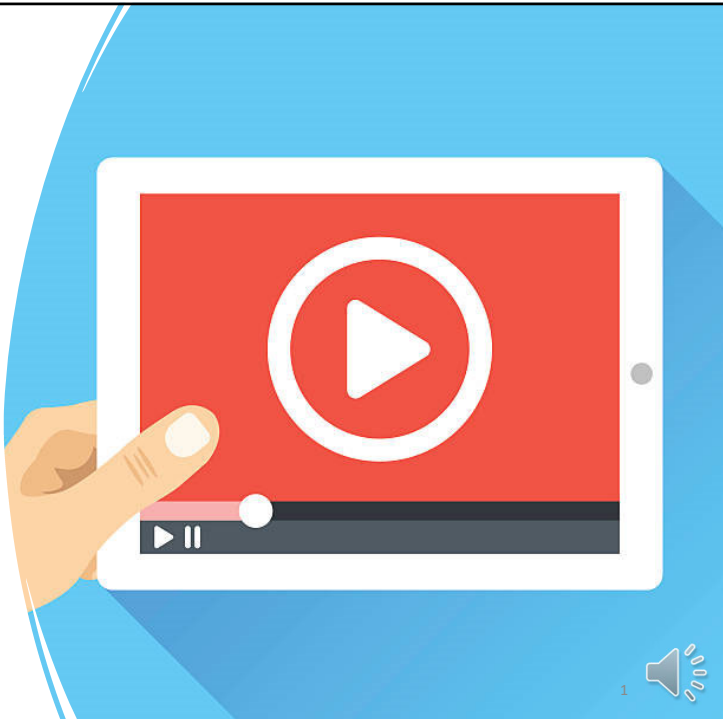


# Breast

## Anatomy & EOD

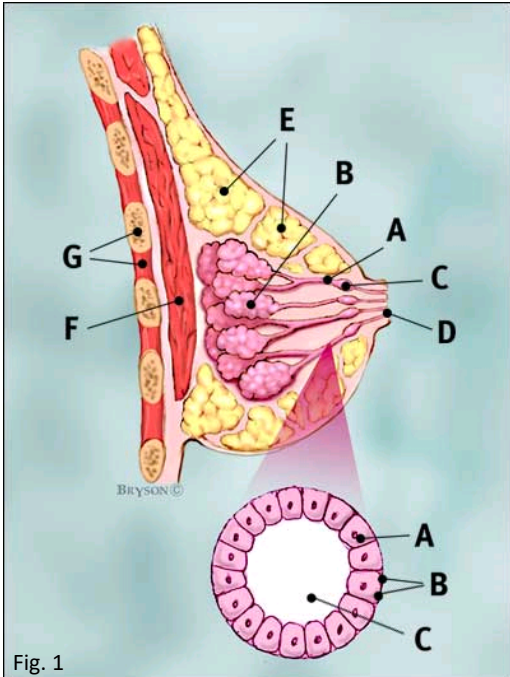
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Presented by Lori Somers, RN  
SHRI VIDEO TRAINING SERIES |  
Iowa Cancer Registry  
Recorded 1/2023



1

1



**Function & Anatomy of Breast:**

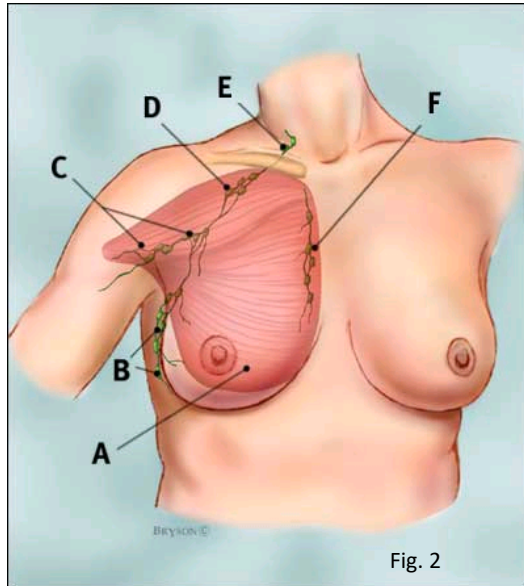
- A** – ducts [stems]
- B** - lobules [grapes]
- C** -dilated section of duct to hold milk
- D** - nipple
- E** - fat
- F** - pectoralis major muscle
- G** - chest wall/rib cage

Fig. 1

2

2

## Regional Lymph Nodes of Breast



- A - pectoralis major muscle
- B - axillary: levels I (low axillary)
- C - mid-axillary: levels II
- D - high-axillary: levels III (deep)
- E - supraclavicular
- F - internal mammary [along rib cage]

3



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## Regional Lymph Nodes

### Axillary LNs, **Level I**

- Low axillary
- Intramammary (within breast tissue)

### Axillary LNs **Level II**

- Mid Axillary, interpectoral, Rotter's node

### Axillary LNs **Level III {not typically removed}**

- High axillary, apical, infraclavicular

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## Primary Site Coding

C50.0	• Nipple
C50.1	• Central portion of breast
C50.2	• UIQ
C50.3	• LIQ
C50.4	• UOQ
C50.5	• LOQ
C50.6	• Axillary tail of breast
C50.8	• Overlapping lesion breast
C50.9	• NOS, multi-focal



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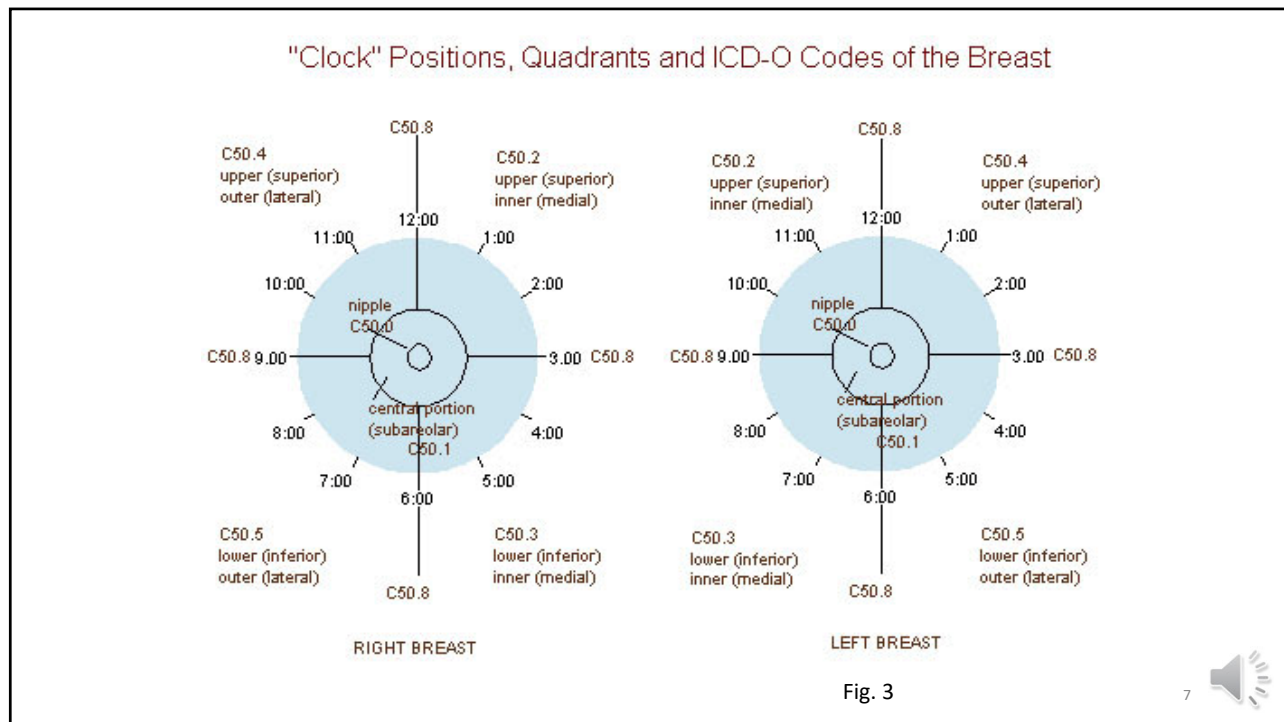
## Solid Tumor Rules: Table 1

Breast Equivalent Terms and Definitions  
C500-C506, C508-C509  
(Excludes lymphoma and leukemia M9590 – M9992 and Kaposi sarcoma M9140)

Terms and Descriptive Language	Site Term and Code	Terms and Descriptive Language	Site Term and Code
Areolar Nipple Paget disease <b>without</b> underlying tumor <i>Note:</i> Paget with underlying tumor is coded to the quadrant of breast in which the underlying tumor is located	Nipple C500	Inferior inner Inferior medial Lower inner quadrant (LIQ) Lower medial Superior lateral Superior outer Upper lateral Upper outer quadrant (UOQ)	Lower inner quadrant of breast C503  Upper outer quadrant of breast C504  Lower outer quadrant of breast C505
Above nipple Area extending 1 cm around areolar complex Behind the nipple Below the nipple Beneath the nipple Central portion of breast Cephalad to nipple Infra-areolar Lower central Next to areola NOS Next to nipple Retroareolar Subareolar Under the nipple Underneath the nipple	Central portion of breast C501	Inferior lateral Inferior outer Lower lateral Lower outer quadrant (LOQ) Axillary tail of breast Tail of breast NOS Tail of Spence	Lower outer quadrant of breast C506  Axillary tail of breast C506  Overlapping lesion of breast C508  <i>Note:</i> This is a <b>single tumor</b> which overlaps quadrants/subsite.
12:00 o'clock 3:00 o'clock 6:00 o'clock 9:00 o'clock Inferior breast NOS Inner breast NOS Lateral breast NOS Lower breast NOS Medial breast NOS Midline breast NOS Outer breast NOS Overlapping lesion of breast Superior breast NOS Upper breast NOS			
Superior inner Superior medial Upper inner quadrant (UIQ) Upper medial	3/4 or more of breast involved with tumor Diffuse (tumor size 998) Entire breast Inflammatory without palpable mass Multiple tumors in different subsites (quadrants) within the same breast		Breast NOS C509  <i>Note:</i> Used for: • Non-contiguous <b>multiple</b> tumors in <b>different quadrants/subsites</b> of same breast <b>OR</b> • <b>Unknown/unable to identify</b> , in which <b>quadrant/subsite</b> the tumor is <b>located</b> (Example: Outpatient biopsy with no quadrant identified. Patient lost to follow-up.) • Inflammatory carcinoma; diffuse tumor



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## Coding Subsites

Priority order when conflicting information

- 1. Operative report
- 2. Path report
- 3. Mammogram (ultrasound)
- 4. Physical Exam
- Code subsite with invasive tumor.
- Code subsite of multifocal tumors in one quadrant (not C50.9)

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## Coding Subsites

- Code **C50.8** when:
  - **Single** tumor large enough to cover two or more subsites and unknown where originated
  - **Single** tumor located at 12, 3, 6, or 9 o'clock position
- Code **C50.9** when:
  - **Multiple** tumors (2 or more) in at least two quadrants of breast.

SEER Appendix C

[https://seer.cancer.gov/archive/manuals/2022/AppendixC/Coding\\_Guidelines\\_Breast\\_2022.pdf](https://seer.cancer.gov/archive/manuals/2022/AppendixC/Coding_Guidelines_Breast_2022.pdf)



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## Coding Laterality

- Laterality must be coded for all subsites
- Breast primary with pos nodes and no breast mass found:
  - Code laterality to the side with pos nodes

SEER Appendix C coding guidelines:

[https://seer.cancer.gov/archive/manuals/2022/AppendixC/Coding\\_Guidelines\\_Breast\\_2022.pdf](https://seer.cancer.gov/archive/manuals/2022/AppendixC/Coding_Guidelines_Breast_2022.pdf)



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## EOD Primary Tumor

### Notes:

1. Changes such as dimpling of skin, tethering and nipple retraction are caused by tension of Cooper's ligament(s), not by actual skin involvement. They do not alter the classification.
2. Adherence, attachment, fixation, induration, and thickening are clinical evidence of extension to skin or subcutaneous tissue; assign **code 200**.
3. "Fixation, NOS" is involvement of pectoralis muscle; assign **Code 200**.
4. For clinical description of inflammation, erythema, edema, peau d'orange, or other terms describing skin changes **without stated dx of inflammatory carcinoma**, assign **code 400**.

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## In Situ

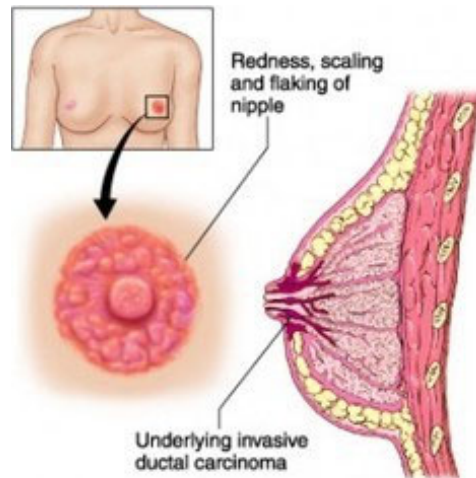
Code	Description
000	In situ; noninfiltrating; intraepithelial Intraductal without infiltration Lobular neoplasia, gr 3 (LIN3)
050	Paget disease of nipple WITHOUT underlying tumor
070	Paget disease of nipple WITH underlying DCIS tumor
SS18	In Situ

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## Paget Disease of Nipple



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## Invasive

Code	Description
100	Any size tumor Confined to breast tissue and fat including nipple and/or areola Localized, NOS EXCLUDES: skin invasion of breast, nipple and areola (see code 200)
SS18	Localized

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## Invasive

Note 2  
Note 3

### Code Description

200 Any size tumor  
Attachment or fixation to pectoral muscle(s) or underlying tumor {note 2}  
Deep fixation {note 3: fixation nos}  
Invasion of: Pectoral fascia or muscle(s), subcutaneous tissue  
Local infiltration of dermal lymphatics adjacent to primary tumor involving skin by direct extension  
**Skin infiltration** of primary breast including skin of nipple and/or areola

SS18 Regional

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## Invasive

### Code Description

300 Invasion of (or fixation to)  
Chest wall, Intercostal or serratus anterior muscle(s),  
Ribs.

400 Extensive skin involvement {note 4}  
WITHOUT stated dx of inflammatory carcinoma  
WITH or WITHOUT dermal lymphatic invasion  
See list of terms\*

SS18 Regional

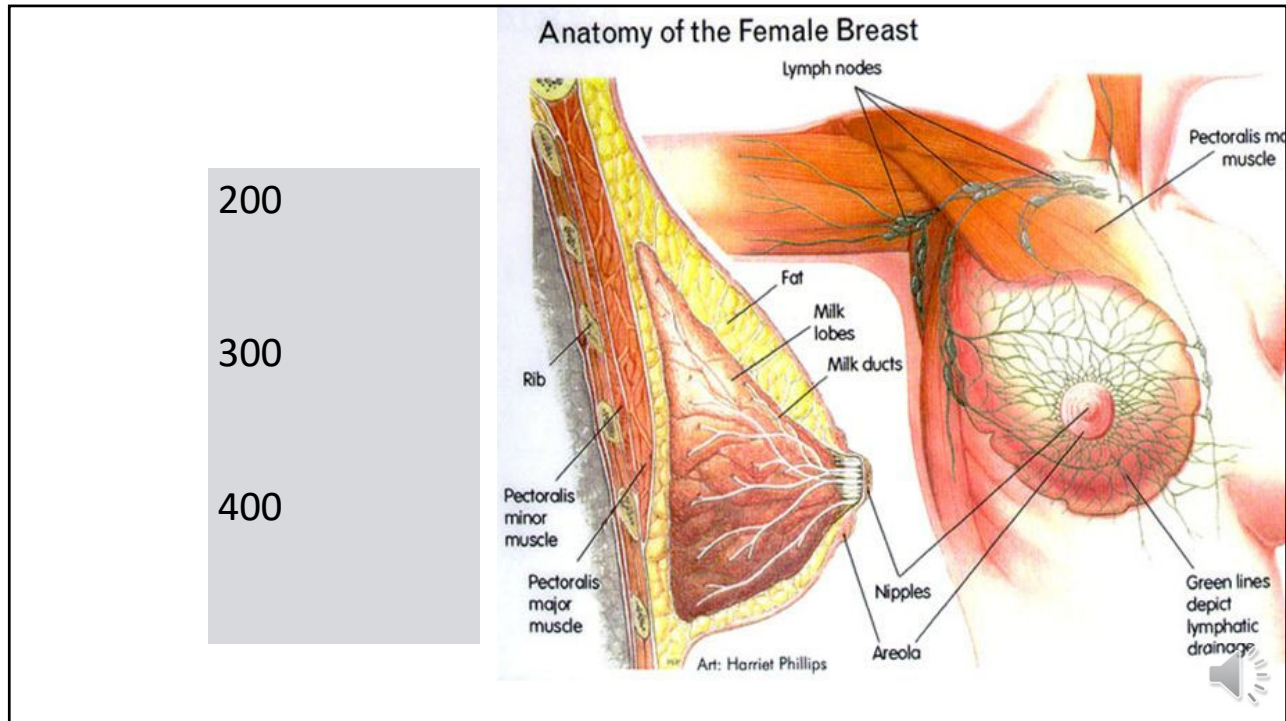
Note 4

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## Invasive

### Code Description

450	Diagnosis of inflammatory carcinoma WITH a clinical description of inflammation, edema, peau d'orange, etc. involving $\leq 1/3$ (33%) of skin of breast or % not stated WITH or WITHOUT dermal lymphatic infiltration <ul style="list-style-type: none"> <li>• En cuirasse</li> <li>• Satellite nodule(s)</li> <li>• Skin edema</li> <li>• Ulceration of skin of breast</li> </ul>
500	300 + (400 or 450)
SS18	Regional

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## Invasive

Code	Description
600	Diagnosis of inflammatory carcinoma Same details but involving > 1/3 (33%) or more of skin of breast.
700	Stated as "inflammatory carcinoma" with no other information
800	No evidence primary tumor
999	Unknown; extension not stated; not documented
SS18	Codes 600-700 Regional

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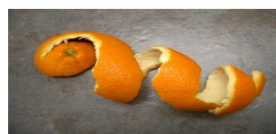
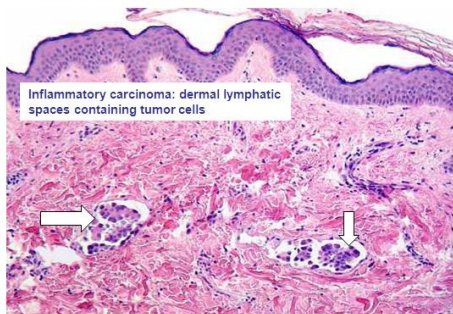
19

## Inflammatory Breast Carcinoma

### Inflammatory Carcinoma

invasive carcinoma involving superficial dermal lymphatic. Erythema & induration

**Peau d'orange** of involved skin caused by lymphatic involvement and obstruction.



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## EOD Regional Nodes

Note 1: Code only regional nodes and nodes, NOS in this field. Distant nodes coded in EOD Mets.

Note 2: Codes for CLINICAL assessment only or PATH assessment only.

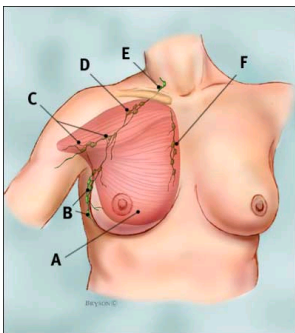
- ❖ Clinical codes (000, 150, 350, 400) clinical workup only, no surgical resection of breast.
- ❖ Path codes (030, 050, 070, 200, 250, 300)
  - ❖ Primary tumor surgically resected WITH
  - ❖ Any microscopic exam of Reg LN
    - ❖ FNA, core bx, SLN bx or LN excision during clinical workup
    - ❖ LN dissection
- ❖ Remaining codes can be used based on clin or path info

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Note 3: Path nodes pos, no size of mets, assume >0.2 mm and code positive



Note 4: If reg LNs are removed and no mention of level, assume these are Level I-II and code appropriately.

Note 5: ITCs = single cells or clusters not > 0.2 mm detected IHC. ITCs not malignant. LNs with ITC only are not counted as pos nodes.

Code 030: Path neg nodes path with pos ITCs or pos ITCs and pos RT-PCR

Code 050: Path neg nodes path with pos RT-PCR, neg ITCs

Code 070: Neg nodes path, unkn if ITCs or RT-PCR

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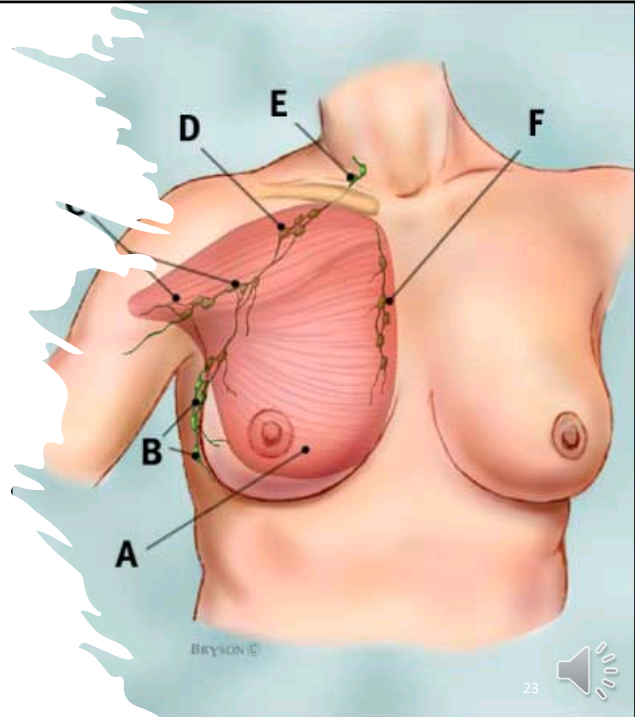
22

## EOD Regional Nodes

Note 6: Internal mammary nodes (codes 250, 300, 400, 600) not routinely removed.

❖ Do not confuse **internal mammary (F)** nodes with **intramammary nodes (within)**, which are routinely evaluated.

Note 7: If internal mammary, infraclavicular or supraclavicular nodes involved, Codes 100-200, 350 may not be used.



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## EOD Regional Nodes

Note 8: Nodes listed

Note 9: Code 800 if reg LNs are involved but no indication which ones involved.

Note 8: Regional lymph nodes include

- > Axillary, NOS (ipsilateral)
- > Level I (low-axilla) (low) (superficial), NOS [adjacent to tail of breast]
  - > Anterior (pectoral)
  - > Lateral (brachial)
  - > Posterior (subscapular)
- > Level II (mid-axilla) (central), NOS
  - > Interpectoral (Rotter's)
- > Level III (high) (deep), NOS
  - > Apical (subclavian)
  - > Axillary vein
- > Fixed/matted axillary (level I and II) (ipsilateral)
- > Infraclavicular (subclavicular) (ipsilateral)
- > Internal mammary (parasternal) (ipsilateral)
- > Intramammary (ipsilateral)
- > Supraclavicular (transverse cervical) (ipsilateral)

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## Reg Nodes

Code	Description
000:C	No <b>clinical</b> regional lymph node involvement {clinically neg}
030:P	PATHOLOGICAL assessment only ITC's only (malig cell clusters no larger than 0.2 mm in reg LNs.
050:P	PATHOLOGICAL assessment only Positive molecular findings by RT-PCR, no ITC's detected
070:P	No reg LN involvement pathologically ( <b>lymph nodes removed and path neg</b> ) WITHOUT ITCs or ITC testing unknown
SS18	None

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## Reg Nodes

SS18  
"Regional"  
For EOD  
100-400

Code	Description
100:P	Ipsilateral Level I and Level II axillary nodes, micromets
150:C	<b>CLINICAL</b> assessment only (needle core/FNA) pos
200:P	PATH assessment only Pos axillary nodes ipsilat
250:P	PATHOLOGICAL assessment only: Int mammary pos on SLN bx; w/o ax nodes pos
300:P	PATHOLOGICAL assessment only: Int mammary pos on SLN bx WITH ax nodes pos
350:C	<b>CLINICAL</b> assessment only; fixed/matted
400:C	<b>CLINICAL</b> assessment only: Internal mammary pos w/o ax nodes pos

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## Clin POS Nodes Level I & II

Code	Description
150C	CLINICAL assessment only (FNA) pos
350C	CLINICAL assessment only; fixed/matted
400C	CLINICAL assessment only: Int mammary pos w/o ax nodes pos



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## Path POS Nodes Level III


Code	Description
500	Infraclavicular nodes (subclav) (level III), ipsilat WITH or WITHOUT axillary nodes level I and II nodes WITHOUT internal mammary node
600	Internal mammary nodes, ipsilat, clinically apparent (imaging or exam) WITH axillary level I, II or III nodes
700	Supraclavicular nodes, ipsilateral {SS18 distant}
800	Regional nodes NOS Lymph nodes NOS
999	Unknown, not stated or documented; cannot be assessed.



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# EOD METS

Note 1: For bone marrow micromets, circulating tumor cells CTCs or disseminated tumor cells and clusters (DTCs) are less than or equal to 0.2 mm and assigned to code 05.




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## EOD Mets

Code	Description
00	<b>No</b> distant mets <b>OR UNKNOWN</b> if distant mets
05	No clinical or radiographic evid distant mets Tumor cells found in circulating blood, bone marrow, or other distant LN tissue less than or equal to 0.2 mm [see note 1]
10	Distant lymph node(s) *list in manual* {SS18 10 distant}

Distant lymph node(s)

- > Axillary (contralateral or bilateral)
- > Cervical, NOS
- > Fixed/matted axillary (level I and II) (contralateral or bilateral)
- > Infraclavicular (subclavicular) (contralateral or bilateral)
- > Internal mammary (parasternal) (contralateral or bilateral)
- > Intramammary (contralateral or bilateral)
- > Supraclavicular (transverse cervical) (contralateral or bilateral)
- > Distant lymph node(s), NOS



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## EOD Mets

Code	Description
70	Skin over: axilla, contralat breast, sternum, upper abd Further contig extension Distant mets: adrenal, bone, contralat breast if stated metastatic, lung, ovary, satellite nodules in skin other than primary breast Carcinomatosis Distant mets WITH or WITHOUT distant lymph nodes, Distant mets nos
99	Death certificate only
SS18	Distant

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## Summary Stage 18 {SS18}

### SS18 General coding instructions

- Guidelines by stage
- <https://seer.cancer.gov/tools/ssm/SSM-2018-GENERAL-INSTRUCTIONS.pdf>

### SS18 Manual by sites or complete manual pdf

<https://seer.cancer.gov/tools/ssm/>

### SEER\*RSA

- SS18 in each schema

COC programs directly code SS18

Non-COC it is derived.



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## Tumor Size CLINICAL

Record size of solid primary tumor

- Before any treatment (surgical resection or initiation of any treatment including neoadjuvant)
- Clinical classification composed of:
  - Diagnostic workup prior to first treatment
  - Physical exam
  - Imaging
  - Path findings (gross and micro)
  - Surgical exploration without resection
- Clinical tumor size (pre-treatment size) essential for treatment decisions and prognosis determination for many types of cancer.



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## Tumor Size Clinical

- Taken from any **clinical** information prior to neoadjuvant treatment

SEER Program Coding Staging Manual: Coding Instruction #2

**Priority** of recording clinical tumor size

- a. Operative Report from surgical exploration without resection
- b. Imaging-guided tissue biopsy (incisional)
  - i. Do not use size from core biopsy or needle biopsy for clinical tumor size unless confident it is size of tumor and not size of specimen. Core and needle bx do not obtain enough tissue to know actual tumor size. *NOTE: An incisional biopsy that removes whole tumor is actually excisional biopsy, Code excisional biopsy in Tumor Size Path.*
- c. Diagnostic imaging – use largest size from imaging report
- d. Physical exam – use in absence of surgical exploration, imaging.



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## Tumor Size – Clinical

- Example 1

- Mammo = 2.5 cm
- Needle Bx = 1.5 mm from core
- No cTNM

**Clinical TS = 025**

- Example 2

- Imaging = 34 mm
- Needle core bx = 11 mm on slide
- Stage cT2 by onc

**Clinical TS = 034**

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## SEER\*RSA Breast: Tumor Size Clinical Notes

### Site specific rules override general rules

Note: **Exception** to rounding rules for BREAST primaries. Round tumor sizes >1.0 mm and up to 2.4 mm to 2 mm (002). The purpose of this exception is so that the size recorded in the Tumor Size field will derive the correct AJCC TNM Primary Tumor (T) category.

Do not apply this instruction to any other site.

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## Tumor Size PATH

Record size of solid primary tumor that has been resected.

- Path Classification includes:
  - Operative and path findings from resected specimen
  - Before initiation of adjuvant treatment
- Path size is important prognostic indicator and valuable for clinical practice and research on surgically treated patients for most cancer.



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## SEER\*RSA Breast: Tumor Size Path Notes

### Site specific rules override general rules

Note: **Exception** to round rules for BREAST primaries. Round tumor sizes >1.0 mm and up to 2.4 mm to 2 mm (002). The purpose of this exception is so that the size recorded in the Tumor Size field will derive the correct AJCC TNM Primary Tumor (T) category.

Do not apply this instruction to any other site.



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## Tumor Size SUMMARY

This is derived for non-COC programs.  
COC Programs must code manually.

Record the most accurate measurement of  
a solid primary tumor, usually measured  
on surgical resection specimen.

Reference is STORE Manual, pg 166



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## Tumor Size Summary

2. If **neoadjuvant** therapy followed by surgery, do not record the size from the pathologic specimen. Code the largest size of tumor prior to neoadjuvant treatment; if unknown code size as 999.

Example: Patient has a 2.2 cm mass in the oropharynx; fine needle aspiration of mass confirms squamous cell carcinoma. Patient receives a course of neoadjuvant combination chemotherapy. Pathologic size after total resection is 2.8 cm. Record tumor size as 022 (22mm).

3. If no surgical resection, then largest measurement of the tumor from physical exam, imaging, or other diagnostic procedures prior to any other form of treatment (See Coding Rules below).

Reference: STORE



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## SEER\*RSA Breast: Tumor Size Summary Notes

### Site specific rules override general rules

Note: Exception to round rules for BREAST primaries. Round tumor sizes >1.0 mm and up to 2.4 mm to 2 mm (002). The purpose of this exception is so that the size recorded in the Tumor Size field will derive the correct AJCC TNM Primary Tumor (T) category.

Do not apply this instruction to any other site.



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## SEER\*Educate

Training | Coding CEs

DX 2021-2022 EOD, Summ Stage,  
Grade, SSDI

- Breast 1-10



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## Questions?

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