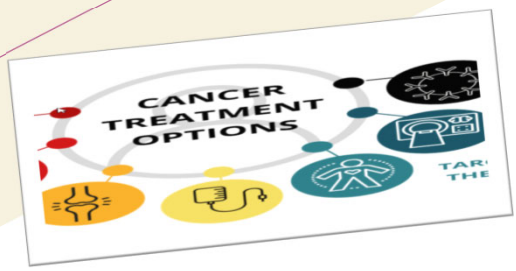

Treatment 2021

December 2,2021

NAACCR

Q&A

Please submit all questions concerning the webinar content through the Q&A panel.

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.

NAACCR

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Fabulous Prizes



3

Guest Presenter

- Wilson Apollo, CTR
  - Radiation Oncology Consultant and CE-module developer, CTR Coding Lecturer
- Jennifer Ruhl, MS, CCS, RHIT, CTR
  - Cancer Registrar, SEER

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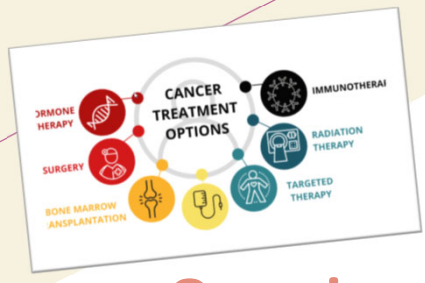
Agenda

- Overview
  - Jim Hofferkamp
- Radiation
  - Wilson Apollo
- Neoadjuvant Treatment
  - Jennifer Ruhl

5



Overview

Jim Hofferkamp

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First Course of Treatment

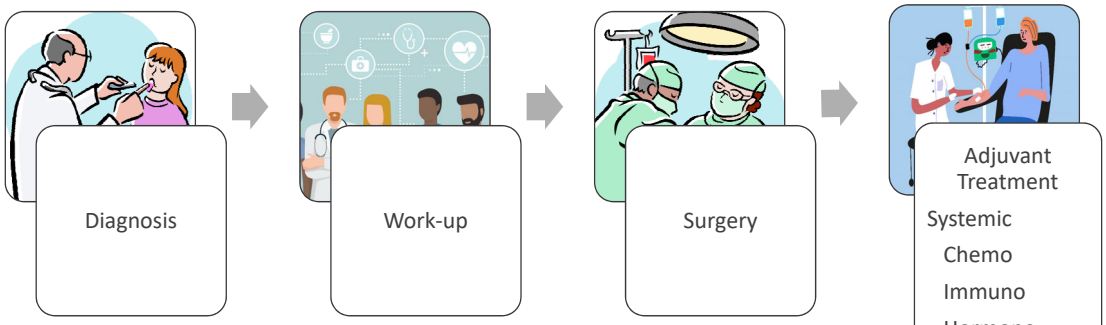
- Includes all methods of treatment recorded in the treatment plan
- Administered to patient before disease progression or recurrence.
- Types of treatment
  - Surgery
  - Radiation
  - Systemic Treatment
  - Other Treatment
  - Palliative Care
  - No Treatment
  - Active Surveillance

First Course of Treatment

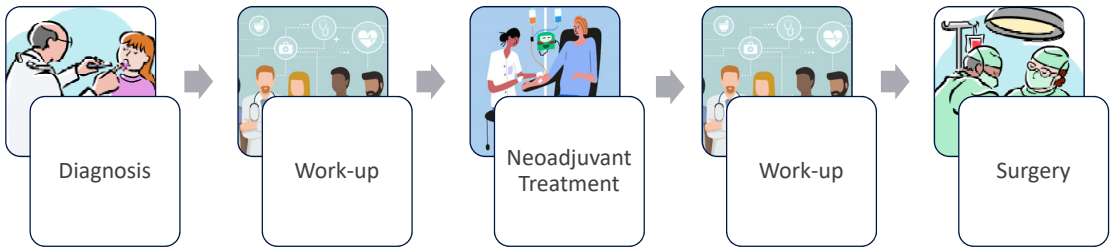
- Time Periods for First Course of Treatment
  - If first course treatment was provided, the Date of First Course of Treatment [1270] is the earliest of Date of First Surgical Procedure [1200], Date Radiation Started [1210], Date Systemic Therapy Started [3230], or Date Other Treatment Started [1250].
    - If no treatment is given, record the date of the decision not to treat, the date of patient refusal, or the date the patient expired if the patient died before treatment could be given.
    - If active surveillance ("watchful waiting") was selected, record the date of that decision.

8

Typical Timeline



Neoadjuvant Therapy



Total time of neoadjuvant therapy varies.
Not uncommon for it to take 6 months or more.
Patient may need recovery time before surgery.

Treatment Plan

- A treatment plan describes the type(s) of therapies intended to modify, control, remove, or destroy proliferating cancer cells.
  - Curative
  - Palliative
- Part of patients record
  - Discharge Plan
  - Protocol or Management guidelines
  - If there is no treatment plan, established protocol, or management guidelines, and consultation with a physician advisor is not possible, use the principle: "initial treatment must begin within four months of the date of initial diagnosis."

Neoadjuvant: Staging vs Treatment

- 2/1/21-Patient present for TURB and is found to have muscle invasive urothelial bladder cancer (T2).
- 2/13/21-patient begins a 4 week regimen of MVAC induction chemotherapy.
- 4/1/21-patient has a cystectomy showing no residual bladder cancer and 4 negative pelvic nodes.

Data Item	Code
Clinical AJCC Stage	cT2 cN0 cM0 Stage 2
Pathological AJCC Stage	pT, N, M blank, stage group 99
yP Stage	ypT0 ypN0 ypM0 Stage 99
Surgery Primary Site 2/1/21	27
Chemotherapy 2/13/21	03
Surgery Primary Site 4/1/21	50
Systemic/Surgery Sequence	7-Surgery both before and after systemic therapy

*MVAC-Methotrexate, vinblastine, doxorubicin, and cisplatin

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Neoadjuvant: Staging vs Treatment

- 2/1/21 Colonoscopy and biopsy of a rectal tumor rectum was positive for poorly differentiated adenocarcinoma. Work-up was positive for T3 N0 M0 rectal tumor.
- 2/15/21-8/15/21 The patient received chemoradiation.
- 9/1/21 A low anterior resection is performed. Primary tumor confined to the submucosa. 24 lymph nodes negative for mets.

Data Item	Code
Clinical AJCC Stage	cT3 cN0 cM0 Stage 2
Pathological AJCC Stage	pT, N, M blank, stage group 99
yP Stage	ypT1 ypN0 ypM0 Stage 1
Diagnostic Staging Procedure 2/1/21	02
Chemotherapy 2/15/21	01
Surgery Primary Site 9/1/21	30
Systemic/Surgery Sequence	2 Systemic therapy before surgery

*MVAC-Methotrexate, vinblastine, doxorubicin, and cisplatin

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Surgery

Diagnostic Staging Procedure

Surgery of Primary Site

Scope of Regional Nodes

14

Surgery

STORE

- *First course surgery items describe the most definitive type of surgical treatment the patient received from any facility, when it was performed, and its efficacy.*
  - Page 53

SPCSM-Surgery Primary Site

- Use the **entire operative report** as the primary source document to determine the best surgery of primary site code.
- The body of the operative report will designate the surgeon's planned procedure as well as a description of the procedure that was actually performed.
- The pathology report may be used to complement the information appearing in the operative report, but the **operative report takes precedence.**

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Surgical Diagnostic and Staging Procedure

- Only record positive procedures.
- If both biopsy of the primary site and biopsy of a metastatic site, use code 02 (Incisional biopsy of primary site).
- If a node is biopsied to diagnose lymphoma, and that node is NOT the only node involved, use code 02.
- Do not code surgical procedures which aspirate, biopsy, or remove regional lymph nodes
- If a needle biopsy precedes an excisional biopsy or more extensive surgery, and the surgical margins are clear (i.e., no tumor remains),DO NOT consider the needle biopsy to be an excisional biopsy.

Code	Label
00	No surgical diagnostic or staging procedure was performed.
01	A biopsy (incisional, needle, or aspiration) was done to a site other than the primary site. No exploratory procedure was done.
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.
03	A surgical exploration only. The patient was not biopsied or treated.
04	A surgical procedure with a bypass was performed, but no biopsy was done.
05	An exploratory procedure was performed, and a biopsy of either the primary site or another site was done.
06	A bypass procedure was performed, and a biopsy of either the primary site or another site was done.
07	A procedure was done, but the type of procedure is unknown.
09	No information of whether a diagnostic or staging procedure was performed.

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Pop Quiz 1

1. Patient has an FNA of a pancreatic tumor. Cytology is positive for malignant cells confirming a pancreatic primary. What is Dx Staging procedure?
a. 00 No surgical dx staging procedure done
b. 01 biopsy other than primary site
c. 02 biopsy of primary site
d. None of the above

2 Patient had a core biopsy of a breast tumor. Pathology was positive for fibroadenoma. Patient had an excisional biopsy of the tumor that showed an area of carcinoma in situ. What is Dx Staging procedure?
a. 00 No surgical dx staging procedure done
b. 01 biopsy other than primary site
c. 02 biopsy of primary site
d. None of the above

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Pop Quiz 1

3. Patient had core biopsies of a tumor in the lung, a mediastinal lymph node, and a liver nodule. All three were positive for squamous cell carcinoma, most likely from a lung primary. What is Dx Staging procedure?
a. 00 No surgical dx staging procedure done
b. 01 biopsy other than primary site
c. 02 biopsy of primary site
d. None of the above

4. Patient presents with cervical, axillary, and mediastinal lymphadenopathy. An excisional biopsy of an axillary lymph node is positive for follicular lymphoma. What is Dx Staging procedure?
a. 00 No surgical dx staging procedure done
b. 01 biopsy other than primary site
c. 02 biopsy of primary site
d. None of the above

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Surgery of Primary Site

- For codes 00 through 79, the response positions are hierarchical. Last-listed responses take precedence over responses written above.
- Excisional biopsies (those that remove the entire tumor and/or leave only microscopic margins) areto be coded in this item.
- If a previous surgical procedure to remove a portion of the primary site is followed by surgery to remove the remainder of the primary site, then code the total or final results.
- If a needle biopsy precedes an excisional biopsy or more extensive surgery, and upon the excisional biopsyor more extensive surgery the surgical margins are clear (i.e., no tumor remains), DO NOT consider theneedle biopsy to be an excisional biopsy.
  - The needle biopsy should be recorded as such in the Surgical Diagnostic and Staging Procedure [1350] and the excisional biopsy or more extensive surgery in the Surgical Procedure of the Primary Site [1290].

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Surgical Excisional Breast Biopsy vs. Lumpectomy

- Since both excisional biopsies and lumpectomies involve the extraction of abnormalities from the breast, they might seem like the same operation – but there are differences.
  - An excisional breast biopsy is typically performed as a diagnostic tool to determine whether or not the lump within a breast is actually caused by cancerous cells.
  - A lumpectomy, on the other hand, takes place when a patient has already been diagnosed with cancer, but does not need a mastectomy, the clinical term for the removal of the entire breast."

    Surgical Excisional Breast Biopsy and Lumpectomy - JFK Medical Center (jfkmc.org)
- Using the current surgery codes, the difference between "lumpectomy" and "excisional biopsy" does not impact coding. They are both coded as 22. However, it does give us some context for what we are seeing.

Thank you Nancy Donovan!

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Pop Quiz 2

5. Patient had a core biopsy of a breast tumor (per operative report). The specimen was positive for carcinoma. The patient returned for a lumpectomy (per operative report). No residual tumor was identified. How is the lumpectomy coded?

a. 00-No surgery of primary site
b. 22 Lumpectomy
c. 23 Re-excision
d. None of the above

6. Patient had a Lumpectomy. At the time of surgery, a pathologist reviewed the slide and determines that patient has positive margins. During the same procedure (lumpectomy procedure) a re-excision of the lumpectomy cavity is completed. How is the lumpectomy coded?

a. 00-No surgery of primary site
b. 22 Lumpectomy
c. 23 Re-excision
d. None of the above

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Bilateral Mastectomy

- STORE surgery coding for breast revised the surgery coding instructions for the breast primary site will be updated in the next STORE 2018 revision to reflect the following:
  - A total (simple) mastectomy removes all breast tissue, the nipple, and areolar complex. An axillary dissection is not done, but sentinel lymph nodes may be removed.
  - For single primaries involving both breasts use code 76.
  - If the contralateral breast reveals a second primary, each breast is abstracted separately. The surgical procedure is coded 41 for the first primary. The surgical code for the contralateral breast is coded to the procedure performed on that site.

22

Pop Quiz 3

7. Patient with biopsy confirmed ductal carcinoma of the left breast presents for a bilateral simple mastectomy. What is Surgery of Primary Site?

a. 41-Simple mastectomy WITHOUT Removal of uninvolved contralateral Breast
b. 42 Simple mastectomy WITH removal of uninvolved contralateral breast
c. 76- Bilateral mastectomy for a single tumor involving both breasts, as for bilateral inflammatory carcinoma
d. None of the above

8. Patient presents with a large tumor in the left breast and bilateral inflammatory carcinoma. The patient had a bilateral simple mastectomy. What is Surgery of Primary Site?

a. 41-Simple mastectomy WITHOUT Removal of uninvolved contralateral Breast
b. 42 Simple mastectomy WITH removal of uninvolved contralateral breast
c. 76- Bilateral mastectomy for a single tumor involving both breasts, as for bilateral inflammatory carcinoma
d. None of the above

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Scope of Regional Node Surgery

- Collected even if surgery of the primary site was not performed
- Record aspirations, biopsy or removal of lymph nodes to diagnose or stage
- Codes are hierarchal
- Subsequent procedures include cumulative effect if 2 or more lymph node procedures performed
- Use operative report to determine if sentinel lymph node biopsy or dissection or both
- Do not code surgery to distant lymph nodes in scope of regional lymph node surgery
- Coding info in scope of regional lymph node surgery is not necessarily treatment for class of case

Code	Label
0	None
1	Biopsy or aspiration of regional lymph (single) node
2	Sentinel Lymph Node Biopsy
3	Number of regional lymph nodes removed unknown
4	1-3 regional lymph nodes
5	4 or more regional lymph nodes removed
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

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Pop Quiz 4

- A patient was found to have lump in her left breast.
  - On 2/5/21 she had lumpectomy and a sentinel lymph node biopsy.
    - 2 sentinel lymph nodes were removed and were positive for malignancy.
    - 3 non-sentinel axillary nodes removed and negative for malignancy.
  - On 2/25/21 she had a simple mastectomy.

9. What is coded in Scope of Regional Lymph Node Surgery ?
- 2: Sentinel lymph node biopsy (SLN Bx)
- 5: 4 or more regional lymph nodes removed
- 6: SLN Bx and code 3, 4, or 5 at same time
- 7: SLN Bx and code 3, 4, or 5 at different times

Pop Quiz 5

- 2/1/21: Patient presents to your facility for a core biopsy of an enlarged cervical lymph node. The node is found to be positive for metastatic squamous cell carcinoma.
- 2/7/21:The patient goes to another facility for further work-up and staging.
- He is found to have squamous cell carcinoma of the larynx with widespread metastasis.
- 2/15/21: The patient opted for hospice care based on physician(at other facility) recommendation. No further work-up or treatment done.

10. What is Scope of Regional Lymph Node Surgery for the
- 0: None
- 1: Biopsy or aspiration of regional lymph node(s)
- 4:1-3 regional lymph nodes
- 5: 4 or more regional lymph nodes removed
- 9: Unknown

11. What is Class of Case for your facility?
- 00: Initial diagnosis at the reporting facility AND all treatment or a decision not to treat was done elsewhere
- 13: Initial diagnosis at the reporting facility AND part of first course treatment was done at the reporting facility; part of first course treatment was done elsewhere
- 14: Initial diagnosis at the reporting facility AND all first course treatment or a decision not to treat was done at the reporting facility
- 30: Initial diagnosis and all first course treatment elsewhere AND reporting facility participated in diagnostic workup (for example, consult only, treatment plan only, staging workup after initial diagnosis elsewhere)

Pop Quiz 5 (cont)

- 2/1/21: Patient presents to your facility for a core biopsy of an enlarged cervical lymph node. The node is found to be positive for metastatic squamous cell carcinoma.
- 2/7/21:The patient goes to another facility for further work-up and staging.
- Patient is found to have squamous cell carcinoma of the larynx with widespread metastasis.
- 2/15/21: The patient opted for hospice care based on physician(at other facility) recommendation. No further work-up or treatment done.

12. What is Date First Course Treatment?
a. 2/1/21
b. 2/7/21
c. 2/15/21
d. None of the above

13. What is Date First Course Treatment?
a. 2/1/21
b. 2/7/21
c. 2/15/21
d. None of the above

14. What is Treatment Status?
- 0: No Treatment Given
- 1: Treatment Given
- 2: Active Surveillance
- 9: Unknown

Pop Quiz 6

- Patient presents for core biopsy of an enlarged cervical lymph node on 1/15/21. Pathology showed a single lymph node positive for metastatic squamous cell carcinoma.
- Additional workup on 1/21/21 revealed a tumor of the glottis. An incisional biopsy confirmed squamous cell carcinoma.
- The patient returned on 1/30/21 for supragottic laryngectomy and neck dissection.

15. What is Date First Course Treatment?
a. 1/15/21
b. 1/21/21
c. 1/30/21
d. None of the above

16. What is the time between diagnosis and treatment
a. 0 (treatment started the same day as diagnosis)
b. 6 days
c. 15
d. None of the above

28

Date First Course of Treatment

- Records date treatment (surgery, radiation, systemic , or other therapy) began
- Calculate the delay between diagnosis and treatment initiated
- Starting point for calculating survival
- Date for watchful waiting, no treatment, or refusal of treatment.

Lymph Node Data Items-Relationships

- Date of Sentinel Lymph Node Biopsy
- Sentinel Lymph Nodes Examined
- Sentinel Lymph Nodes Positive
- Date Regional Lymph Node Dissection
- Scope of Regional LN Surgery
- Regional Lymph Nodes Examined
- Regional Lymph Nodes Positive

Note 1-Applies to breast and melanoma only

Note 2: Code number of LN's removed during procedure.

Note 3- Do not try to "force" a relationship between Scope of Regional LN Surgery and Date Regional Node Dissection.

30

Pop Quiz 7

- A patient was found to have a lump in her left **breast**.
- On 2/5/21 she had lumpectomy and a sentinel lymph node biopsy.
  - 3 sentinel lymph nodes were removed and were positive for malignancy.
  - 2 non-sentinel nodes removed and negative for malignancy.
- Patient went on to have radiation and hormone therapy. No further surgery.

17. What is Date Sentinel Node Procedure?
a. Blank
b. 2/5/21
c. None of the above

18. What is Date Regional Node Dissection?
a. Blank
b. 2/5/21
c. None of the above

19. What are Sentinel Nodes Pos/Ex?
a. Blank/Blank
b. 03 pos /05 ex
c. 97 pos /05 ex
d. None of the above

20. What are Regional Nodes Pos/Ex?
a. 01 pos/ 15 ex
b. 03 pos /03ex
c. 03 pos/ 05 ex
d. 98 pos /00 ex

Pop Quiz 8

- A patient was found to have a lump in her left **breast**.
- On 2/5/21 she had lumpectomy and a sentinel lymph node biopsy.
  - 3 sentinel lymph nodes were removed and were positive for malignancy.
  - 2 non-sentinel nodes removed and negative for malignancy.
- Under the same anesthesia she had a modified radical mastectomy and axillary node dissection.
  - 15 lymph nodes were removed. A single axillary node was positive for malignancy. 14 nodes negative.

21. What is Date Sentinel Node Procedure?
a. Blank
b. 2/5/21
c. None of the above

22. What is Date Regional Node Dissection?
a. Blank
b. 2/5/21
c. None of the above

23. What are Sentinel Nodes Pos/Ex?
a. Blank/Blank
b. 03 pos /05 ex
c. 97 pos /05 ex
d. None of the above

24. What are Regional Nodes Pos/Ex?
a. 01 pos/ 15 ex
b. 03 pos /05 ex
c. 03 pos/ 20 ex
d. 04 pos /20 ex

Pop Quiz 9

- 2/5/21 OP Report Sentinel Node Procedure FINDINGS:
  1. Radioactive seed identified the superior edge of the left breast within breast tissue. This was excised separately.
  2. Technetium and blue dye were not identified in the axilla.
  3. Procedure converted to axillary node dissection due to lack of mapping.
  4. Specimen radiography of axillary tissue documented the axillary clip.
- Path Report
  - 24 axillary lymph nodes negative for malignancy

25. What is Date Sentinel Node Procedure?
a. Blank
b. 2/5/21
c. None of the above

26. What is Date Regional Node Dissection?
a. Blank
b. 2/5/21
c. None of the above

27. What are Sentinel Nodes Pos/Ex?
a. Blank/Blank
b. 98 pos /00 ex
c. 00/24
d. None of the above

28. What are Regional Nodes Pos/Ex?
a. Blank/Blank
b. 98/00
c. 00/24
d. None of the above

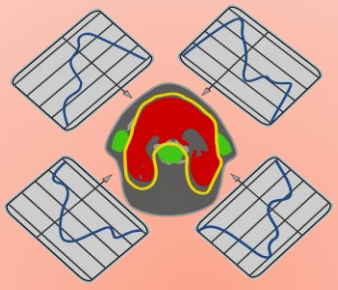
Text

- PE (Physical Exam)
- X-Ray
- Scopes
- Lab Tests
- OP (Operative Findings)
- Path
- Primary Site
- Histology
- Staging
- Remarks
- Surgery
- Radiation-Beam
- Radiation-Other
- Chemotherapy
- Hormone
- BRM
- Transplant/Endocrine
- Other

Takeaways…

- Core concepts of treatment
- Relationships between data items!
- Text, Text Text!

35



Decoding Radiation Therapy Treatments: Useful pointers

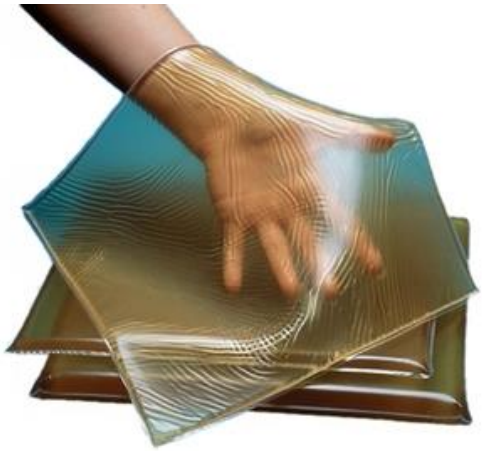
Wilson Apollo, MS, CTR, RTT
WHA Consulting
NAACCR
December 2, 2021

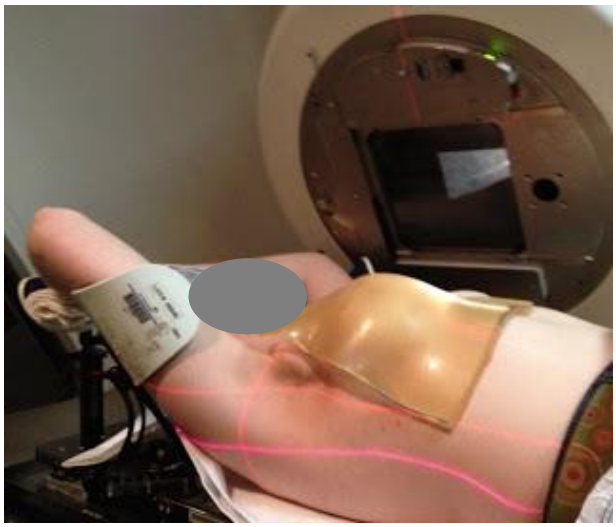
1. Breast RT w/bolus & w/o Bolus

Site	Modality	Technique	Dose (Gy)	Fx	Start	End
LT CW+axilla+IM. No bolus	6 MV	3D	2.66	8	1/14/21	1/28/21
LT CW+axilla+IM. With bolus	6X	3D	2.66	8	1/29/21	2/9/21
LT S'clav	6MVX	3D	2.66	16	1/14/21	2/9/21
Total			42.56	16		

- How does the use of bolus impact on the number of phases, planning technique?

Bolus





Bolus: Tissue-equivalent material, often used during an electron boost to breast/lumpectomy scar. Can also be used with photons. Bolus increases dose to the skin.

It is **not associated** with any particular planning technique. **Does not** impact on total number of phases.

Case 1: Breast

Seg	#	Field	Code/Definition
Summary	1	Rad/Surg Sequence	3 Radiation after surgery
	2	Reason No Rad	0 Radiation was administered
	3	Location of Rad	1 All RT at this facility
	4	Date Started/Flag	01/14/21
	5	Date Finished/Flag	02/09/21
	6	Number of Phases	01
	7	Discontinued Early	01 Completed
	8	Total Dose	**4256**
Phase 1	9	Volume	42 Chestwall
	10	Rad to Nodes	04 Breast/CW lymph nodes
	11	Modality	02 External beam, photons
	12	Planning Technique	04 3D conformal
	13	Number of Fractions	016
	14	Dose per Fraction	00266
	15	Total Phase 1 Dose	004256
Phase 2	16	Volume	00
	17	Rad to Nodes	
	18	Modality	
	19	Planning Technique	
	20	Number of Fractions	
	21	Dose per Fraction	
	22	Total Phase 2 Dose	
Phase 3	23	Volume	
	24	Rad to Nodes	
	25	Modality	
	26	Planning Technique	
	27	Number of Fractions	
	28	Dose per Fraction	
	29	Total Phase 3 Dose	

Case 1 Rationale:

#6/8: Single phase, straightforward total dose summary.
#9: Following breast subcutaneous mastectomy, irradiated volume is the chestwall.
#10: RT treatment summary clearly states that the breast regional LNs were included.
#16: Single phase here. The chest wall and regional LNs were all irradiated at the same time during each session. Note the time frame.

1. Breast RT w/bolus & w/o Bolus

Notepad Text

1/14/21-2/9/21 @ XXX Hospital: LT CW/IMNs/S'clav, 6X/3D, 2.66 Gy x 16 fx= 42.56 Gy.

1. Pointer: Rounding off cGy

STORE p. 285, bullet 4

"If dose documented in the medical record includes a fraction of a cGy (e.g. 180.3), round to the nearest cGy"

a. 180.5 cGy = 181 cGy
b. 180.4 cGy = 180 cGy

2. IMPORT LOW APBI Breast Irradiation

CoC Forum, 9/13/21

How to code phase 1 planning technique?

Pt completed adjuvant RT using the IMPORT LOW APBI treatment planning parameters to spare as much of her LT lung as possible.

Site	Energy	Dose (Gy)	Fx	Start	End
LT Breast	18X/6X	2.66	16	10/21/20	11/11/20

Varian Linac was used for treatment.

2. IMPORT LOW Trial

Lancet 2017; 390: 1048-60

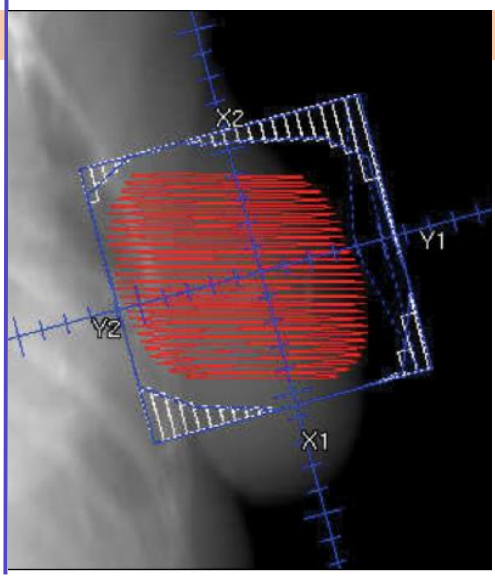
- Multicenter non-inferiority randomized phase 3 trial in UK, for low stage breast cancer following BCT,
- 3 randomized arms:
  1. 40 Gy to whole breast,
  2. 36 Gy to whole breast,
  3. 40 Gy to partial breast in 15 fx

All using FnF IMRT

https://www.clinicaltrials.gov/ct2/show/NCT00814567

2. IMPORT LOW Trial

Lancet 2017; 390: 1048-60



- Given positive outcomes, expect to see more partial breast irradiation treatments (41).
- Planning technique continues to be predominantly 3D conformal.

Case 2: Breast

Seg	#	Field	Code/Definition
Summary	1	Rad/Surg Sequence	3 Radiation after surgery
	2	Reason No Rad	0 Radiation was administered
	3	Location of Rad	1 All RT at this facility
	4	Date Started/Flag	10/21/20
	5	Date Finished/Flag	11/11/20
	6	Number of Phases	02
	7	Discontinued Early	01 Completed
	8	Total Dose	**4256**
Phase 1	9	Volume	41 Partial breast
	10	Rad to Nodes	00
	11	Modality	02 External beam, photons
	12	Planning Technique	04 3D conformal
	13	Number of Fractions	016
	14	Dose per Fraction	00266
	15	Total Phase 1 Dose	004256
Phase 2	16	Volume	00
	17	Rad to Nodes	
	18	Modality	
	19	Planning Technique	
	20	Number of Fractions	
	21	Dose per Fraction	
	22	Total Phase 2 Dose	
Phase 3	23	Volume	
	24	Rad to Nodes	
	25	Modality	
	26	Planning Technique	
	27	Number of Fractions	
	28	Dose per Fraction	
	29	Total Phase 3 Dose	

Case 2 Rationale:

#8: Single phase, straightforward total dose summary.
#9: Accelerated partial breast irradiation (APBI) clearly specified in treatment summary.
#10: No LNs included in irradiated field.
#12: Vast majority of breast irradiation for curative intent are 3D conformal, when using EBRT, as in this case(Varian Linac used).

2. IMPORT LOW APBI Breast Irradiation

Notepad Text

10/21/20-11/11/20 @ XXX Hospital: LT partial breast, 18X/6X/3D, 2.66 Gy x 16 fx= 42.56 Gy in 21 days.

2. Pointer: FnF technique

FnF (Field-in-Field) IMRT refers to a 3D-conformal plan that is designed to simulate IMRT effect.

FnF should be coded to 04-3D conformal.

Trial	Treatment		Patients (*n*)
	WBI	PBI	
Barcelona [5]	48 Gy/24 fr. ± boost	10 × 3.75 Gy 3D-RT in 5 days	102
Florence [16]	50 Gy/25 fr. + boost	5 × 6 Gy IMRT in 2 weeks	520
IMPORT-LOW [2]	40 Gy/15 fr.	40 Gy/15 fr. IMRT	2018
RAPID [13, 18, 21]	50 Gy/25 fr. or 42.5 Gy/16 fr. + boost	10 × 3.85 Gy 3D-RT in 5 days	2135
NSBAP B-39 [12, 17]	50 Gy/25 fr. + boost	10 × 3.85 Gy 3D-RT or HDR siBT or BT in 5–10 days	4216
Budapest [23]	50 Gy	BT: HDR 7 × 5.2 Gy in 4 days; or EB 50 Gy in 5 weeks	258
GEC-ESTRO [1, 3, 4]	50 Gy/25 fr. + boost	HDR-BT 8 × 4 Gy or 7 × 4.3 Gy in 5 days; or PDR-BT 50 Gy in 5 days	1184
ELIOT [15]	50 Gy/25 fr. + boost	IORT 1 × 21 Gy	1305
TARGIT [14]	50 Gy/25 fr. ± boost	IORT 1 × 20 Gy	3451

Examples of APBI trials

3. Mobetron IORT

Pt received IORT via the Mobetron intraoperative radiotherapy Linac.

Pt received 8 Gy prescribed to 90% IDL using 9MeV electrons.

Modality?

Planning technique?

3. Mobetron IORT

Know your equipment!

https://intraop.com/mobetron-iort/

"The Role of Intraoperative Radiation in Early-stage Breast Cancer" *Clinical Breast Cancer, Vol 21, No. 2, 103-11, 2020*

- Delivers electron therapy in any of three energies:
  - 6, 9, or 12 MeV

Modality: **04-Electrons**
Planning technique:

In most cases, **3D conformal**.
Can also be IMRT.

Need to check with your facility's treatment planner, rad onc or biller.

02: External beam, photons

Zeiss Intrabeam
XOFT Axxent
Esteya (skin ca)

Small-scale Linacs.

They **do not** use radioactive isotopes (seeds).

Planning Technique: 02, Low energy x-ray/photon therapy

Gy

04: External beam, electrons

Liac 10, Liac 12
Novac
Mobetron

All units deliver electron therapy.

Planning Technique: Can be 2D or 3D conformal. IMRT possible as well.

09: Brachytherapy, Intracavitary, HDR

Strut Assisted Volume Implant (SAVI),
Mammosite
Contura MLB

Total dose: in cGy!

Units use Ir-192 seeds.

Inserted into **cavity** created by breast conservation surgery (BCS).

Planning Technique: 88,NA

IORT FOR BREAST CANCER, Volume: 41-Partial Breast. Lymph nodes not targeted!

3. Electron boost via IMRT

- Some facilities are now delivering electrons boost with an IMRT planning technique. Current abstracting software does not allow selection of IMRT planning technique for an electron modality treatment (such as a breast boost).
- For the time being, code to 01-External beam, NOS.
- Edit metafile will be release in early 2022 to allow code 5 (IMRT) for electron therapy.

4. Cervix

- 65 y/o female w/ h/o HTN, HLD, DMII, who presented w/ vaginal pruritus. Former smoker. Social etoh. +fhx: mother diagnosed w/ breast cancer @ 59.
- 6/3/21: MRI abdomen= no evidence for metastatic disease. No pelvic lymphadenopathy.
- 6/4/21: PET/CT= No suspicious hypermetabolic activity in uterus, cervix & vagina. No FDG-avid lymphadenopathy. No PET/CT evidence of metastatic dz.

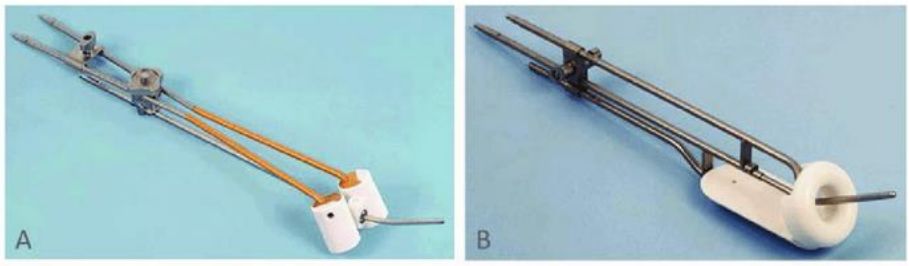
4: Cervix…

- RT Treatment Summary

Txt Site	Energy	Dose/Fx (cGy)	#fx	Total Dose (cGy)	Start date	End date
Pelvis/Cervix	6MVX	180	25/25	4,500	8/2/21	9/9/21
Cervix T&R	Ir-192	700	4/4	2,800	8/30/21	9/18/21
Total Dose			29/29	7,300	8/2/21	9/18/21

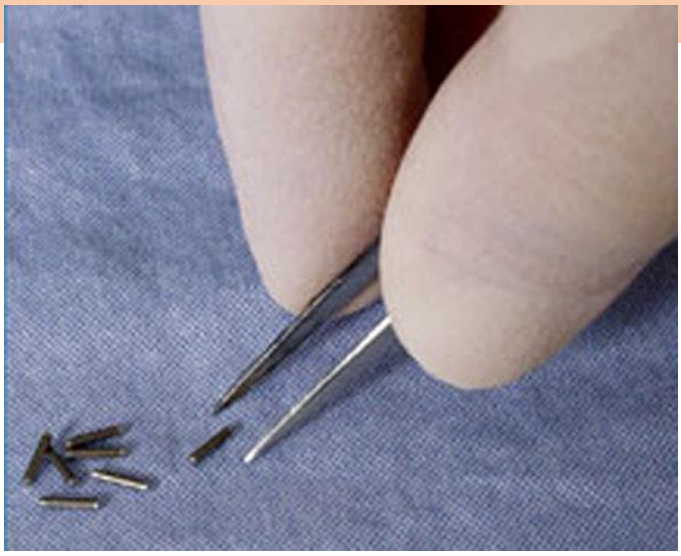
- The patient was treated to the pelvis w/IMRT technique. Concurrent chemotherapy (Cisplatin) administered. HDR brachytherapy via Tandem and Ring was **interdigitated** with EBRT in the fourth week of treatment. The patient had the expected side effects of bowel and bladder irritation. At 4500cGy to the pelvis and 2800cGy to the cervix, the course of radiation therapy was completed without any complications.

A. Tandem & Ovoids
B. Tandem & Ring



Does not impact coding. Both are used for delivering HDR Ir-192 Intracavitary Brachytherapy, Code 09.

Ir-192 brachytherapy seeds



Clinical Case 4: Interdigitated HDR Brachytherapy

1. The standard of care for a patient with cervical cancer is EBRT followed by vaginal cuff HDR intracavitary brachytherapy. As this approach is *sequential in nature* (EBRT phase is completed before the brachytherapy phase is initiated), the overall treatment time (OTT) is extended.
2. In contrast, with interdigitated HDR brachytherapy, the HDR brachytherapy portion is actually incorporated into the *same (or overlap) treatment time frame as the EBRT*, thus reducing the overall treatment time (OTT), and possibly improving the patient's outcome. *This is not a sequential approach.*

Case 4: Cervix

Seg	#	Field	Code/Definition
Summary	1	Rad/Surg Sequence	3 Radiation after surgery
	2	Reason No Rad	0 Radiation was administered
	3	Location of Rad	1 All RT at this facility
	4	Date Started/Flag	08/02/21
	5	Date Finished/Flag	09/18/21
	6	Number of Phases	02
	7	Discontinued Early	01 Completed
	8	Total Dose	**999998**
Phase 1	9	Volume	71 Uterus or Cervix
	10	Rad to Nodes	06 Pelvic lymph nodes
	11	Modality	02 External beam, photons
	12	Planning Technique	05 IMRT
	13	Number of Fractions	025
	14	Dose per Fraction	00180
	15	Total Phase 1 Dose	004500
Phase 2	16	Volume	72 Vagina
	17	Rad to Nodes	00 No RT to draining LNs
	18	Modality	09 Brachytherapy, intracavitary, HDR
	19	Planning Technique	88 NA
	20	Number of Fractions	04
	21	Dose per Fraction	00700
	22	Total Phase 2 Dose	002800
Phase 3	23	Volume	00
	24	Rad to Nodes	
	25	Modality	
	26	Planning Technique	
	27	Number of Fractions	
	28	Dose per Fraction	
	29	Total Phase 3 Dose	

Case 4 Rationale:

#8: You cannot add dose from brachytherapy procedure with EBRT dose.
#9: Phases in chronological order. If primary site in pelvic region is surgically removed, code to primary site.
#10: RT treatment summary clearly states that the pelvis was irradiated. This includes regional LNs.
#16: When intracavitary HDR brachytherapy is administered to the vaginal cuff for endometrial cancer or cervical cancer, post surgery, primary treatment volume is **Vagina**.
#21-22: If dose/fx & total dose is given in cGy, code it as such in the abstract.

Case 4 Notepad text

- 8/2/21-9/18/21 @ XXX Hospital: 1. Pelvis/cervix, 6X/IMRT, 1.8 Gy x 25 fx = 45 Gy. 2. Cervix T&R, Ir-192 Intracavitary HDR brachytherapy, 7 Gy x 4 fx= 28 Gy.

5. PAB (Posterior Axillary Boost)

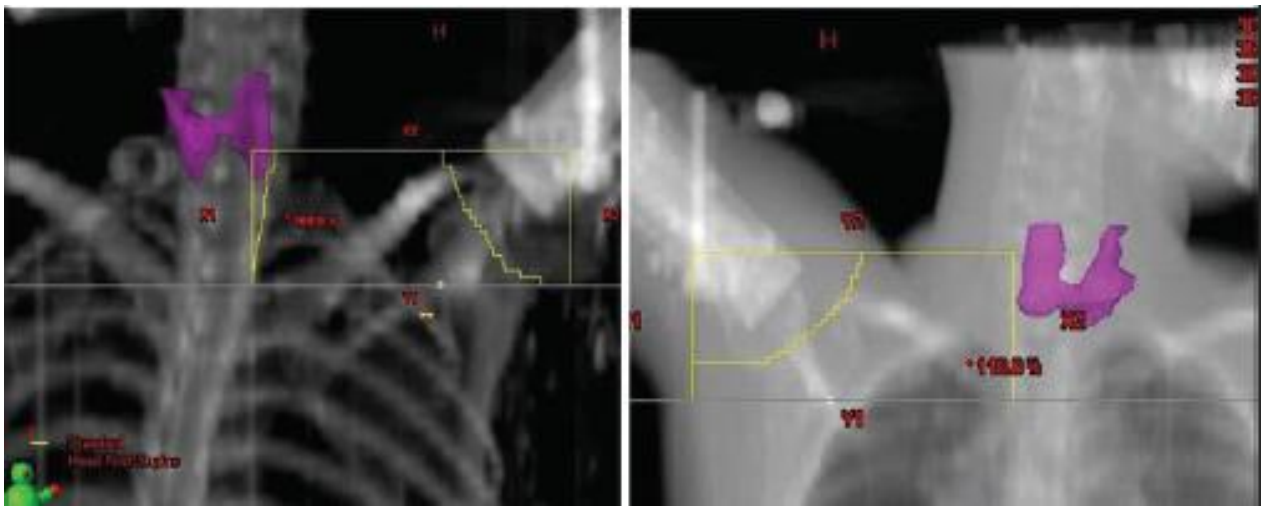
6/15/21

Site	Energy	Dose/fx (cGy)	# fx	Technique	Total Dose (cGy)	Start	End
RT breast	10X	180	28/28	Conformal	5,040	2/22/21	4/1/21
RT Sclav	18X	180	28/28	AP	5,040	2/22/21	4/1/21
RT PAB	6X	22	25/25	PA	550	2/22/21	3/29/21
RT breast boost	18X/6X	200	5/5	Conformal	1,000	4/2/21	4/8/21

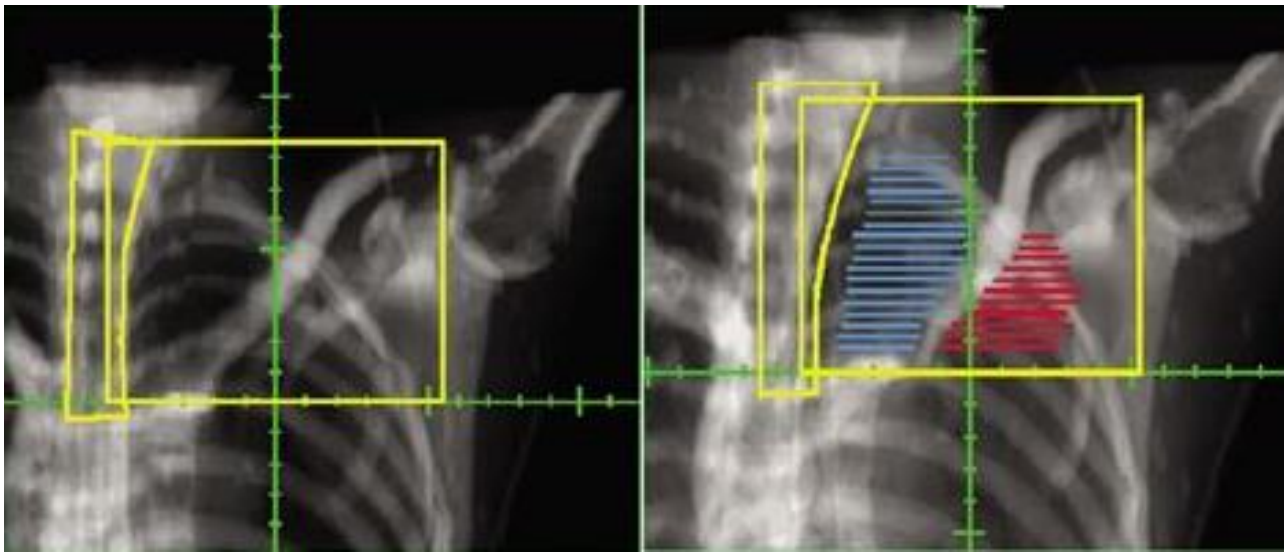
Confused about the PAB in this case.
Help with the number of phases & what can be grouped into the same phase, how to code technique and total dose.

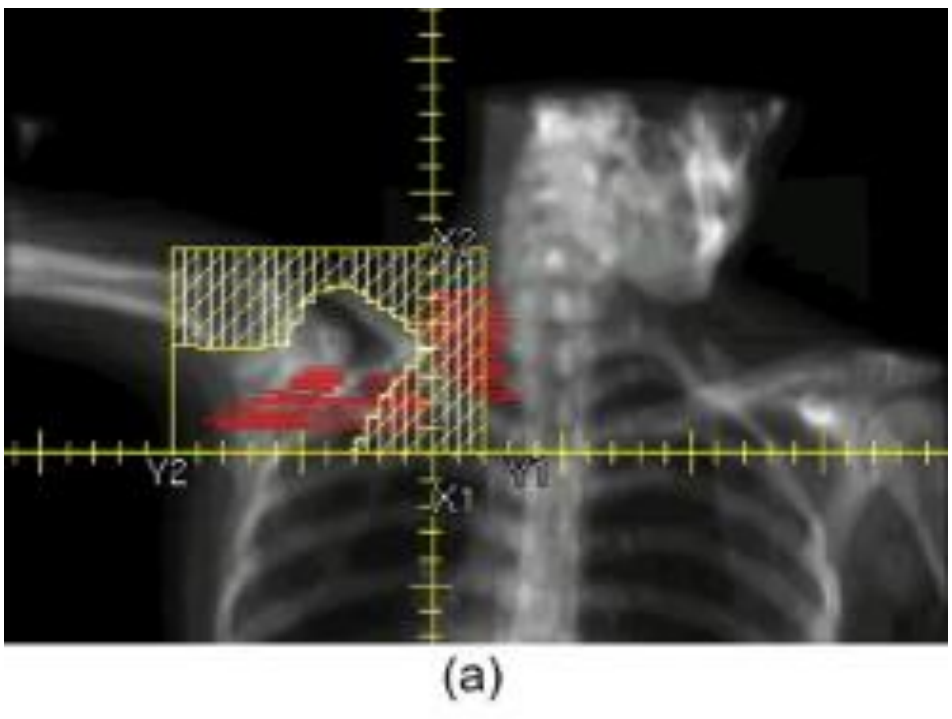
Breast Tangents w/ Internal Mammary Nodes (IMN)

Typical Supraclavicular field



S'clav & Axillary lymph node field





(a)

Posterior Axillary Boost (PAB) Field

5. PAB (Posterior Axillary Boost)

CTR Guide, v3.0, Case 7, p15

- Order phases chronologically.
- You can combine the breast tangent fields with the S'clav field into a single phase. Note start/end date and total dose same for both.
- PAB phase is very small in volume & prescribed dose. Do not add PAB dose to Total Dose Summary.
- Breast boost reduces irradiated volume, making it a separate phase.
- **Three Phases**

5. PAB (Posterior Axillary Boost)

CTR Guide, v3.0, Case 7, p15

- Breast tangents and S'clav fields are generally planned and treated with same planning technique.
- Dose delivery to S'clav field are often done with gantry offset by 10 degrees, RAO(RT ant oblique) or LAO (LT Ant oblique). However, it is not unusual for dose to be delivered from an AP orientation (@ 0 degree gantry angle).
- PAB fields are also generally treated with a conformal plan (3D).

Case 5: Breast

Seg	#	Field	Code/Definition
Summary	1	Rad/Surg Sequence	3 Radiation after surgery
	2	Reason No Rad	0 Radiation was administered
	3	Location of Rad	1 All RT at this facility
	4	Date Started/Flag	02/22/21
	5	Date Finished/Flag	04/08/21
	6	Number of Phases	02
	7	Discontinued Early	01 Completed
	8	Total Dose	**006040**
Phase 1	9	Volume	40 Whole breast
	10	Rad to Nodes	04 Breast/Chest wall LN region
	11	Modality	02 External beam, photons
	12	Planning Technique	04 3D Conformal
	13	Number of Fractions	028
	14	Dose per Fraction	00180
	15	Total Phase 1 Dose	005040
Phase 2	16	Volume	04 Breast/Chest wall LN region
	17	Rad to Nodes	04 Breast/Chest wall LN region
	18	Modality	02 External beam, photons
	19	Planning Technique	04 3D Conformal
	20	Number of Fractions	025
	21	Dose per Fraction	00022
	22	Total Phase 2 Dose	000550
Phase 3	23	Volume	41 Partial breast
	24	Rad to Nodes	00 No RT to draining LNs
	25	Modality	02 External beam, photons
	26	Planning Technique	04 3D Conformal
	27	Number of Fractions	05
	28	Dose per Fraction	00200
	29	Total Phase 3 Dose	001000

Case 5 Rationale:

#8: Do not include the PAB dose to the total dose summary.
#9: Combine the breast tangent treatment with the S'clav field into a single phase.
#12: Planning technique for breast tangents & Sclav field are the same, unless otherwise specified.
#16: PAB boost is to regional lymph nodes, typically a very small volume and small total dose, being delivered at same time as phase 1.
#23: Breast boost is always a much smaller volume than the entire breast and does not include lymphatics. This phase does not include PAB region.

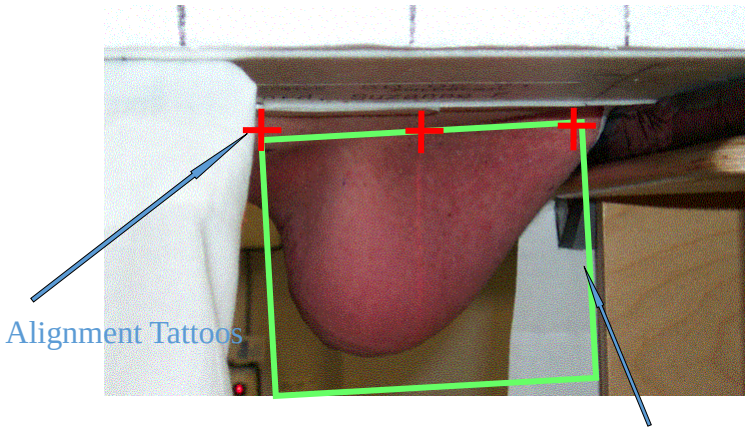
5. PAB Notepad Text

- 2/22/21-4/8/21 @ XXX Hospital: 1. Whole breast/S'clav, 10X/18X/3D, 1.8 Gy x 28 fx= 50.4 Gy. 2. PAB, 6X/3D, 22 cGy x 25 fx= 5.4 Gy. 3. Partial breast boost, 18X/6X/3D, 2 Gy x 5 fx= 10 Gy. Total dose= 60.4 Gy.

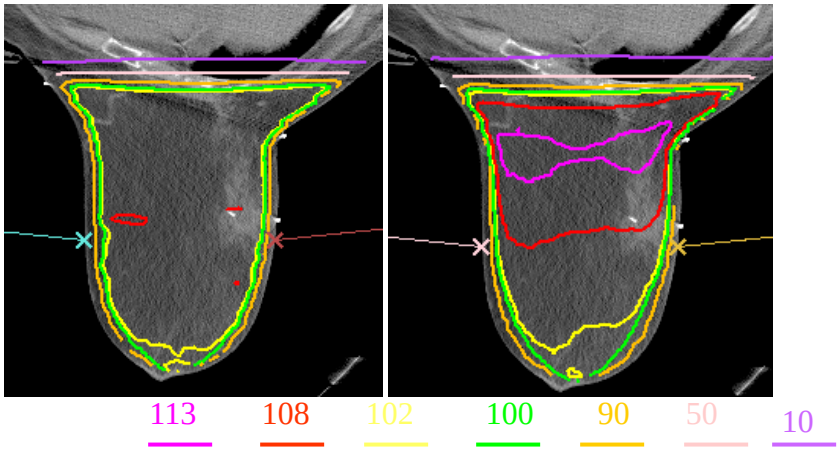
6. Breast-Prone position

- If a patient is treated in the prone position to the whole breast, can we assume that lymph nodes are not included in that phase?

PRONE TECHNIQUE



Transverse Dose Distribution



6. Breast-Prone position

- If a patient is treated in the prone position to the whole breast, can we assume that lymph nodes are not included in that phase?

- **Given the physical and geometric limitations of the prone whole breast technique, regional lymphatics are not included in the irradiated field.**

Planning Technique Pointers

- Planning techniques, whether 2D, 3D, IMRT, SBRT, etc., are essentially **billing codes**.
- If you cannot reach out to radiation oncology staff (rad onc, treatment planner, radiation therapist, dosimetrist), try the **radiation oncology biller**. Ask how the treatment plan was billed.

7. CyberKnife SRS

1. How many phases?
2. Total dose summary?
3. Planning technique?

Site (brain)	Energy	Dose/fx (cGy)	# fx	Technique	Total Dose (cGy)	Start	End
LT Post cerebellum	CyberKnife	1800	1/1	SRS	1,800	7/30/21	8/9/21
RT occipital	CyberKnife	1800	1/1	SRS	1,800	7/30/21	8/9/21
LT Ant frontal	CyberKnife	1800	1/1	SRS	1,800	7/30/21	8/9/21
RT frontal	CyberKnife	500	5/5	SRS	2,500	7/30/21	8/9/21

7. CyberKnife SRS

- If delivered dose is the same for multiple CNS sites, treat it as single phase.
- A CNS lesion treated with a different dose is coded as a different phase.
- Total dose summary is the largest dose delivered (similar to GammaKnife treatments, see case 17 on CTR guide, v3.0).

Case 7: Brain

Seg	#	Field	Code/Definition
Summary	1	Rad/Surg Sequence	0 No RT and/or surgical procedures
	2	Reason No Rad	0 Radiation was administered
	3	Location of Rad	1 All RT at this facility
	4	Date Started/Flag	07/30/21
	5	Date Finished/Flag	08/09/21
	6	Number of Phases	02
	7	Discontinued Early	01 Completed
	8	Total Dose	**002500**
Phase 1	9	Volume	13 Brain-limited
	10	Rad to Nodes	00 No RT to draining LNs
	11	Modality	02 External beam, photons
	12	Planning Technique	07 SRS or robotic
	13	Number of Fractions	001
	14	Dose per Fraction	01800
	15	Total Phase 1 Dose	001800
Phase 2	16	Volume	13 Brain-limited
	17	Rad to Nodes	00 No RT to draining LNs
	18	Modality	02 External beam, photons
	19	Planning Technique	07 SRS or robotic
	20	Number of Fractions	005
	21	Dose per Fraction	00500
	22	Total Phase 2 Dose	002500
Phase 3	23	Volume	00
	24	Rad to Nodes	
	25	Modality	
	26	Planning Technique	
	27	Number of Fractions	
	28	Dose per Fraction	
	29	Total Phase 3 Dose	

Case 7 Rationale:

#8: Capture the highest delivered dose.
#9: Each CNS targeted lesion comprises of partial/limited brain.
#11/18: CyberKnife uses a 6MV (photon) linear accelerator mounted on a robotic arm.
#12/19: CyberKnife is robotic SRS.
#15: Three CNS lesions were treated w/ same dose. Do not add these.
#22: This CNS lesion was treated to a different total dose, thereby making it a separate phase. Careful **not** to add this dose to phase 1 dose to get total dose summary.

7. CyberKnife SRS Notepad text entry

- 7/30/21-8/9/21 @ XXX Hospital: 1. LT post cerebellum, RT occipital, LT ANT frontal, 6X/Robotic CyberKnife SRS, 18 Gy x 1 fx= 18 Gy. 2. RT frontal, 6X/Robotic CyberKnife SRS, 5 Gy x 5 fx= 25 Gy.
- **Note**: this case will be further discussed with CoC working group and updated in next CTR Guide revision (tentative release date of February 2022).

8. GammaTile Therapy

https://gtmedtech.com/gammatile-therapy/

- Bioresorbable collagen tile
- Four small radiation sources (Cesium-131)
- Surgically implanted (permanent) at tumor site/cavity following surgery
- Used for brain primaries and CNS mets.

8. GammaTile Therapy

C. Ferreira et al./Brachytherapy 20 (2021) 673-685

- University of Minnesota, first clinical use of GammaTile post FDA clearance.
- If implanted into surgical cavity, code to intracavitary LDR brachytherapy, **code 08**.

8. GammaTile Therapy

C. Ferreira et al./Brachytherapy 20 (2021) 673-685

- Should be coded as a single phase,
- **Phase 1 total dose** = 999998, NA, radioisotope administered to pt,
- **Total Dose Summary** = 999998, NA, radioisotope administered to pt.

Resources

- "Understanding Radiation Therapy: A primer for tumor registrars". *Journal of Registry Management 2019, Vol46, number 3*
- "Online Adaptive Radiation Therapy" *Journal of Registry Management 2018, Vol45, number 2*
- https://cancerbulletin.facs.org/forums/

CTR Guide to Coding Radiation Therapy Treatment in the STORE

Christodouleas-Rationale-for-RT-data-items-in-STORE-2020Oct10

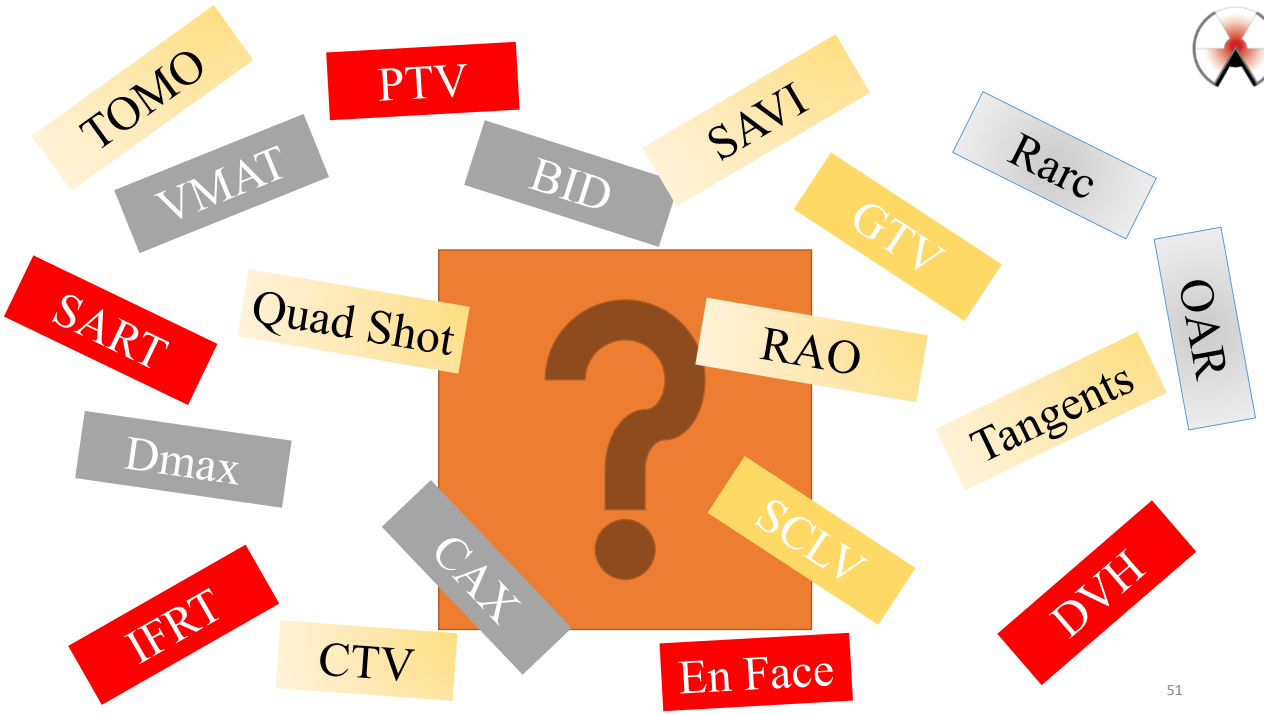
Williamson-Registrars Guide to Updating RT Data Items-2021Jan13

Resources

- https://www.acr.org/Clinical-Resources/Practice-Parameters-and-Technical-Standards/Practice-Parameters-by-Subspecialty
- There are a couple of links you will find tremendously useful:
  - Radiation Oncology: General
  - Radiation Oncology: Radiation Therapy
    - NCCN Guidelines-provides therapeutic dose range for most sites.


Questions

50


TOMO
PTV
VMAT
BID
SAVI
Rarc
GTV
OAR
SART
Quad Shot
RAO
Tangents
Dmax
SCLV
CAX
DVH
IFRT
CTV
En Face

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Neoadjuvant Data Items

Jennifer Ruhl, MSHCA, RHIT, CCS, CTR
Peggy Adamo, BS, RHIT, CTR
Carmela Groves, RN, MS, CTR

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9/25/2021

Neoadjuvant Data Items

- Introduced for collection in 2021 forward
  - Neoadjuvant Therapy (NAACCR #1632)
  - Neoadjuvant Therapy--Clinical Response (NAACCR #1633)
  - Neoadjuvant Therapy--Treatment Effect (NAACCR #1634)

Neoadjuvant Data Items

- For the following primary sites/schemas, all the Neoadjuvant Data items are coded to 0
  - Primary Sites: C420, C421, C423, C424, C809
  - 00830: HemeRetic
  - 00790: Lymphoma
  - 00795: Lymphoma (CLL/SLL)
  - 00811: Mycosis Fungoides
  - 00821: Plasma Cell Myeloma
  - 00822: Plasma Cell Disorders
  - 00812: Primary Cutaneous Lymphomas (excluding MF and SS)
  - 99999 Ill-Defined Other
  - These are all Heme or unknown primaries, and neoadjuvant therapy is not applicable

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Neoadjuvant Therapy (NAACCR Item #1632)

This data item records whether the patient had neoadjuvant therapy prior to planned definitive surgical resection of the primary site during first course of treatment

Code	Description
0	No neoadjuvant therapy, no treatment before surgery, surgical resection not part of first course of treatment plan Autopsy only
1	Neoadjuvant therapy completed according to treatment plan and guidelines
2	Neoadjuvant therapy started, but not completed OR unknown if completed
3	Limited systemic exposure when the intent was not neoadjuvant; treatment did not meet the definition of neoadjuvant therapy
9	Unknown if neoadjuvant therapy performed Death certificate only (DCO)

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Neoadjuvant Therapy (NAACCR Item #1632)

- **Code 0:** No neoadjuvant therapy, no treatment before surgery, surgical resection not part of first course of treatment plan, autopsy only
  - Examples:
    - No treatment given
      - Includes: patient refusal of treatment, active surveillance only, no treatment-sent to hospice
    - Surgical resection with/without adjuvant treatment after surgery
    - Adjuvant only therapy (chemo, rad, hormone, etc; no surgical resection planned)
  - Record does not have to state, “no neoadjuvant therapy.” Can infer from sequence of events
    - Patient diagnosed; surgery done two weeks later
    - Patient diagnosed; surgery done, followed by chemotherapy and/or radiation
    - Patient diagnosed, surgery done, followed by hormone therapy

Neoadjuvant Therapy (NAACCR Item #1632)

- **Code 1:** Neoadjuvant therapy completed according to treatment plan and guidelines
  - Defined as any tumor directed therapy meeting the definition of neoadjuvant treatment AND
  - Occurring prior to an intended or performed definitive surgical resection AND
  - Documented as neoadjuvant treatment by a treating physician OR part of patient’s documented treatment regimen/protocol
  - Note: As long as the planned first course of treatment **was neoadjuvant therapy followed by surgical resection**, it does **not** matter if the surgical resection was done for this data item

Neoadjuvant Therapy (NAACCR Item #1632)

- **Code 1:** Neoadjuvant therapy completed according to treatment plan and guidelines (for all examples, planned first course of treatment is neoadjuvant therapy followed by surgical resection)
  - ***Example 1:*** Patient completes neoadjuvant therapy, planned surgical resection performed
  - ***Example 2:*** Patient completes neoadjuvant therapy, complete response, planned surgical resection cancelled
  - ***Example 3:*** Patient completes neoadjuvant therapy, during post neoadjuvant clinical work up, found to have extensive metastasis, planned surgical resection cancelled

Neoadjuvant Therapy (NAACCR Item #1632)

- **Code 2:** Neoadjuvant therapy started, but not completed OR unknown if completed
  - Defined as any tumor directed therapy (excluding surgical resection) meeting the definition of neoadjuvant therapy AND
  - Whose intent was neoadjuvant therapy AND
  - Patient did not complete the full course of neoadjuvant therapy
    - ***Example 1:*** Planned neoadjuvant therapy, 6 cycles of chemotherapy. After 4th cycle, patient's tumor growing; neoadjuvant therapy stopped, surgical resection cancelled (neoadjuvant therapy failed)
    - ***Example 2:*** Patient diagnosed. Planned neoadjuvant therapy. Patient completed 3 of 6 cycles and refused further treatment
    - ***Example 3:*** Planned neoadjuvant therapy. Patient completed 2 of 4 cycles and developed complications. Treatment stopped

Neoadjuvant Therapy (NAACCR Item #1632)

- **Code 3:** Limited systemic exposure when the intent was not neoadjuvant; treatment did not meet the definition of neoadjuvant therapy
  - Defined as any tumor directed therapy (excluding surgical resection) AND
  - Not documented as neoadjuvant in the treatment plan AND
  - Does not meet treatment guidelines for recommendations for neoadjuvant therapy
    - Not a full course of neoadjuvant therapy with the intent to impact extent of surgical resection or other outcomes
- Most common occurrences of limited systemic treatment is hormones for Breast and Prostate patients
  - Clarification received: If prostate patient **in clinical trial** and given hormones prior to surgery, this is neoadjuvant therapy

Neoadjuvant Therapy (NAACCR Item #1632)

- **Code 9:** Unknown if neoadjuvant therapy performed or DCO (Central registries only for DCO)
  - Neoadjuvant therapy planned, but unknown if given
  - Death certificate only
- ***Note:*** Code 9 (unknown) (excluding DCOs) should be rarely used
- ***Reminder:*** Use code 0 when it is clear patient did not have neoadjuvant therapy based on the sequence of diagnosis and treatment
  - You do not need a physician's statement that no neoadjuvant therapy was administered
  - If patient did not have any treatment, code 0
  - Code 9 should be used mostly for when a patient had an **initial plan of neoadjuvant therapy**, but you don't know if it was administered

Neoadjuvant Therapy--Clinical Response (NAACCR Item #1633)

This data item records the clinical outcomes of neoadjuvant therapy prior to planned surgical resection

Code	Description
0	Neoadjuvant therapy not given
1	Complete clinical response (CR) (per managing/treating physician statement)
2	Partial clinical response (PR) (per managing/treating physician statement)
3	Progressive disease (PD) (per managing/treating physician statement)
4	Stable disease (SD) ((per managing/treating physician statement)
5	No response (NR) (per managing/treating physician statement) Not stated as progressive disease (PD) or stable disease (SD)
6	Neoadjuvant therapy done, managing/treating physician interpretation not available, treatment response inferred from imaging, biomarkers, or yc stage
7	Complete clinical response based on biopsy results from a pathology report (per pathologist assessment)
8	Neoadjuvant therapy done, response not documented or unknown
9	Unknown if neoadjuvant therapy performed Death certificate only (DCO)

Neoadjuvant Therapy--Clinical Response (NAACCR Item #1633)

- Code 0: Defined as patient not receiving neoadjuvant therapy
  - Neoadjuvant Therapy (NAACCR #1632) is coded to 0 or 3
    - 0: No neoadjuvant therapy given
    - 3: Limited systemic exposure when the intent was not neoadjuvant, treatment did not meet definition of neoadjuvant therapy

Neoadjuvant Therapy--Clinical Response (NAACCR Item #1633)

- Code 1: Defined as complete (total) clinical response
  - Neoadjuvant Therapy (NAACCR #1632) is coded 1 or 2
  - Complete response is defined as the disappearance of all known tumors/lesions and lymph nodes
- A statement from the managing/treating physician is required to code 1
  - Evaluation is based on clinical work up, including imaging, biopsy, etc.

Neoadjuvant Therapy--Clinical Response (NAACCR Item #1633)

- Code 2 defined as partial response (PR)
  - Neoadjuvant Therapy (NAACCR #1632) is coded 1 or 2
  - Partial response is defined as a decrease in size/extent of tumor and/or presence of lymph nodes and/or metastatic disease
  - Also defined as not being complete clinical response (CR) or progressive response (PD)
- A statement from the managing/treating physician is required to code 2
  - Evaluation is based on clinical work up, including imaging, biopsy, etc.

Neoadjuvant Therapy--Clinical Response (NAACCR Item #1633)

- Code 3 defined as no response due to progressive disease (PD)
  - Neoadjuvant Therapy (NAACCR #1632) is coded 1 or 2
  - PD is defined as an increase in size/extent of tumor and/or presence of lymph nodes and/or metastatic disease
  - Use this code when the physician
    - Documents no clinical response
- A statement from the managing/treating physician is required to code 3
  - Evaluation is based on clinical work up, including imaging, biopsy, etc.

Neoadjuvant Therapy--Clinical Response (NAACCR Item #1633)

- Code 4 defined as no response due to stable disease (SD)
  - Neoadjuvant Therapy (NAACCR #1632) is coded 1 or 2
  - SD is defined as no changes in size/extent of tumor and/or presence of lymph nodes and/or metastatic disease
  - Use this code when the physician
    - Documents no clinical response based on clinical findings due to stable disease
    - Or states no change in size/extent of tumor and/or the presence of lymph nodes and/or metastatic disease
- A statement from the managing/treating physician is required to code 4
  - Evaluation is based on clinical work up, including imaging, biopsy, etc.

Neoadjuvant Therapy--Clinical Response (NAACCR Item #1633)

- Code 5 defined as no response (NR), NOS
  - Neoadjuvant Therapy (NAACCR #1632) is coded 1 or 2
  - No response (NR), NOS defined as no response without further indication of progression or tumor is stable
  - Use this code when the physician
    - Does not document that tumor has progressed (code 3)
    - Does not document change in the tumor size/extent and/or lymph nodes and/or metastatic disease, or the tumor was stable (code 4)
- A statement from the managing/treating physician is required to code 5
  - Evaluation is based on clinical work up, including imaging, biopsy, etc.

Neoadjuvant Therapy--Clinical Response (NAACCR Item #1633)

- Code 6 is defined as
  - Neoadjuvant Therapy completed
  - No statement from managing/treating physician based on clinical evaluation
  - Clinical response ‘inferred’ from imaging impressions, changes in biomarkers or ‘yc’ stage
  - Neoadjuvant Therapy (NAACCR #1632) is coded to 1

Neoadjuvant Therapy--Clinical Response (NAACCR Item #1633)

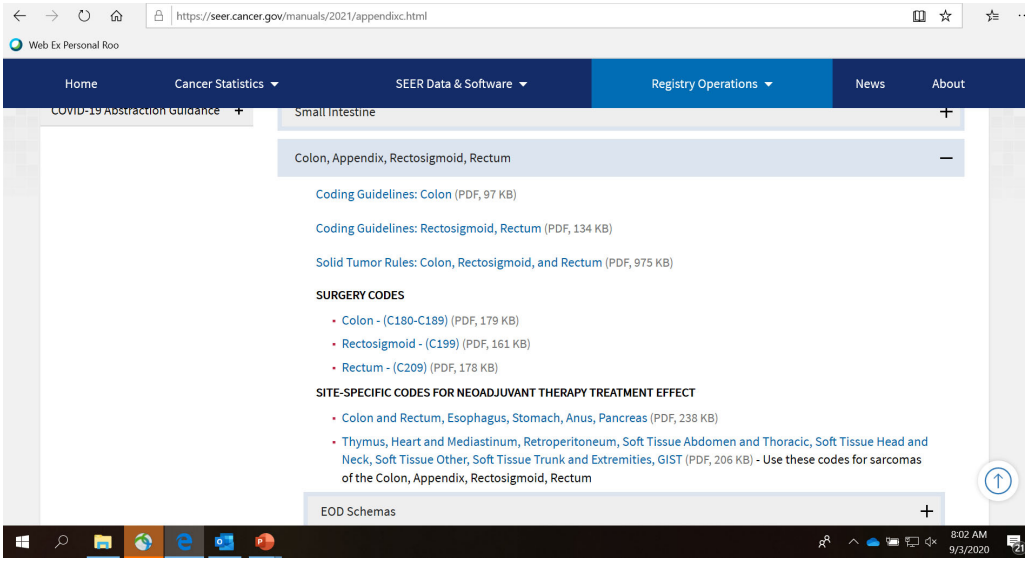
- Code 7 is defined when a biopsy of the primary site and the pathology report state complete response and there is no statement regarding clinical response from the managing physician
  - Neoadjuvant Therapy (NAACCR #1632) is coded to 1
- Code 8 is when neoadjuvant therapy is *done*, response not documented or unknown
  - Neoadjuvant Therapy (NAACCR #1632) is coded to 1 or 2
    - *Previously noted that neoadjuvant therapy "completed," but changed to done*
    - *Includes when patient started neoadjuvant therapy, but did not complete it (new clarification for 2022 SEER manual)*
- Code 9 is when it is unknown whether neoadjuvant therapy was administered
  - Neoadjuvant Therapy (NAACCR #1632) is coded to 9

Neoadjuvant Therapy--Treatment Effect (NAACCR Item #1634)

This data items records the pathologist's statement of neoadjuvant treatment effect on the primary tumor or site, with or without lymph nodes and/or distant metastasis from the surgical pathology report. Whenever treatment effect definitions are recommended by, or available in, the College of American Pathologists (CAP) Cancer Protocols, this data item follows the CAP definitions indicating absent or present effect. When site-specific CAP definitions are not available, use treatment effect codes for All Other Schemas in Appendix C. Site-specific codes are also included in Appendix C of this manual

Code	Description
0	Neoadjuvant therapy not given
1-4	Site specific code; type of response
6	Neoadjuvant therapy completed and surgical resection performed, response not documented or unknown Cannot be determined
7	Neoadjuvant therapy completed and planned surgical resection not performed
9	Unknown if neoadjuvant therapy performed Unknown if planned surgical procedure performed after completion of neoadjuvant therapy Death certificate only (DCO)

Neoadjuvant Therapy- Treatment Effect (NAACCR Item #1634)



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Neoadjuvant Therapy--Treatment Effect (NAACCR Item #1634)

- This data item records the **pathologist's statement** of neoadjuvant treatment effect on the primary tumor or site, with or without lymph nodes and/or distant metastasis
- Note: This data item is **not** the same thing as AJCC's Post Therapy Path (yp) Pathological Response
  - AJCC's post therapy is based on the managing/treatment physician's evaluation from the surgical pathology report and clinical evaluation after the neoadjuvant therapy
- This data item is only looking at the results from the **surgical pathology report**

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Neoadjuvant Therapy--Treatment Effect (NAACCR Item #1634)

- Code 0 is defined as patient not receiving neoadjuvant therapy prior to surgical resection
- Pay attention to how you coded Neoadjuvant Therapy (NAACCR #1632). If that is coded to 0, then code this to 0. The coding guidelines are the same for both data items.
- Cases coded to Neoadjuvant Therapy code 3 (limited exposure) would also be coded to 0

Neoadjuvant Therapy--Treatment Effect (NAACCR Item #1634)

- Codes 1-4
  - These codes are site-specific
  - Some of the treatment effect code definitions are schema specific based on definitions from treatment effect sections in the CAP protocols
  - General Table
    - Remaining schemas are based on a General Definition
    - Have no definitions from the CAP protocols

Neoadjuvant Therapy--Treatment Effect (NAACCR Item #1634)

- Specific Treatment Effect Tables include:
  - Colon and Rectum, Esophagus, Stomach, Anus, Pancreas
  - Thymus, Pleura Mesothelioma, Heart and Mediastinum, Retroperitoneum, Soft Tissue Abdomen and Thoracic, Soft Tissue Head and Neck, Soft Tissue Other, Soft Tissue Trunk and Extremities
  - Lung
  - Bone Appendicular, Bone Pelvis, Bone Spine
  - Breast
  - Ovary, Fallopian Tube, Primary Peritoneal Carcinoma
  - Prostate
- All Other Schemas (General Table)
  - Schemas not covered by site-specific codes

Neoadjuvant Therapy--Treatment Effect (NAACCR Item #1634)

- Code 6: When neoadjuvant therapy was completed, and response not documented in surgical pathology report or is unknown
  - Surgical pathology report available, documented response not in surgical pathology report
- Code 7: Neoadjuvant therapy completed, planned surgical resection not performed
  - Patient completed neoadjuvant therapy, complete clinical response, surgical resection cancelled
  - Patient completed neoadjuvant therapy, progressive disease or presence of mets after neoadjuvant therapy, surgical resection cancelled
  - Patient completed neoadjuvant therapy; patient refused surgical resection
  - *Note:* Includes patients who complete or start neoadjuvant treatment and expire before surgical treatment

Neoadjuvant Therapy--Treatment Effect (NAACCR #1634)

- **All Other Schemas (General Table)**
  - Code 1: Complete pathological response
    - No viable cancer cells/no residual invasive carcinoma identified
    - Residual in situ carcinoma only
  - Code 2: Near complete pathological response
    - Single cells or rare small groups of invasive cancer cells
  - Code 3: Partial or minimal response
    - Residual invasive cancer cells present with evidence of tumor regression, more than single cells or rare small groups of cancer cell
  - Code 4: Poor or no pathological response
    - Extensive residual cancer with no evident tumor regression

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Questions we've gotten in and our answers

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Neoadjuvant Therapy - Treatment Effect

- Question received: I am currently working through a 2021 dx rectal case. The patient received neoadjuvant chemoRT and is s/p resection. The pathologists' states 'Residual cancer with evidence of regression, but more than single cells or rare small groups of cancer cells, partial response, score 2.

  I am a little confused regarding the Neoadj Rx-Treatment effect data item. In 2021 SEER on pg 231, it states when the definition is available in CAP protocol, this data item follows the CAP definitions. I went ahead and looked in SEER Appendix C, All Other Schemas. When I compare the definition of CAP (Score 2) with the SEER code for this data item, I come to the code 3 for Neoadj Rx-Treatment field. Is code 3 correct?

- *Reminder*: For this data item, go to Appendix C and choose the appropriate section based on your primary site. That will direct you to the appropriate Treatment Effect table you need to use
  - In this case, Colon and Rectum have their own Table (along with Esophagus, Stomach, Anus and Pancreas)

Neoadjuvant Therapy-Clinical Response

- How do we code if managing physician states "excellent" clinical response after neoadjuvant chemo and prior to surgery? Can this be interpreted as Partial? Complete?

- Answer: Clarify the statement of "excellent" with the managing physician if possible.
  If no further information can be obtained, assign code 8 in Neoadjuvant Therapy–Clinical Response and document the details in text fields.

Neoadjuvant Therapy Clinical Response, Treatment Effect

- Question: Some of us are doing RQRS cases and were wondering what to code for cases where the neoadjuvant therapy is still in progress at the time the case is initially abstracted. If we use 9's we are getting edits. There is no code for neoadjuvant therapy, still in progress

- Answer: Assign the following codes:
- Code 8 for Neoadjuvant Therapy--Clinical Response
  - Clarification has been added for the 2022 SEER manual
- Code 9 for Neoadjuvant Therapy--Treatment Effect

Neoadjuvant Data Items

- Question: I am working on a breast case where first course tx plan is neoadjuvant therapy and surgery after. The patient was hospitalized during neoadjuvant therapy, elected hospice, and later died, so the neoadjuvant therapy was never completed, surgery not done.

- Answer.:
  - Code 2 for Neoadjuvant Therapy data item (neoadjuvant therapy started, but not completed)
    Code 8 for Neoadjuvant Therapy--Clinical Response (Neoadjuvant therapy done, response not documented or unknown)
    - Note: 2022 SEER manual updated to allow code 2, in addition to code 1, in Neoadjuvant therapy when Clinical Response is coded 8, along with example
  - Code 7 for Treatment Effect (Neoadjuvant therapy completed and planned surgical resection not performed) and use text fields to record the details.
    - Instructions added to the manual for this scenario

For questions about coding the Neoadjuvant Therapy data items

Please post to Ask SEER Registrar
https://seer.cancer.gov/registrars/contact.html

Choose: SEER Manual

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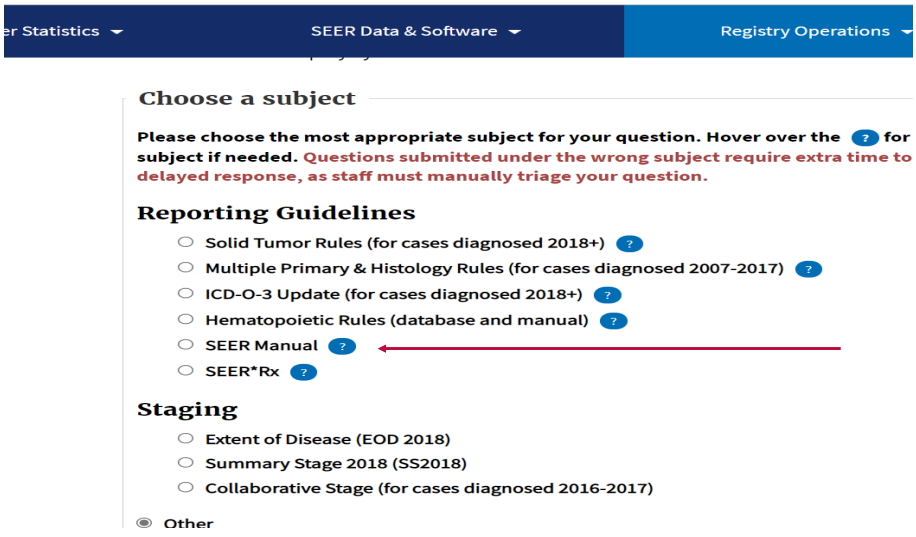

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Fabulous Prizes

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Coming UP…

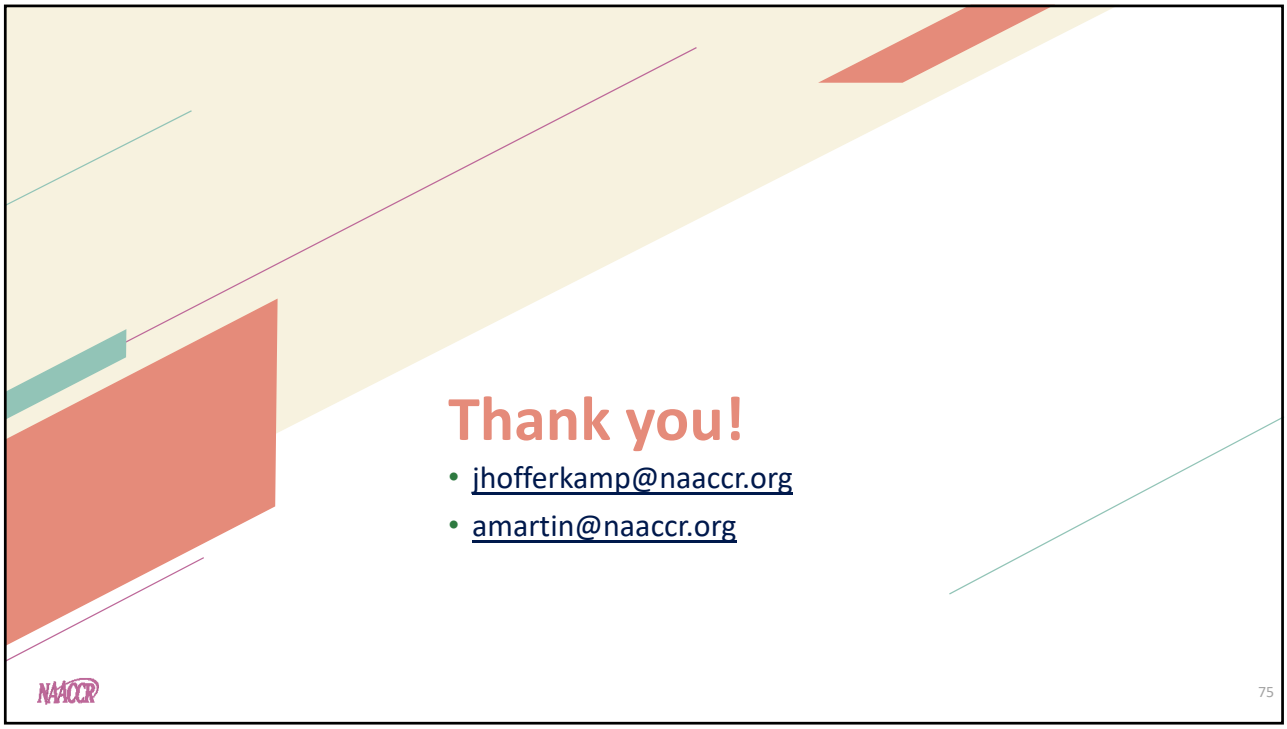
- Lung 2022
  - Guest Host: Vicki Hawhee, MEd, CTR
  - 1/06/2022
- Data Item Relationships
  - Guest Host: Jennifer Ruhl, CTR
  - 2/3/2022

CE Certificate Quiz/Survey

CE Phrase

Link

https://survey.alchemer.com/s3/6563854/Treatment-2021


Thank you!
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