1.2-2x increased risk; mammograms less effective), hormones (early menarche, birth control, HRT), obesity, chest radiation, DES exposure, drinking alcohol
  - Protective: Physical activity and breast feeding
  - Potential: diet, environmental exposures (second hand smoke), night work
  - Disproven: antiperspirants, bras, abortions, breast implants
- Controversies
  - Mammography benefits, DCIS/LCIC

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## Female breast cancer trends, 1995-2012



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## Breast cancer subtypes



- 4 molecular subtypes of breast cancer are approximated by tumor expression of 3 markers collected by cancer registries
- Nationally required data items:
  - Estrogen Receptor (ER) -- SSF1 ER Assay
  - Progesterone Receptor status (PR) -- SSF2 PR Assay
  - Human Epidermal Growth Factor Receptor 2 (HER2) -- SSF15 HER2 Summary Result
- ER and PR jointly defined as Hormone Receptor status (HR)
  - HR+/HER2- (approximates Luminal A)
  - HR+/HER2+ (approximates Luminal B)
  - HR-/HER2+ (HER2 enriched)
  - HR-/HER2- (Triple Negative)

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### BREAST CANCER IN WOMEN: KNOW THE SUBTYPE

It's important for guiding treatment and predicting survival.

#### KNOW THE SCIENCE

**HR+ Breast cancer:**  
HR+ means tumor cells have receptors for the hormones estrogen or progesterone, which can promote the growth of HR+ tumors. Hormone therapies like tamoxifen can be used to treat HR+ tumors.

**HER2+ Breast cancer:**  
HER2+ means tumor cells overexpress (make high levels of) a protein, called HER2, which has been shown to be associated with certain aggressive types of breast cancer. Trastuzumab and some other therapies can target cells that overexpress HER2.



**HR+/HER2-** ..... aka "Luminal A"

**73% of all breast cancer cases**

- Best prognosis
- Most common subtype for every race, age, and poverty level



**HR-/HER2-** ..... aka "Triple Negative"

**13% of all breast cancer cases**

- Worst prognosis
- Non-Hispanic blacks have highest rate of this subtype at every age and poverty level



**HR+/HER2+** ..... aka "Luminal B"

**10% of all breast cancer cases**

- Little geographic variation by state



**HR-/HER2+** ..... aka "HER2-enriched"

**5% of all breast cancer cases**

- Lowest rates for all races and ethnicities

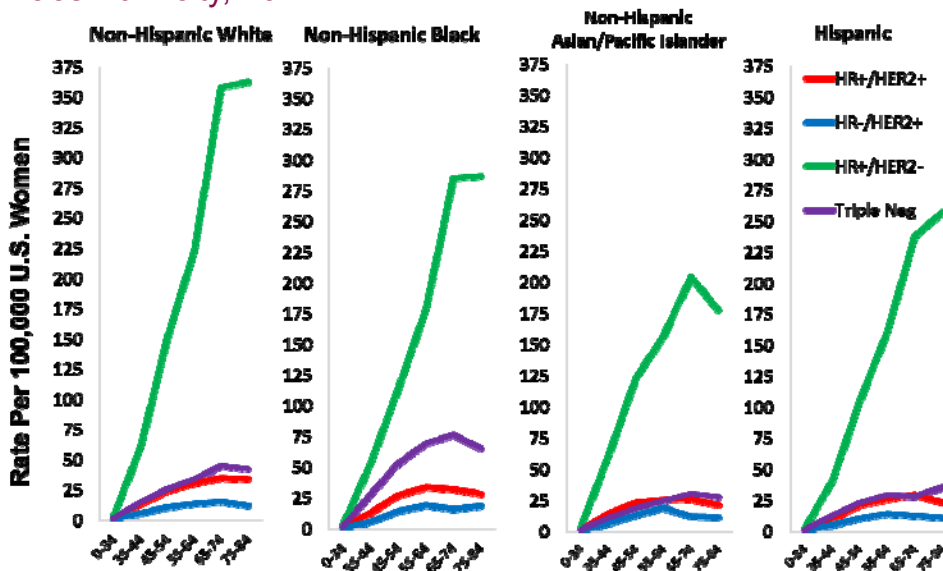
www.cancer.gov

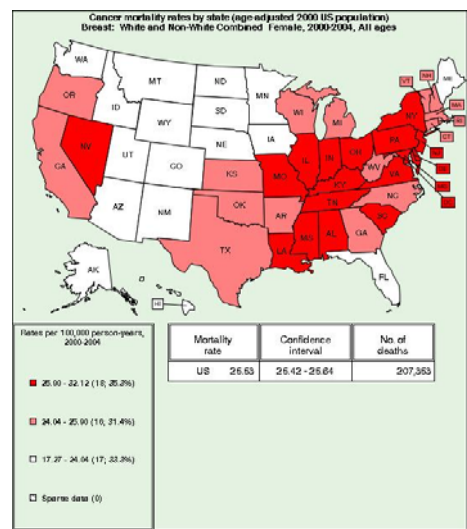
Source: Special section of the Annual Report to the Nation on the Status of Cancer, 1975-2011.

### Triple-Negative

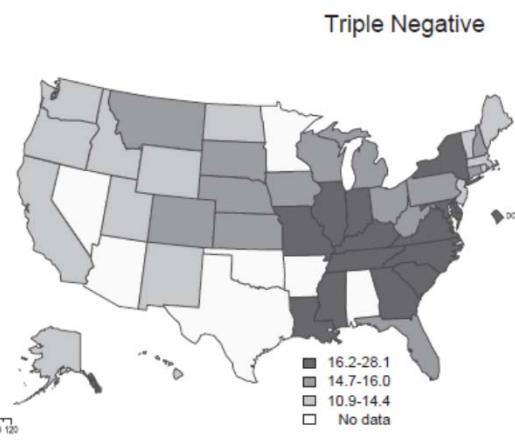
- Non-Hispanic White 11%
- Non-Hispanic Black 23%
- Non-Hispanic Asia/Pacific Islander 11%
- Hispanic 13%

### Incidence Rates of Breast Cancer Molecular Subtypes by Race/Ethnicity, 2011

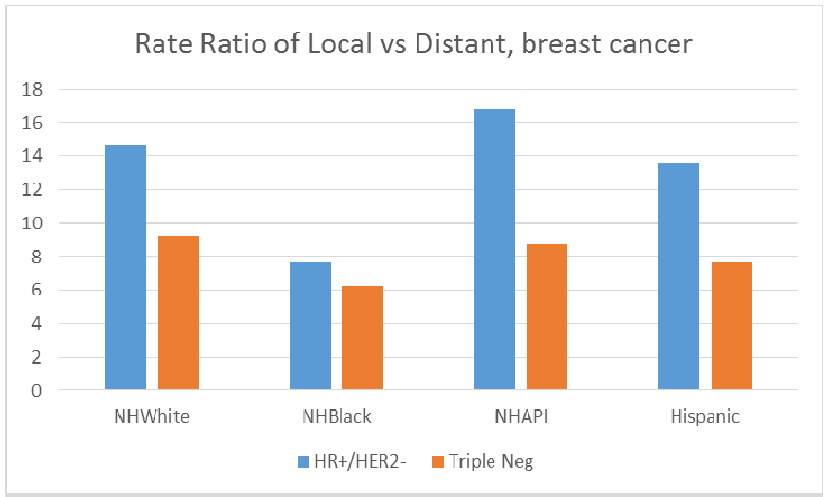
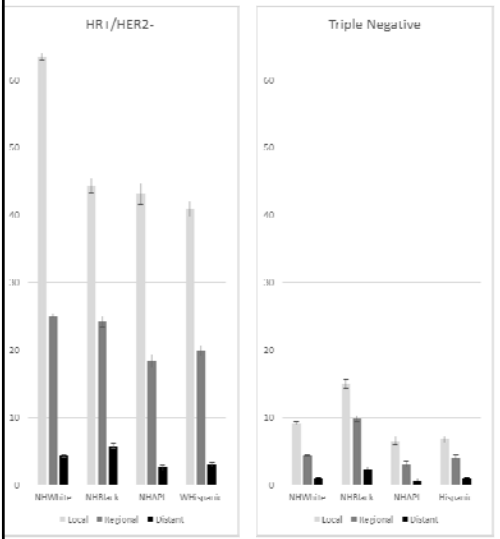




- District of Columbia
- Delaware
- Minnesota
- Louisiana
- North Carolina
- Tennessee
- Kentucky
- Illinois
- Georgia
- Indiana
- Virginia
- South Carolina
- Maryland
- Missouri
- New York
- South Dakota
- Nebraska
- Colorado
- New Hampshire
- Arizona
- Michigan
- Wisconsin
- West Virginia
- Connecticut
- Ohio
- Montana
- Washington
- Pennsylvania
- Florida
- New Jersey
- Massachusetts
- Idaho
- North Dakota
- Maine
- California
- Utah
- New Mexico
- Oregon
- Alaska
- Vermont
- Wyoming
- Mississippi



**Breast cancer stage**



## Over diagnosis



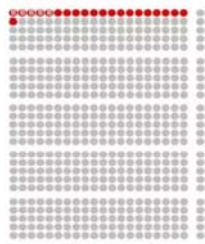
### Breast Cancer Early Detection

by mammography screening

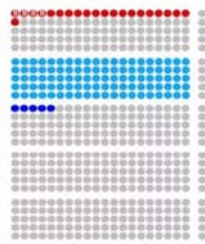
Numbers for women aged 50 years or older who participated in screening for 10 years or more



1000 women without screening:



1000 women with screening:

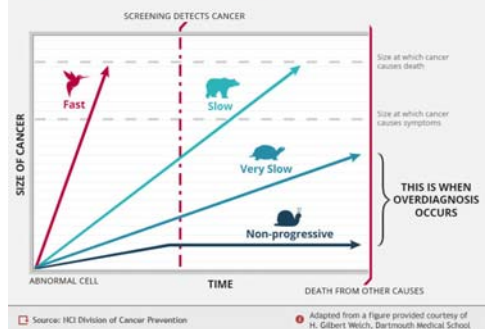


• Women who died from breast cancer:	5	4
• Women who died from all types of cancer:	21	21
• Women who learned after a biopsy that their diagnosis was a false-positive:	–	100
• Women who were diagnosed and treated for breast cancer unnecessarily:	–	5
• Remaining women:	979	874

Source:  
Getzsche, PC, Jørgensen, KJ (2013). *Cochrane Database of Systematic Reviews* (6). CD001877  
Numbers in the facts box are rounded. Where no data for women above 50 years of age are available, numbers refer to women above 40 years of age.  
[www.harding-center.mpg.de](http://www.harding-center.mpg.de)

Division of Cancer Prevention | @NCCPrevention | prevention.cancer.gov

**Overdiagnosis Occurs When** screen-detected cancers are either *non-growing* or so *slow-growing* that they *never* would cause medical problems



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## Male Breast Cancer

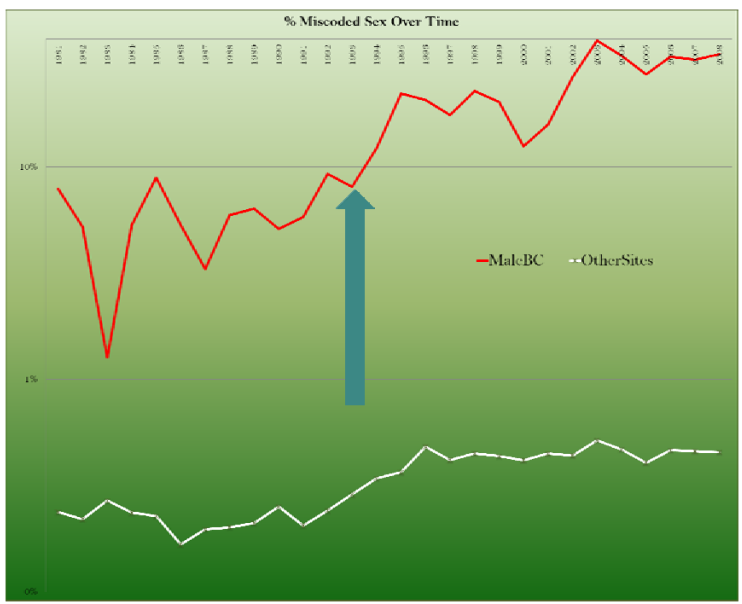


- Rare
  - <1% all breast cancers
  - 2015 Estimates:
    - New cases: 2,350
    - Deaths: 440
- Compared to women
  - Older age, higher stage, lower grade, more ER+/PR+
- Potential risk factors
  - Radiation
  - Genetic Predisposition
  - High estrogen levels
    - Obesity, Cirrhosis, Klinefelter's syndrome

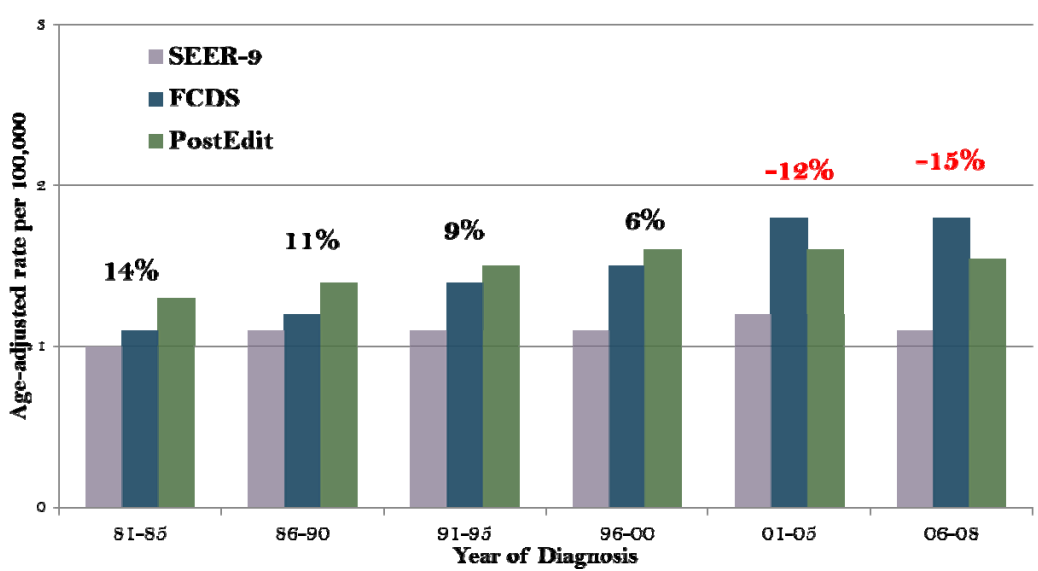
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### Male breast cancer issues with coding



### Male breast cancer rates: Using the Sex Edit





## ●●●● Male breast cancer rates

- Miscoding of sex disproportionately affects male breast cancer rates
- Without QC, male breast cancer rates are artificially *inflated*
- QC projects on male breast cancer alone artificially *suppress* rates
- Appropriate use of Sex Edit (available through NAACCR) can improve quality of sex

Additional information:

Original Article

### Misclassification of Sex in Central Cancer Registries

Recinda L. Sherman, MPH, PhD, CTR<sup>a</sup>; Francis P. Boscoe, PhD<sup>b</sup>; David K. O'Brien, PhD, GISP<sup>c</sup>; Justin T. George, MPH<sup>d</sup>; Kevin A. Henry, PhD<sup>e</sup>; Laura E. Soloway, PhD<sup>f</sup>; David J. Lee, PhD<sup>g</sup>

Article: [http://www.ncra-usa.org/files/public/JRM\\_fall2014\\_V41.3.pdf](http://www.ncra-usa.org/files/public/JRM_fall2014_V41.3.pdf)

Tool: <https://www.naacr.org/StandardsandRegistryOperations/SexCodeUtility.aspx>

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## Selected CINA Publications

- Geographic proximity to treatment for early stage breast cancer and likelihood of mastectomy. Breast, 2011. [PubMed Abstract](#)
- Breast cancer stage at diagnosis: is travel time important? J Community Health, 2011. [PubMed Abstract](#)
- ACS Facts & Figures 2015, Special Section: Breast Carcinoma In Situ [Link to publication](#)
- Temporal trends in and factors associated with receipt of contralateral prophylactic mastectomy among US men diagnosed with breast cancer. JAMA Surgery. 2015 [Full Article](#)
- Annual Report to the Nation on Status of Cancer, 1975-2011, Featuring incidence of breast cancer subtypes by race/ethnicity, poverty, and state. J Natl Cancer Inst. 2015 [Full Article](#)

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## Site Specific Factors



1,2,3,4,5,6,7,8,9,11,13,14,15,16,22,23

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### SSF1: Estrogen Receptor (ER) Assay SSF2: Progesterone Receptor (PR) Assay

- Record highest value if more than 1 test is given
  - Record as positive if any value is positive
- Record value from specimen prior to neoadjuvant treatment
  - Only record post neoadjuvant treatment value if there is no pre-treatment specimen
- Do not record values from Oncogene test in SSF1 and SSF2





## Low ER/PR



- The most recent interpretation guidelines for ER do not allow for a borderline result. Therefore, code 030 will rarely be used. **If 1% or greater cells stain positive, the test results are considered positive. If less than 1% of cells stain positive, the results are considered negative.**
- **Registrars are to record the pathologist's interpretation of the test result following the above 1% rule, and are NOT to code a value based on how the patient is treated by the clinician.**
  - If there is only a statement of weakly positive, the registrar should code the result as "010" Positive/elevated.
  - It is outside the realm of the registrars' coding responsibility to interpret the values stated on the pathology report based on how the patient was treated.
  - Further, there is no statement in the CS manual that supports this interpretation, and per the CAP Approved Breast Biomarker Reporting Template, a weakly positive result falls under a positive test result.

<http://cancerbulletin.facs.org/forums/forum/rqrs/performance-rates/6963>

<http://cancerbulletin.facs.org/forums/forum/collaborative-stage/breast/breast-ab/5528>

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## SSF3: Number of Positive Ipsilateral Level I-II Axillary Lymph Nodes



- Code the number of positive level I and II and Intramammary lymph nodes based on pathologic information
- Code even if patient had pre-operative systemic or radiation treatment
- Do not code lymph nodes with ITCs as positive nodes
- Use code 098 when no axillary nodes were examined or axillary dissection was performed and no nodes were found





## ●●●● SSF4: IHC of Regional Lymph Nodes SSF5: MOL Studies of Regional Lymph Nodes

- SSF4: Immunohistochemistry (IHC)
  - Additional test done on negative lymph nodes
  - Use codes 000-009 if CS Lymph Nodes = 000
  - Use code 987 if CS Lymph Nodes does not = 000
- SSF5: Molecular (MOL) methods (Reverse Transcription Polymerase Chain Reaction, RT-PCR)
  - More sensitive test to detect ITCs
  - Use codes 000-002 if CS Lymph Nodes = 000
  - Use code 987 if CS Lymph Nodes does not = 000



## ●●●● SSF6: Size of Tumor-Invasiveness Component

- Code the description that explains code in CS Tumor Size
  - *Examples*
    - 7 cm breast tumor, intraductal & infiltrating ductal carcinoma; invasive component 3.2 cm
      - CS Tumor Size = 032; SSF6 = 020
    - 7 cm breast tumor per ultrasound; core biopsy positive for ductal carcinoma; patient received neoadjuvant chemotherapy followed by lumpectomy and ALND; lumpectomy path 2.3 cm tumor, residual infiltrating ductal carcinoma with focal intraductal carcinoma
      - CS Tumor Size = 070; SSF6 = 987







## ●●●● SSF7: Nottingham or Bloom-Richardson (BR) Score/Grade

- Code tumor grade in following order
  - BR score (3-9)
  - BR grade (low-1, intermediate-2, high-3)
- Code highest score if multiple scores listed
- BR score not routinely reported for in situ cancers



## ●●●● HER2

- HER2-Human Epidermal growth factor Receptor 2
  - Overexpression of HER2 indicates tumor may grow aggressively
- Tests to measure HER2
  - Immunohistochemistry (IHC)
  - Fluorescence In Situ Hybridization (FISH)
  - Chromogenic In Situ Hybridization (CISH)





## HER 2



- Record HER2 lab value and interpretation using same test
- Record highest lab value if more than 1 lab value is available
- Record positive value if positive and negative values are available
- Do NOT code HER2 results from multigene signature test
- Use code 998 if documented that test was not done



## HER2 Data Items




- SSF8: HER2 IHC Lab Value
- SSF9: HER2 IHC Test Interpretation
- *SSF10: HER2 FISH Lab Value*
- SSF11: HER2 FISH Test Interpretation
- *SSF12: HER2 CISH Lab Value*
- SSF13: HER2 CISH Test Interpretation
- SSF14: HER2 Results of Other or Unknown Test






## ●●●● SSF15: HER2 Summary Result of Testing

- 1 HER2 test done
    - Record results in SSF15
  - More than 1 HER2 test done
    - Record results of gene-amplification test if both IHC and gene-amplification are done
    - If gene-amplification done first and IHC done to clarify results, record results of IHC
    - Use code 997 (test done, results not in chart), if results of 1<sup>st</sup> test available, but 2<sup>nd</sup> test is done and results are not available
- 



## ●●●● SSF16: Combinations of ER, PR, and HER2 Results

- Used to identify triple negative patients
  - Based on information coded in SSF1, SSF2, & SSF15
    - Code as negative (0) or positive (1)
      - ER results in 1st digit
      - PR results in 2<sup>nd</sup> digit
      - HER2 results in 3<sup>rd</sup> digit
- 



## ●●●● SSF22: Multigene Signature Method SSF23: Multigene Signature Results

- Multigene signature tests
  - Assay for specific genes
  - Tailor treatment to cancer characteristics
  - Usually done for node negative patients to predict recurrence and response to specific chemotherapy
  - SSF22: Multigene Signature Method
    - Oncotype DX
    - MammaPrint
    - Mammastrat (other)
  - SSF23
    - Record the score, not the percentage



## Treatment



Core vs excision  
Scope of Regional Lymph Nodes  
Surgery Codes

## ●●●● Core Needle Biopsy vs Excision

- “If a needle biopsy preceded an excisional biopsy or more extensive surgery, even if no tumor remained at the time of surgery, both the needle biopsy (*Surgical Diagnostic and Staging Procedure*) and the *Surgical Procedure of the Primary Site* are to be reported. Surgical margins must be examined to determine whether a biopsy intended as incisional is excisional instead, and margins cannot be evaluated for a needle biopsy”

FORDS Revised for 2015 pg 138

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## ●●●● Pop Quiz

Patient found to have a small spiculated mass on mammogram. Core needle biopsy was done and the patient is found to have invasive ductal carcinoma. Patient returns for a excisional biopsy and no residual tumor is found on biopsy.

- How do we code diagnostic staging procedure and surgery of primary site?
  - Diagnostic staging procedure
    - 02 – a biopsy (incisional, needle, or aspiration) was done to the primary site, or biopsy or removal of a lymph node to diagnose or stage lymphoma
  - Surgery of primary site is
    - 22 – lumpectomy or excisional biopsy

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## ●●●● Pre - Pop Quiz

01/15/15 Operative report: Excisional biopsy and sentinel node biopsy done on right breast. Pathology report: Invasive ductal carcinoma with 3 nodes positive for mets

03/15/15 Operative report: mastectomy with axillary node dissection. Pathology report: invasive ductal carcinoma with 7 lymph nodes positive.

- How do we code regional lymph node surgery?

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## ●●●● Scope of Regional Lymph Node Surgery

- Operative Report
  - Sentinel Lymph Node Biopsy vs Axillary Lymph Node Dissection
- Pathology Report
  - Use to complement information in operative report
- DO NOT use number of lymph nodes removed and pathologically examined as sole means of distinguishing between Sentinel LN Bx or Axillary LN Dissection

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## ●●●● Scope of Regional Lymph Node Surgery

- If two or more surgical procedures of regional lymph nodes are performed, the codes entered in the registry for each subsequent procedure must include the cumulative effect of all preceding procedures.
  - Sentinel lymph node biopsy followed by a regional lymph node dissection at a later time
  - 7: Sentinel node biopsy and code 3, 4, or 5 at different times

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## ●●●● Scope of Regional Lymph Node Surgery

Code	Label
0	No regional lymph node surgery
1	Biopsy or aspiration of regional lymph node(s)
2	Sentinel Lymph Node Biopsy

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## ●●●● Scope of Regional Lymph Node Surgery



Code	Label
3	Number of regional lymph nodes removed unknown or not stated; regional lymph nodes removed, NOS
4	1-3 regional lymph nodes removed
5	4 or more regional lymph nodes removed

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## ●●●● Scope of Regional Lymph Node Surgery




Code	Label
6	Sentinel node biopsy and code 3, 4, or 5 at same time or timing not stated
7	Sentinel node biopsy and code 3, 4 or 5 at different times
9	Unknown or not applicable

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Pop Quiz

- When trying to distinguish if a sentinel lymph node biopsy was done, which source document should be used?
  - a) Pathology Report
  - b) Discharge summary
  -  c) Operative Report
  - d) Physician statement in medical record

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Pop Quiz

01/15/15 Operative report: Excisional biopsy and sentinel node biopsy done on right breast. Pathology report: Invasive ductal carcinoma with 3 nodes positive for mets

03/15/15 Operative report: mastectomy with axillary node dissection. Pathology report: invasive ductal carcinoma with 7 lymph nodes positive.

- How do we code regional lymph node surgery?
  - If you code multiple procedures
    - 2 SLN bx – 01/15/15
    - 7 SLN bx and code 3, 4, or 5 at different times – 03/15/15
  - If you code only one procedure
    - 7 SLN bx and code 3, 4, or 5 at different times

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## What Surgery Code do I Use?

20	<b>Partial Mastectomy, NOS, less than total mastectomy, NOS</b>
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 (wedge resection, quadrantectomy, tylectomy)

- These procedures remove the gross primary tumor and some of the breast tissue (breast conserving or preserving). There may be microscopic residual tumor.

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## What Surgery Code do I Use?

30	<b>Subcutaneous Mastectomy (<i>nipple sparing mastectomy</i>)</b>
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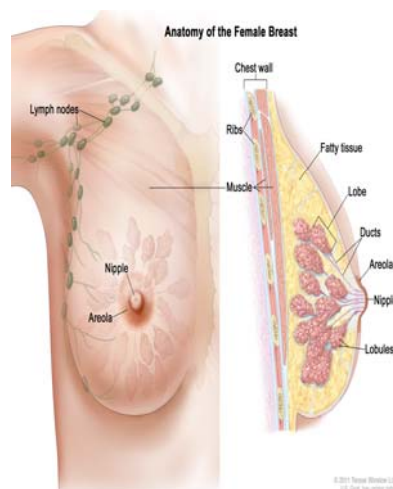
- A subcutaneous mastectomy, (nipple sparing mastectomy) includes the removal of breast tissue without the nipple and areolar complex (NAC) or overlying skin.
- <http://cancerbulletin.facs.org/forums/forum/fords-national-cancer-data-base/fords/first-course-of-treatment/surgery/8733-skin-sparing-and-nipple-sparing-mastectomy-coded-the-same>

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## What Surgery Code do I Use?

<b>40</b>	<b>Total (simple) mastectomy</b>
41	WITHOUT removal of uninvolved contralateral breast
43	With reconstruction, NOS
44	Tissue
45	Implant
46	Combined (Tissue and Implant
42	WITH removal of uninvolved contralateral breast
47	With reconstruction, NOS
48	Tissue
49	Implant
75	Combined (Tissue and Implant)

- A total (simple) mastectomy removes all breast tissue, and the NAC. An axillary dissection is not done but sentinel lymph nodes may be removed.

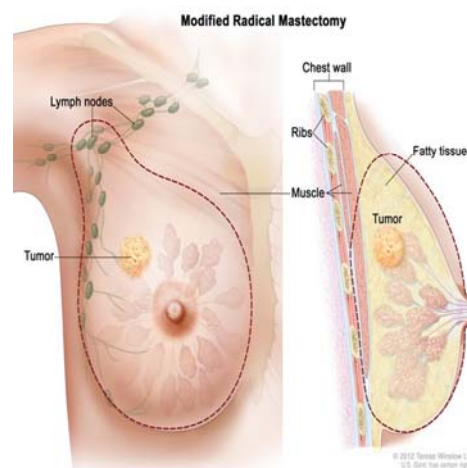


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## What Surgery Code do I Use?

<b>50</b>	<b>Modified radical mastectomy</b>
51	WITHOUT removal of uninvolved contralateral breast
53	Reconstruction, NOS
54	Tissue
55	Implant
56	Combined (Tissue and Implant)
52	WITH removal of uninvolved contralateral breast
57	Reconstruction, NOS
58	Tissue
59	Implant
63	Combined (Tissue and Implant)

- Removal of all breast tissue, the NAC and variable amounts of breast skin in continuity with the axilla. May or may not include a portion of the pectoralis major muscle.




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## ●●●● Pop Quiz



Operative report states total mastectomy with axillary lymph node dissection. What is the surgery code?

- a) 30
- b) 40
-  c) 50
- d) None of the above

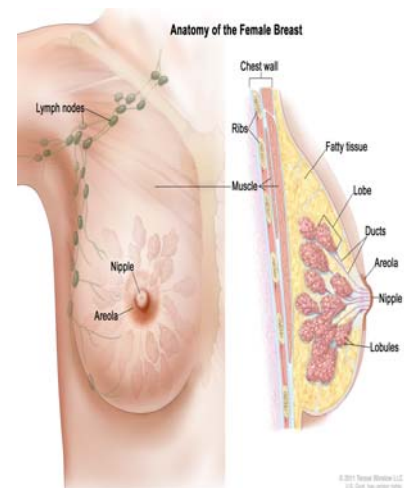
[http://cancerbulletin.facs.org/forums/forum/fords-national-cancer-data-base/fords/first-course-of-treatment/surgery/60028-total-simple-mastectomy-alnd-mrm?\\_id=1453238059295](http://cancerbulletin.facs.org/forums/forum/fords-national-cancer-data-base/fords/first-course-of-treatment/surgery/60028-total-simple-mastectomy-alnd-mrm?_id=1453238059295)

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## ●●●● What Surgery Code do I Use?



60	Radical Mastectomy, NOS
61	WITHOUT removal of uninvolved contralateral breast
64	Reconstruction, NOS
65	Tissue
66	Implant
67	Combined (Tissue and Implant)
62	WITH removal of uninvolved contralateral breast
68	Reconstruction, NOS
69	Tissue
73	Implant
74	Combined (Tissue and Implant)



- Involves removal of breast tissue, NAC, variable amount of skin, pectoralis minor and/or major as well as en bloc axillary dissection

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## ●●●● What Surgery Code do I Use?

70	Extended radical mastectomy
71	WITHOUT removal of uninvolved contralateral breast
72	WITH removal of uninvolved contralateral breast

- Involves removal of breast tissue, NAC, variable amounts of skin, pectoralis minor and/or major, internal mammary nodes and en bloc axillary dissection

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## ●●●● Since you Asked: Questions from you!

- How do you code Intraoperative Radiation Therapy IORT?
  - <http://cancerbulletin.facs.org/forums/forum/fords-national-cancer-data-base/fords/first-course-of-treatment/radiation/5296-intraoperative-radiation-therapy>
- How do you code new things like SAVI spacer?
  - <http://cancerbulletin.facs.org/forums/forum/fords-national-cancer-data-base/fords/first-course-of-treatment/radiation/9362-savi-applicator-for-breast-cancer-treatment>
- What about AccuBoost?
  - <http://cancerbulletin.facs.org/forums/forum/fords-national-cancer-data-base/fords/first-course-of-treatment/radiation/2065-accuboot-radiation-therapy>

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## Questions



Quiz 2

Case Scenarios

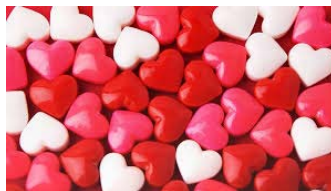
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## Coming up!

- 3/3/16
  - Abstracting and Coding Boot Camp: Cancer Case Scenarios
- 4/7/16
  - Collecting Cancer Data: Ovary

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## ●●●● Fabulous Prize Winners Are...



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## ●●●● CE Certificate Quiz/Survey



- Phrase
  - Axillary
- Link
  - <http://www.surveygizmo.com/s3/2566458/Breast-2016>

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# Thank You!



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