



# 2018 NEW RADIATION CODING RULES

PRESENTED BY:

- KATHLEEN THOBURN
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2018 IMPLEMENTATION WEBINAR SERIES

MAY 2018

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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.
- A recording of today's webinar will be posted to

<https://www.naacccr.org/2018-implementation/#Education>

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## AGENDA

- Background/Overview
  - Kathleen Thoburn
- Review of Radiation Data Items
  - Robin Billet
- Case Scenarios
- Q&A



# **BACKGROUND/OVERVIEW**

KATHLEEN THOBURN



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# New CoC 2018 Radiation Data Items

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## COC New Data items and Requirements: How Do We Decide?

### CoC uses the following criteria:

- Useful for research
- Needed for development and implementation of CoC Quality of Care Measures
- Facilitate the development and implementation of process measures
- Enable provision of outcomes assessments
- Needed to collect information on diagnosis, stage, treatment, outcomes, and case administration

**Take Home: Data items that facilitate improvement in quality of care for the cancer patient!!**



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## COC Old and Existing Radiation Data items

### No Longer Required:

- Rad--Regional Dose: cGy [1510]
- Rad--No of Treatment Vol [1520]
- Rad--Treatment Volume [1540]
- Rad--Regional RX Modality [1570]
- Rad--Boost RX Modality [3200]

### Continuing Requirement:

- Reason for No Radiation [1430]
- Date Radiation Started [1210]
- Date Radiation Ended [3220]
- Rad--Location of RX [1550]



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## CoC 2018 Radiation Data Items

- 24 new data items associated with radiation treatment in order to update the way radiation treatment and the treatment target volumes are described
- Better reflect modern nomenclature and practice
- Enable patterns of care, comparative effectiveness, clinical guideline concordance and other large database studies



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## New “Phase-specific” Data Items

- To promote consistency across the clinical and registry community, new “phase” terminology has been adopted replacing the traditional terms of “regional” and “boost”
- Specific rules defining when a new phase begins
- Up to three phases of radiation treatment (Phase I-III) can now be documented



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## New “Phase-specific” Data Items

- Radiation Primary Treatment Volume
- Radiation to Draining Lymph Nodes
- Radiation Treatment Modality
- Radiation External Beam Planning Technique
- Dose Per Fraction (Session)
- Number of Fractions (Sessions)
- Total Dose

*(Phase I [1501-1507], Phase II [1511-1517], Phase III [1521-1527])*



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## Treatment Volume and Draining Lymph Nodes

- During radiation treatment, the primary tumor or tumor bed is usually treated
- Radiation treatment is also commonly administered to draining lymph node regions that are associated with the primary tumor or tumor bed
- The historical Rad--Treatment Volume [1540] data item has been divided into 2 phase-specific data items:
  - Radiation Primary Treatment Volume
  - Radiation to Draining Lymph Nodes



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## Treatment Modality and External Beam Planning Technique

- Codes utilized within Regional Treatment Modality were not mutually exclusive
- Included codes describing a mix of modalities, treatment planning techniques, and delivery techniques that are commonly utilized by radiation oncologists
- The historical Regional Treatment Modality data item [1570] has been divided into 2 phase-specific, mutually exclusive data items:
  - Radiation Treatment Modality
  - Radiation External Beam Planning



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## Other New Radiation Data items

- Three other new summary radiation data items
- Cumulative across all phases of radiation treatment
  - Number of Phases of Radiation Treatment to this Volume [1532]
  - Radiation Discontinued Early [1531]
  - Total Dose [1533]



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## Radiation Data Item Conversion

- Although the implementation of new radiation data items sounds extensive, the information being collected is very similar to what is already being collected in CoC-accredited facilities
- Conversion/mapping of values from historical radiation data items will occur upon upgrade to v18-compliant software
- Once upgraded only the new data items will be displayed and abstracted within the v18-compliant software



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## Radiation Data Item Conversion

| New v18 Radiation Data Item                           | Historical Data Item   |
|---|--|
| Phase I Radiation Primary Treatment Volume [1504]     | Converted from Rad--Treatment Volume [1540]  |
| Phase I Radiation to Draining Lymph Nodes [1505]      | Converted from Rad--Treatment Volume [1540]  |
| Phase I Radiation Treatment Modality [1506]           | Converted from Rad--Regional RX Modality [1570]  |
| Phase I Radiation External Beam Planning Tech [1502]  | Converted from Rad--Regional RX Modality [1570]  |
| Phase I Dose Per Fraction (Session) [1501]            | 1-1 Map from Rad--Regional Dose: cGy [1510]  |
| Phase I Number of Fractions (Sessions) [1503]         | 1-1 Map from Rad--No of Treatment Vol [1520]   |
| Phase II Radiation Primary Treatment Volume [1514]    | Converted from Phase I Radiation Primary Treatment Volume when Boost has been administered |
| Phase II Radiation Treatment Modality [1516]          | Converted from Rad--Boost RX Modality [3200]   |
| Phase II Radiation External Beam Planning Tech [1512] | Converted from Rad--Boost RX Modality [3200]   |
| Phase II Dose Per Fraction (Session) [1511]           | 1-1 Map from Rad--Boost Dose cGy [3210]  |

## Standardized End of Treatment Summary

- CoC has been working with radiation oncology groups at the national level to adopt and implement a standard End of Treatment Summary (EOTS)
- To be used by all radiation oncologists across the nation and by all EHRs; will be required for CoC-accredited facilities
- Directly aligned with new radiation data items in terms of information to be collected and order in which it is recorded
- Will greatly facilitate abstraction of radiation therapy and communication between registrars and radiation oncologists



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| Patient and Disease Information           |   |
|---|---|
| Report Date                               | 2018-12-05  |
| Name                                      | Jane Susan Doe  |
| Date of Birth                             | 1950-03-29  |
| Medical Record Number                     | 1234567   |
| Treatment indication                      | C50.312, pT1, pN0, M0; Mrs. Doe is a 68 year old woman with high grade invasive ductal carcinoma of the breast s/p lumpectomy with negative margins, who was treated with adjuvant radiation. |
| Phase I Radiation                         |   |
| Phase I Primary Treatment Volume          | Breast - whole  |
| Phase I to Draining Lymph Nodes           | No Radiation Treatment to Draining Lymph Nodes  |
| Phase I Treatment Modality                | External beam, photons  |
| Phase I External Beam Planning Technique  | 3-D conformal therapy   |
| Phase I Dose Per Fraction (cGy)           | 267 cGy   |
| Phase I Number of Fractions               | 15  |
| Phase I Total Dose (cGy)                  | 4000 cGy  |
| Phase II Radiation                        |   |
| Phase II Primary Treatment Volume         | Breast - partial  |
| Phase II to Draining Lymph Nodes          | No Radiation Treatment to Draining Lymph Nodes  |
| Phase II Treatment Modality               | External beam, photons  |
| Phase II External Beam Planning Technique | 3-D conformal therapy   |
| Phase II Dose Per Fraction (cGy)          | 200 cGy   |
| Phase II Number of Fractions              | 5   |
| Phase II Total Dose (cGy)                 | 1000 cGy  |
| Course Summary                            |   |
| Total Dose in Radiation Course (cGy)      | 5000cGy   |
| Date radiation started                    | 2018-11-07  |
| Date radiation ended                      | 2018-12-05  |
| Concurrent systemic treatment?            | No  |
| Radiation Treatment Discontinued Early?   | Radiation treatment completed as prescribed   |
| Clinical course                           | Give structured CTCAE summary   |
| Follow up plan                            | Follow up visit in 2 weeks to review side-effects and management. We plan to obtain surveillance imaging in X months.   |
| Comment                                   | Moving out of state, but still intends to return to our clinic for surveillance and survivorship care.  |



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# STORE Manual to be Completed 5/18 Released 5/21 or 5/22



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# **RADIATION 2018**

ROBIN BILLET, MA, CTR



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## WHAT IS A PHASE?

- Radiation treatment is commonly delivered in one or more phases. Typically, in each phase, the primary tumor or tumor bed is treated.
- The first phase may be commonly referred to as an initial plan and a subsequent phase may be referred to as a boost or cone down, and would be recorded as Phase II, Phase III, etc.
- A new phase begins when there is a change in target volume, treatment fraction size (i.e., dose given during a session), modality, or treatment technique. Any one of these changes will mean that a new radiation plan will be generated in the treatment planning system, and should be coded as a new phase of radiation therapy.
- Treatments should be summarized in a separate phase if they are directed to a different body site or there is a change in the target volume at a body site, treatment fraction size, modality, or treatment technique.

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## PHASE

- Note: “online adaptive therapy” means that the shape of the target may change from day to day, but the volume that is being targeted won’t change. If a treatment plan has been adapted any given day, it should not be coded as though a new phase of treatment has been initiated.
- Phase I of radiation treatment also commonly includes draining lymph node regions that are associated with the primary tumor or tumor bed. The draining lymph nodes are recorded in the Phase I Radiation to Draining Lymph Nodes data item.
- Note: When the primary volume is lymph nodes, draining lymph nodes are not targeted. Record code 88 in the Phase I Radiation to Draining Lymph Nodes data item.

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## PHASE I RADIATION PRIMARY TREATMENT VOLUME

- Identifies the primary treatment volume or primary anatomic target treated during the first phase of radiation therapy during the first course of treatment.
- This data item should be used to indicate the primary target volume, which might include the primary tumor or tumor bed. If the primary tumor was not targeted, record the other regional or distant site that was targeted.
- Draining lymph nodes may also be targeted during the first phase. These will be identified in a separate data item, Phase I Radiation to Draining Lymph Nodes
- Typically found in the radiation oncologist's treatment summary. Determination of the exact treatment volume may require assistance from the radiation oncologist for consistent coding.

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## PHASE I RADIATION PRIMARY TREATMENT VOLUME

- If one or more discrete volumes are treated and one of those includes the primary site, record the treatment to the primary site in this data item.
- Code 00 if the tumor was diagnosed at autopsy.
- Phase I of radiation treatment also commonly includes draining lymph node regions that are associated with the primary tumor or tumor bed. The draining lymph nodes are recorded in the Phase I Radiation to Draining Lymph Nodes data item.
- When the primary volume is lymph nodes, draining lymph nodes are not targeted. Record code 88 in the Phase I Radiation to Draining Lymph Nodes data item.

## RADIATION TREATMENT VOLUMES

| Code | Label                        | Abbreviated Definition   |
|------|------------------------------|--|
| 00   | No Tx                        | None given   |
| 01   | Neck LN regions              | Primary tx to LN regions of neck; e.g. tx of lymphoma or LN recurrence (in absence of primary site failure) following surgery of primary tumor. If field includes supraclavicular region use code 03   |
| 02   | Thoracic LN regions          | Hilar, mediastinal, and supraclavicular lymph nodes without concurrent treatment of a visceral organ site. Supraclavicular region may be part of a head and neck lymph node region. Use code 03 for treatments directed at neck nodes and supraclavicular nodes with a head and neck primary. Use code 04 if supraclavicular lymph nodes are part of breast treatment. |
| 03   | Neck & thoracic LN regions   | Lymph nodes in the neck and thoracic region without concurrent treatment of a primary visceral tumor. This code might apply to some mantle or mini-mantle fields used in lymphoma treatments or some treatments for lymphatic recurrences following definitive treatment for tumors of the head and neck or thoracic regions.  |
| 04   | Breast/Chest wall LN regions | Axillary, supraclavicular, and/or internal mammary lymph node sites WITHOUT concurrent treatment of the breast or chest wall. If the breast AND lymph nodes are being treated then choose the primary volume code for breast (code 40 or 41) and the radiation to draining lymph nodes code 04, breast-chest wall lymph nodes.   |
| 05   | Abdominal LNs                | Lymph nodes of the abdomen, including retrocrural, perigastric, peri-hepatic, portocaval and para-aortic nodes. Possible situations might include seminoma, lymphoma or lymph node recurrence following surgical resection of the prostate, bladder or uterus.   |
| 06   | Pelvic LNs                   | Lymph nodes of the pelvis, including the common, internal and external iliac, obturator, inguinal and peri-rectal lymph nodes. This might be done for lymphoma or lymph node recurrence following definitive surgery for a pelvic organ.   |
| 07   | Abdominal & pelvic LNs       | Combination of lymph nodes in both the abdomen and pelvis. This code includes extended fields ("hockey stick", "dog-leg", "inverted Y", etc.) utilized to treat seminomas and lymphomas or recurrence of a solid tumor.  |





## RADIATION TREATMENT VOLUMES

| Code | Label                            | Abbreviated Definition  |
|------|----------------------------------|---|
| 09   | LN region, NOS                   | Lymph node regions that are not adequately described by codes 01-07.  |
| 10   | Eye/orbit/optic nerve            | All or a portion of the eye, orbit and/or optic nerve.  |
| 11   | Pituitary                        | Pituitary gland.  |
| 12   | Brain                            | Brain & meninges (whole brain).   |
| 13   | Brain (Limited)                  | One or more sub-sites of the brain but not the whole brain. Chart may describe "SRS", "Stereotactic Radiosurgery", "Gamma Knife."                           |
| 14   | Spinal Cord                      | All or a portion of the spinal cord or its meninges.  |
| 20   | Nasopharynx                      | All or a portion of the nasopharynx.  |
| 21   | Oral Cavity                      | All or a portion of the oral cavity, including the lips, gingiva, alveolus, buccal mucosa, retromolar trigone, hard palate, floor of mouth and oral tongue. |
| 22   | Oropharynx                       | All or a portion of the oropharynx, including the soft palate, tonsils, base of tongue and pharyngeal wall.   |
| 23   | Larynx (glottis) or hypopharynx  | All or a portion of the larynx and/or hypopharynx.  |
| 24   | Sinuses/Nasal tract              | All or a portion of the sinuses and nasal tract, including the frontal, ethmoid, sphenoid and maxillary sinuses.  |
| 25   | Parotid or other salivary glands | Parotid or other salivary glands, including the submandibular, sublingual and minor salivary glands.  |
| 26   | Thyroid                          | All or portion of thyroid gland. Code this volume when treated with I-131 radioisotope.   |



## RADIATION TREATMENT VOLUMES

| Code | Label            | Abbreviated Definition  |
|------|------------------|---|
| 29   | Head & Neck, NOS | Primary tumor of the head and neck, but the primary sub-site is not a head and neck organ identified by codes 20-26 or it is an "unknown primary."  |
| 30   | Lung or bronchus | All or a portion of the lung or bronchus.   |
| 31   | Mesothelium      | All or a portion of the mesothelium. This code should be used for mesothelioma primaries, even if a portion of the lung is included in the radiation field.   |
| 32   | Thymus           | All or a portion of the thymus.   |
| 39   | Chest/lung (NOS) | Primary tumor of the chest, but the primary sub-site is unknown or not identified in codes 30-32. For example, this code could be used for sarcomas arising from the mediastinum.   |
| 40   | Breast - whole   | All of the intact breast. Intact breast includes breast tissue that either was not surgically treated or received a lumpectomy or partial mastectomy.   |
| 41   | Breast - partial | Portion of the intact breast but not the whole breast. The chart may have terms such as "Mammosite", "interstitial (seed) implant)", or "(accelerated) partial breast irradiation". Consider the possibility of partial breast irradiation when "IMRT" is documented in the record. |
| 42   | Chest wall       | Treatment encompasses the chest wall (following mastectomy).  |
| 50   | Esophagus        | All or a portion of the esophagus. Include tumors of the gastro-esophageal junction.  |
| 51   | Stomach          | All or a portion of the stomach.  |
| 52   | Small bowel      | All or a portion of the small bowel.  |
| 53   | Colon            | All or a portion of the colon.  |
| 54   | Rectum           | All or portion of rectum.   |



## RADIATION TREATMENT VOLUMES

| Code | Label                                | Abbreviated Definition   |
|------|--------------------------------------|--|
| 55   | Anus                                 | All or a portion of the anus.  |
| 56   | Liver                                | All or a portion of the liver.   |
| 57   | Biliary tree or gallbladder          | All or a portion of the biliary tree or gallbladder.   |
| 58   | Pancreas or hepatopancreatic ampulla | All or a portion of the pancreas or the hepatopancreatic ampulla. Hepatopancreatic ampulla tumors are sometimes referred to as periampullary tumors.   |
| 59   | Abdomen (NOS)                        | Primary tumor of the abdomen, but the primary sub-site is not an abdominal organ defined by codes 50-58 or it is considered to be an "unknown primary". For example, this code should be used for sarcomas arising from the abdominal retroperitoneum. |
| 60   | Bladder - whole                      | All of the bladder.  |
| 61   | Bladder - partial                    | Portion of the bladder but not the whole bladder.  |
| 62   | Kidney                               | All or a portion of the kidney.  |
| 63   | Ureter                               | All or a portion of the ureter.  |
| 64   | Prostate-whole                       | Treatment is directed at all of the prostate and/or seminal vesicles. Use this code even if seminal vesicles are not explicitly targeted.  |
| 65   | Prostate-partial                     | Treatment is directed at a portion of the prostate, but not the whole prostate.  |
| 66   | Urethra                              | All or a portion of the urethra.   |



## RADIATION TREATMENT VOLUMES

| Code | Label                      | Abbreviated Definition  |
|------|----------------------------|---|
| 67   | Penis                      | All or a portion of the penis. Treatments of urethral primaries should be coded as 'urethra.'   |
| 68   | Testicle or scrotum        | All or a portion of the testicle &/or scrotum.  |
| 70   | Ovaries or fallopian tubes | All or a portion of the ovaries or fallopian tubes.   |
| 71   | Uterus or Cervix           | All or a portion of the uterus, endometrium, or cervix.   |
| 72   | Vagina                     | All or a portion of the vagina. Treatments of urethral primaries should be coded as 'urethra.'  |
| 73   | Vulva                      | All or a portion of the vulva. Treatments of urethral primaries should be coded as 'urethra.'   |
| 80   | Skull                      | All or a portion of the bones of the skull. Any brain irradiation is a secondary consequence.   |
| 81   | Spine/vertebral bodies     | All or a portion of the bones of the spine/vertebral bodies, including the sacrum. Spinal cord malignancies should be coded using 'spinal cord.'                                      |
| 82   | Shoulder                   | All or a portion of the proximal humerus, scapula, clavicle, or other components of the shoulder complex.   |
| 83   | Ribs                       | All or a portion of one or more ribs.   |
| 84   | Hip                        | All or a portion of the proximal femur or acetabulum.   |
| 85   | Pelvic bones               | All or a portion of the bones of the pelvis other than the hip or sacrum.   |
| 86   | Pelvis (NOS, non-visceral) | Primary tumor of the pelvis, but the primary sub-site is not a pelvic organ or is not known or indicated. For example, this code should be used for sarcomas arising from the pelvis. |



## RADIATION TREATMENT VOLUMES

| Code | Label                                      | Abbreviated Definition   |
|------|--|--|
| 88   | Extremity bone, NOS                        | All or a portion of the bones of the arms or legs. This excludes the proximal femur (Hip). This excludes the proximal humerus (Shoulder).  |
| 90   | Skin                                       | Primary malignancy originates in the skin and the skin is the primary target. So-called skin metastases are usually subcutaneous and should be coded as a soft tissue.   |
| 91   | Soft tissue                                | Primary or metastatic soft tissue malignancies not fitting other categories.   |
| 92   | Hemibody                                   | A single treatment volume encompassing either all structures above the diaphragm, or all structures below the diaphragm. This is almost always administered for palliation of widespread bone metastasis in patients with prostate or breast cancer. |
| 93   | Whole body                                 | Entire body included in a single treatment.  |
| 94   | Mantle, mini-mantle (obsolete after 2017)  | For conversion of historical data only.  |
| 95   | Lower extended field (obsolete after 2017) | For conversion of historical data only.  |
| 96   | Inverted Y (obsolete after 2017)           | For conversion of historical data only.  |
| 97   | Invalid historical FORDS value             | Conversion to new STORE data item could not take place due to an invalid FORDS Volume code. Phase I/II only.   |
| 98   | Other                                      | Radiation therapy administered; treatment volume other than those previously categorized by codes 01-93.   |
| 99   | Unknown                                    | This category should be used to code treatments for which there is no information available about the treatment volume, or it is unknown if radiation treatment was administered.  |



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## PHASE I RADIATION TO DRAINING LYMPH NODES

- Identifies the draining lymph nodes treated (if any) during the first phase of radiation therapy delivered to the patient during the first course of treatment.
- The first phase of radiation treatment commonly targets both the primary tumor (or tumor bed) and draining lymph nodes as a secondary site. This data item should be used to indicate the draining regional lymph nodes, if any, that were irradiated during the first phase of radiation.
- Code structure is same as tables above from 00-07 and 99. Code 00 if dx @ autopsy.
- Code 08- Lymph Node Region, NOS-Different code than Primary Treatment Volume 09
- Code 88-N/A. No tx to draining LN's. Use this code when lymph nodes is primary target.
- Phase I of radiation treatment includes the draining lymph node regions that are associated with the primary tumor or tumor bed. The primary tumor or tumor bed is recorded in the Phase I Radiation Primary Treatment Volume data item.
- When the Primary Treatment Volume is lymph nodes, draining lymph nodes are not targeted. Record code 88 in this data item.

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## PHASE I RADIATION TREATMENT MODALITY

- Identifies the radiation modality administered during the first phase of radiation treatment delivered during the first course of treatment.
- Radiation modality reflects whether a treatment was external beam, brachytherapy, a radioisotope as well as their major subtypes, or a combination of modalities. This data item should be used to indicate the radiation modality administered during the first phase of radiation.
- The goal of the 2018 implementation of separate phase-specific data items for the recording of radiation modality and radiation treatment planning techniques is to clarify this information and implement mutually exclusive categories.

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## RADIATION TREATMENT MODALITY CODES

- 00 = No Radiation Treatment
- 01 = External beam, NOS
- 02 = External beam, photons
- 03 = External beam, protons
- 04 = External beam, electrons
- 05 = External beam, neutrons
- 06 = External beam, carbon ions
- 07 = Brachytherapy, NOS
- 08 = Brachytherapy, intracavitary, LDR
- 09 = Brachytherapy, intracavitary, HDR
- 10 = Brachytherapy, Interstitial, LDR
- 11 = Brachytherapy, Interstitial, HDR
- 12 = Brachytherapy, electronic
- 13 = Radioisotopes, NOS
- 14 = Radioisotopes, Radium-232
- 15 = Radioisotopes, Strontium-89
- 16 = Radioisotopes, Strontium-90
- 99 = Treatment radiation modality unknown;  
Unknown if radiation treatment administered



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## PHASE I RADIATION TREATMENT MODALITY

- Radiation treatment modality will typically be found in the radiation oncologist's treatment summary.
- For purposes of this data item, photons, x-rays and gamma-rays are equivalent.
- Use code 13 for radioembolization procedures, e.g. intravascular Yttrium-90.
- This data item intentionally does not include reference to various MV energies because this is not a clinically important aspect of technique. A change in MV energy (e.g., 6MV to 12MV) is not clinically relevant and does not represent a change in treatment technique. It is extraordinarily rare for change in MV energy to occur during any phase of radiation therapy.
- Change to a volume or modality means a change to a subsequent phase. If the volume or modality is changed, this should be coded as a new phase of radiation therapy. Note: "online adaptive therapy" means that the shape of the target may change from day to day, but the volume that is being targeted won't change. If the treatment plan has been adapted any given day do not code as though a new phase of treatment has been initiated.
- If this data item is coded to any of the External beam codes (01-06), the planning technique must be recorded in the data item Phase I External Beam Radiation Planning Technique
- If this data item is coded to any of the Brachytherapy or Radioisotopes codes (07-16) the code of 88 must be recorded in the data item Phase I External Beam Radiation Planning Technique
- Do not confuse a radioiodine scan with treatment. Only treatment is recorded in this item.

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## PHASE I EXTERNAL BEAM RADIATION PLANNING TECHNIQUE

- Identifies the external beam radiation planning technique used to administer the first phase of radiation treatment during the first course of treatment.
- External beam radiation is the most commonly-used radiation modality in North America. This data item specifies planning technique for external beam treatment. Identifying the radiation technique is of interest for patterns of care and comparative effectiveness studies.
- The goal of the 2018 implementation of separate phase-specific data items for the recording of Phase I Radiation Treatment Modality and Phase I External Beam Radiation Planning Technique is to clarify this information and implement mutually exclusive categories.

## EXTERNAL BEAM RADIATION PLANNING TECHNIQUE CODES

| Code | Label                              | Definition  |
|------|------------------------------------|---|
| 00   | No tx                              | Not given   |
| 01   | External beam, NOS                 | Known to be external beam, but there is insufficient information to determine the specific modality.  |
| 02   | Low energy x-ray/photon therapy    | External beam therapy administered using equipment with a maximum energy of less than one (1) million volts (MV). Energies are typically expressed in units of kilovolts (kV). These types of treatments are sometimes referred to as electronic brachytherapy or orthovoltage or superficial therapy. Clinical notes may refer to the brand names of low energy x-ray delivery devices, e.g. Axxent®, INTRABEAM®, or Esteya®.  |
| 03   | 2-D therapy                        | An external beam planning technique using 2-D imaging, such as plain film x-rays or fluoroscopic images, to define the location and size of the treatment beams. Should be clearly described as 2-D therapy. This planning modality is typically used only for palliative treatments.   |
| 04   | Conformal or 3-D conformal therapy | An external beam planning technique using multiple, fixed beams shaped to conform to a defined target volume. Should be clearly described as conformal or 3-D therapy in patient record.  |
| 05   | Intensity modulated therapy        | An external beam planning technique where the shape or energy of beams is optimized using software algorithms. Any external beam modality can be modulated but these generally refer to photon or proton beams. Intensity modulated therapy can be described as intensity modulated radiation therapy (IMRT), intensity modulated x-ray or proton therapy (IMXT/IMPT), volumetric arc therapy (VMAT) and other ways. If a treatment is described as IMRT with online re-optimization/re-planning, then it should be categorized as online re-optimization or re-planning. |

## EXTERNAL BEAM RADIATION PLANNING TECHNIQUE CODES

| Code | Label   | Definition   |
|------|---|--|
| 06   | Stereotactic radiotherapy or radiosurgery, NOS          | Treatment planning using stereotactic radiotherapy/radiosurgery techniques, but the treatment is not described as Cyberknife® or Gamma Knife. These approaches are sometimes described as SBRT (stereotactic body radiation), SABR (stereotactic ablative radiation), SRS (stereotactic radiosurgery), or SRT (stereotactic radiotherapy). If the treatment is described as robotic radiotherapy (e.g. Cyberknife®) or Gamma Knife®, use stereotactic radiotherapy subcodes below. If a treatment is described as stereotactic radiotherapy or radiosurgery with online re-optimization/re-planning, then it should be categorized as online re-optimization or re-planning. |
| 07   | Stereotactic radiotherapy or radiosurgery, robotic.     | Treatment planning using stereotactic radiotherapy/radiosurgery techniques which is specifically described as robotic (e.g. Cyberknife®).  |
| 08   | Stereotactic radiotherapy or radiosurgery, Gamma Knife® | Treatment planning using stereotactic radiotherapy/radiosurgery techniques which uses a Cobalt-60 gamma ray source and is specifically described as Gamma Knife®. This is most commonly used for treatments in the brain.  |
| 09   | CT-guided online adaptive therapy                       | An external beam technique in which the treatment plan is adapted over the course of radiation to reflect changes in the patient's tumor or normal anatomy using a CT scan obtained at the treatment machine (online). These approaches are sometimes described as CT-guided online re-optimization or online re-planning. If a treatment technique is described as both CT-guided online adaptive therapy as well as another external beam technique (IMRT, SBRT, etc.), then it should be categorized as CT-guided online adaptive therapy. If a treatment is described as "adaptive" but does not include the descriptor "online", this code should not be used.          |

## EXTERNAL BEAM RADIATION PLANNING TECHNIQUE CODES

| Code | Label                             | Definition  |
|------|-----------------------------------|---|
| 10   | MR-guided online adaptive therapy | An external beam technique in which the treatment plan is adapted over the course of radiation to reflect changes in the patient's tumor or normal anatomy using an MRI scan obtained at the treatment machine (online). These approaches are sometimes described as MR-guided online re-optimization or online re-planning. If a treatment technique is described as both MR-guided online adaptive therapy as well as another external beam technique (IMRT, SBRT, etc.), then it should be categorized as MR-guided online adaptive therapy. If a treatment is described as "adaptive" but does not include the descriptor "online", this code should not be used. |
| 88   | Not Applicable                    | Treatment not by external beam  |
| 98   | Other, NOS                        | Other radiation, NOS; Radiation therapy administered, but the treatment modality is not specified or is unknown.  |
| 99   | Unknown                           | Unknown whether radiation administered.   |



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## PHASE I DOSE PER FRACTION

- Records the dose per fraction (treatment session) delivered to the patient in the first phase of radiation during the first course of treatment. The unit of measure is centiGray (cGy).
- Radiation therapy is delivered in one or more phases with identified dose per fraction. It is necessary to capture information describing the dose per fraction to evaluate patterns of radiation oncology care. Outcomes are strongly related to the dose delivered.
- Codes
  - 00000 = Radiation therapy was not administered
  - 00001-99997 = Record the actual Phase I dose delivered in cGy
    - NEW! Code brachytherapy dosage
  - 99998 = Not applicable, radioisotopes administered to the patient
  - 99999 = Regional radiation therapy was administered but dose is unknown, it is unknown whether radiation therapy was administered. Death Certificate only.

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## PHASE I DOSE PER FRACTION

- The International Council for Radiation Protection (ICRP) recommends recording doses at the axis point where applicable (opposed fields, four field box, wedged pair, and so on). For maximum consistency in this data item, the ICRP recommendations should be followed whenever possible. Where there is no clear axis point, record the total dose per fraction as indicated in the summary chart.
- Radiation treatment Phase I dose per fraction will typically be found in the radiation oncologist's treatment summary.
- Record the actual dose delivered (NOT prescribed) as documented in the treatment summary.
- For proton treatment, dosage may occasionally be specified as in cGe units (Cobalt Gray Equivalent) rather than cGy. 1 cGe = 100 cGy (for the Phase I Total Dose, you would need to multiply cGe by 100).
- There may be times when the first course of treatment information is incomplete. Therefore, it is important to continue follow-up efforts to be certain the complete treatment information is collected.
- Code 99998 when radioisotopes-codes 13-16 for Phase I Treatment Modality [#1506] were administered to the patient.

## PHASE I DOSE PER FRACTION EXAMPLES

| Code  | Reason   |
|-------|--|
| 00200 | A patient with Stage III prostate carcinoma received pelvic irradiation to 5,000 cGy over 25 fractions followed by a Phase II (boost) prostate irradiation to 7,000 cGy. Record the Phase I dose per fraction as 00200 (5000/25).  |
| 00150 | A patient with a left supraclavicular metastasis from a gastric carcinoma received 6,000 cGy to the left supraclavicular region over 40 fractions. The dose is calculated at the prescribed depth of 3cm. A secondary calculation shows a Dmax dose of 6,450 cGy. Record the Phase I dose per fraction as 00150 (6000/40). |
| 00220 | A patient with a Stage II breast carcinoma is treated with the breast intact. Tangent fields are utilized to bring the dose of the breast to 5,500 cGy over 25 fractions. Phase II (boost) in the primary tumor bed delivered to a small volume in the breast. Record phase I dose per fraction as 00220 (5500/25).        |



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## PHASE I NUMBER OF FRACTIONS

- Records the total number of fractions (treatment sessions) delivered to the patient in the first phase of radiation during the first course of treatment.
- Radiation therapy is delivered in one or more phases with each phase spread out over a number of fractions (treatment sessions). It is necessary to capture information describing the number of fraction(s) to evaluate patterns of radiation oncology care.
- Codes
  - 000 = Radiation therapy was not administered to the patient.
  - 001-998 = Number of fractions administered to the patient during the first phase of radiation therapy.
  - 999 = Phase I Radiation therapy was administered, but the number of fractions is unknown; It is unknown whether radiation therapy was administered.

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## PHASE I NUMBER OF FRACTIONS

- The number of fractions or treatments will typically be found in the radiation treatment summary.
- Although a fraction or treatment session may include several treatment portals delivered within a relatively confined period of time-usually a few minutes-it is still considered one session.
- Count each separate administration of brachytherapy or implants as a single fraction or treatment.
- Record the actual number of fractions delivered (NOT prescribed), as documented in the treatment summary.
- Code 999 for Death Certificate Only (DCO) cases.
- There may be times when the first course of treatment information is incomplete. Therefore, it is important to continue follow-up efforts to be certain the complete treatment information is collected.

## PHASE I NUMBER OF FRACTIONS EXAMPLES

| Code | Reason  |
|------|---|
| 025  | A patient with breast carcinoma had treatment sessions in which treatment was delivered to the chest wall and encompassing the ipsilateral supraclavicular region for a total of three fraction portals. Twenty-five treatment sessions were given. Record 25 fractions as 025.                             |
| 025  | A patient with Stage IIIB bronchogenic carcinoma received 25 treatments to the left hilum and mediastinum, given in 25 daily fractions over five weeks.   |
| 050  | A patient with advanced head and neck cancer was treated using "hyperfractionation." Three fields were delivered in each session; two sessions were given each day, six hours apart, with each session delivering a total dose of 150 cGy. Treatment was given for a total of 25 days. Record 50 fractions. |
| 010  | The patient was given Mammosite® brachytherapy, administered in 10 separate sessions. Record 10 fractions.  |
| 001  | Prostate cancer patient treated with a single administration of seeds. Code as 1 fraction.  |

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## PHASE I TOTAL DOSE

- Identifies the total radiation dose delivered to the patient in the first phase of radiation treatment during the first course of treatment. The unit of measure is centiGray (cGy).
- To evaluate the patterns of radiation care, it is necessary to capture information describing the prescribed dose of Phase I radiation to the patient during the first course of treatment. Outcomes are strongly related to the total dose delivered.
- Codes
  - 000000 = No therapy administered
  - 000001-999997 = Record the actual total dose delivered in cGy
    - New! Code brachytherapy dosage
  - 999998 = Not applicable, radioisotopes administered to the patient.
  - 999999 = Radiation therapy was administered, but the dose is unknown; it is unknown whether radiation therapy was administered

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## PHASE I TOTAL DOSE

- The International Council for Radiation Protection (ICRP) recommends recording doses at the axis point where applicable (opposed fields, four field box, wedged pair, and so on). For maximum consistency in this data item, the ICRP recommendations should be followed whenever possible. Where there is no clear axis point, record the total dose as indicated in the summary chart.
- Radiation treatment Phase I dose will typically be found in the radiation oncologist's treatment summary.
- Record the actual dose delivered (NOT prescribed) as documented in the treatment summary. Value should not be auto-calculated within registry software.
- For proton treatment, dosage may occasionally be specified as cGe units (Cobalt Gray Equivalent) rather than cGy. 1 cGe = 100 cGy (for the Phase I Total Dose, you would need to multiply cGe by 100). Dose is occasionally specified as rads. 1 rad=1 cGy
- Code 000000 when diagnosed at autopsy.
- Code 999998 when radioisotopes administered & recorded in Phase 1 Treatment Modality.
- Code 999999 for Death Certificate Only (DCO) cases.
- There may be times when the first course of treatment information is incomplete. Therefore, it is important to continue follow-up efforts to be certain the complete treatment information is collected.

## PHASE I TOTAL DOSE EXAMPLES

| Code   | Reason  |
|--------|---|
| 005000 | A patient with Stage III prostate carcinoma received pelvic irradiation of 5,000 cGy during Phase I Radiation Treatment. Record the Phase I Total Dose as 5,000 cGy.  |
| 006000 | A patient with a left supraclavicular metastasis from a gastric carcinoma received 6,000 cGy to the left supraclavicular region. Record the Phase I Total Dose as 6,000 cGy.  |
| 005500 | A patient with a Stage II breast carcinoma is treated with the breast intact. Tangent fields are utilized to bring the dose of the breast to 5,500 cGy. The supraclavicular (draining) lymph nodes are included and treated to 4,500 cGy, calculated to a depth of 3 cm, and Phase II radiation treatment in the primary tumor bed is delivered to a small volume in the breast. Record the Phase I Total Dose as 5,500cGy. |

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## PHASE II RADIATION PRIMARY TREATMENT VOLUME

- Identifies the primary treatment volume or primary anatomic target treated during the second phase of radiation therapy during the first course of treatment. This data item should be used to indicate the primary target volume, which might include the primary tumor or tumor bed. If the primary tumor was not targeted, record the other regional or distant site that was targeted. Draining lymph nodes may also be targeted during the second phase. These will be identified in a separate data item Phase II Radiation to Draining Lymph Nodes.
- This data item provides information describing the anatomical structure targeted by radiation therapy during the second phase of radiation treatment and can be used to determine whether the site of the primary disease was treated with radiation or if other regional or distant sites were targeted. This information is useful in evaluating the patterns of care within a facility and on a regional or national basis. The breakdown and reorganization of the sites will allow for concise reporting.
- A subsequent phase may be referred to as a boost or cone down, and would be recorded in this field with subsequent phases recorded as Phase II, Phase III, etc. accordingly.
- If one or more discrete volumes are treated and one of those includes the primary site, record the Phase II treatment to the primary site in this data item.

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## PHASE II RADIATION PRIMARY TREATMENT VOLUME

- Phase II of radiation treatment also commonly includes draining lymph node regions that are associated with the primary tumor or tumor bed. The draining lymph nodes are recorded in the Phase II Radiation to Draining Lymph Nodes data item.
- When the primary volume is lymph nodes, draining lymph nodes are not targeted. Record code 88 in the Phase II Radiation to Draining Lymph Nodes
- Refer to Phase I Treatment Volume Table for code structure.



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## PHASE II RADIATION TO DRAINING LYMPH NODES

- Identifies the draining lymph nodes treated (if any) during the second phase of radiation therapy delivered to the patient during the first course of treatment.
- The second phase of radiation treatment commonly targets both the primary tumor (or tumor bed) and draining lymph nodes as a secondary site. This data item should be used to indicate the draining regional lymph nodes, if any, that were irradiated during the second phase of radiation.
- Refer to code structure in Phase I Radiation to Draining Lymph Nodes.
- The second phase of radiation treatment includes primary tumor or tumor bed in addition to the draining lymph node regions that are associated with the primary tumor or tumor bed. The primary tumor or tumor bed is recorded in the Phase II Radiation Primary Treatment Volume data item.
- When the Primary Treatment Volume is lymph nodes draining lymph nodes are not targeted. Record code 88 in this data item.

---

## PHASE II RADIATION TREATMENT MODALITY

- Identifies the radiation modality administered during the second phase of radiation treatment delivered during the first course of treatment.
- Radiation modality reflects whether a treatment was external beam, brachytherapy, a radioisotope as well as their major subtypes, or a combination of modalities. This data item should be used to indicate the radiation modality administered during the second phase of radiation.
- Refer to code structure and instructions from Phase I Radiation Treatment Modality.

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## PHASE II EXTERNAL BEAM RADIATION PLANNING TECHNIQUE

- Identifies the external beam radiation planning technique used to administer the second phase of radiation treatment during the first course of treatment.
- Refer to code structure and instructions from Phase I External Beam Radiation Planning Technique.

---

## PHASE II DOSE PER FRACTION

- Records the dose per fraction (treatment session) delivered to the patient in the second phase of radiation during the first course of treatment. The unit of measure is centiGray (cGy).
- Refer to code structure and instructions from Phase I Dose per Fraction

## PHASE II DOSE PER FRACTION EXAMPLES

| Code  | Reason   |
|-------|--|
| 00200 | A patient with Stage III prostate carcinoma receives pelvic irradiation to 5,000 cGy in 25 fractions followed by a conformal prostate boost to 7,000 cGy in 10 additional fractions. Record the prescribed (and delivered) Phase II dose per fractions as 00200 (2000/10)  |
| Blank | A patient with a left supraclavicular metastasis from a gastric carcinoma receives 6,000 cGy to the left supraclavicular region. The dose is calculated at a prescribed depth of 3 cm. A secondary calculation shows a D max dose (dose at depth of maximum dose) of 6,450 cGy. Do not confuse D max doses with Phase II doses. In this case, there is no planned Phase II dose. Leave Phase II Dose per Fraction blank. |
| 99999 | A patient with a Stage II breast carcinoma is treated with the breast intact. Tangent fields are utilized to bring the central axis dose in the breast to 5,040 cGy encompassing the supraclavicular nodes, and an intracavitary boost in the primary tumor bed is delivered to a small volume in the breast in a single session. Record the Phase II dose per fraction as 99999. Dosage (brachytherapy) unknown.        |



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## PHASE II NUMBER OF FRACTIONS

- Records the total number of fractions (treatment sessions) administered to the patient in the second phase of radiation during the first course of treatment.
- Refer to code structure and instructions from Phase I Number of Fractions.

## PHASE II NUMBER OF FRACTIONS EXAMPLES

| Code  | Reason  |
|-------|---|
| 005   | A patient with breast carcinoma had treatment sessions in which treatment was delivered to the chest wall encompassing the ipsilateral supraclavicular region for a total of three fraction portals. Twenty-five treatment sessions were given. Additional 1000 cGy external beam boost to the tumor bed given in 5 fractions. Code 005 for 5 fractions for phase II. |
| Blank | A patient with Stage IIIB bronchogenic carcinoma received 25 treatments to the left hilum and mediastinum, given in 25 daily fractions over five weeks. No Phase II treatment, leave blank.   |
| 010   | A patient with advanced head and neck cancer was treated with 6000 cGy in 25 fractions encompassing the primary site and draining nodes with a boost of 1200 cGy in 10 fractions to the tumor bed. Record 010 for 10 fractions for phase II.  |
| 005   | The patient was given a course of external beam to the prostate followed by 5 HDR brachytherapy treatments. Record 005 for 5 fractions for phase II.  |
| 030   | Prostate cancer patient treated with a single administration of seeds followed by 4500 cGy IMRT in 30 fractions. Code 030 for 30 fractions for phase II. Chronological order!   |

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## PHASE II TOTAL DOSE

- Identifies the total radiation dose administered in the second phase of radiation treatment delivered to the patient during the first course of treatment. The unit of measure is centiGray (cGy).
- Refer to code structure and instructions from Phase I Total Dose



## PHASE II TOTAL DOSE EXAMPLES

| Code   | Reason   |
|--------|--|
| 005000 | A patient with Stage III prostate carcinoma received pelvic irradiation of 5,000 cGy during Phase II Radiation Treatment. Record the Phase II Total Dose as 5,000 cGy.   |
| 006000 | A patient with a left supraclavicular metastasis from a gastric carcinoma received 6,000 cGy to the left supraclavicular region during Phase II Radiation Treatment. Record the Phase II Total Dose as 6,000 cGy.  |
| 005500 | A patient with a Stage II breast carcinoma is treated with the breast intact. During Phase II treatment tangent fields are utilized to bring the dose of the breast to 5,500 cGy. The supraclavicular (draining) lymph nodes are included to 4,500 cGy, calculated to a depth of 3 cm. Record the Phase II Total Dose as 5,500cGy. |

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## PHASE III RADIATION PRIMARY TREATMENT VOLUME

- Identifies the primary treatment volume or primary anatomic target treated during the third phase of radiation therapy during the first course of treatment.
- This data item provides information describing the anatomical structure targeted by radiation therapy during the third phase of radiation treatment and can be used to determine whether the site of the primary disease was treated with radiation or if other regional or distant sites were targeted. This information is useful in evaluating the patterns of care within a facility and on a regional or national basis. The breakdown and reorganization of the sites will allow for concise reporting.
- Refer to code structures & instructions from Phase I & II.

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### PHASE III RADIATION TO DRAINING LYMPH NODES

- Identifies the draining lymph nodes treated (if any) during the third phase of radiation therapy delivered to the patient during the first course of treatment.
- The third phase of radiation treatment commonly targets both the primary tumor (or tumor bed) and draining lymph nodes as a secondary site. This data item should be used to indicate the draining regional lymph nodes, if any, that were irradiated during the third phase of radiation.
- Refer to code structure & instructions from Phase I & II.

---

### PHASE III RADIATION TREATMENT MODALITY

- Identifies the radiation modality administered during the third phase of radiation treatment delivered during the first course of treatment.
- Radiation modality reflects whether a treatment was external beam, brachytherapy, a radioisotope as well as their major subtypes, or a combination of modalities. This data item should be used to indicate the radiation modality administered during the third phase of radiation.
- Refer to code structure & instructions from Phase I & II.

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### **PHASE III EXTERNAL BEAM RADIATION PLANNING TECHNIQUE**

- Identifies the external beam radiation planning technique used to administer the third phase of radiation treatment during the first course of treatment.
- Refer to code structure & instructions from Phase I & II.

---

## PHASE III DOSE PER FRACTION

- Records the dose per fraction (treatment session) delivered to the patient in the third phase of radiation during the first course of treatment. The unit of measure is centiGray (cGy).
- Radiation therapy is delivered in one or more phases with identified dose per fraction. It is necessary to capture information describing the dose per fraction to evaluate patterns of radiation oncology care. Outcomes are strongly related to the dose delivered.
- Refer to code structure & instructions from Phase I & II.

## PHASE III DOSE PER FRACTION EXAMPLES

| Code  | Reason   |
|-------|--|
| 00200 | A patient with a metastatic left supraclavicular node and an isolated liver metastasis from a gastric carcinoma received 6,000 cGy to the stomach. 2000 cGy external beam administered to the supraclavicular node in 10 fractions followed by 2000 cGy administered to the liver metastasis in ten fractions. Record 00200 for phase III dose per fraction.   |
| 00200 | A patient with a Stage II breast carcinoma is treated with the breast intact. Tangent fields are utilized to bring the dose of the breast to 5,500 cGy in 25 fractions. The axillary lymph nodes were then treated with an additional 1000 cGy in 10 fractions. Phase III in the primary tumor bed delivered to a small volume in the breast of 1000 cGy in 5 fractions. Record 00200 for phase III dose per fraction. |

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### PHASE III NUMBER OF FRACTIONS

- Records the total number of fractions (treatment sessions) delivered to the patient in the third phase of radiation during the first course of treatment.
- Radiation therapy is delivered in one or more phases with each phase spread out over a number of fractions (treatment sessions). It is necessary to capture information describing the number of fraction(s) to evaluate patterns of radiation oncology care.
- Refer to code structure & instructions from Phase I & II.



## PHASE III NUMBER OF FRACTIONS EXAMPLES

| Code  | Reason  |
|-------|---|
| 005   | A patient with breast carcinoma had treatment sessions in which treatment was delivered to the chest wall and separately to the ipsilateral supraclavicular region for a total of three fraction portals. Phase III was an additional 1000 cGy to axillary nodes for 5 fractions. Record 005 for Phase III number of fractions.   |
| Blank | A patient with Stage IIIB bronchogenic carcinoma received 25 treatments to the left hilum and mediastinum, given in 25 daily fractions over five weeks. Leave Phase III number of fractions blank. Only 1 phase given.  |
| 010   | A patient with metastatic head and neck cancer was treated using "hyperfractionation." Three fields were delivered in each session; two sessions were given each day, six hours apart, with each session delivering a total dose of 150 cGy. Treatment was given for a total of 25 days. Additional 1000 cGy in 10 fractions given to thoracic spine followed by 1000 cGy in 10 fractions to liver. Record 010 for Phase III Number of fractions. |

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## PHASE III TOTAL DOSE

- Identifies the total radiation dose delivered during the third phase of radiation treatment delivered to the patient during the first course of treatment. The unit of measure is centiGray (cGy).
- To evaluate the patterns of radiation care, it is necessary to capture information describing the prescribed dose of Phase III radiation to the patient during the first course of treatment. Outcomes are strongly related to the total dose delivered.
- Refer to code structure & instructions from Phase I & II.

## PHASE III TOTAL DOSE EXAMPLES

| Code   | Reason   |
|--------|--|
| 005000 | A patient with Stage III prostate carcinoma received pelvic irradiation of 5,000 cGy during Phase III Radiation Treatment. Record the Phase III Total Dose as 5,000 cGy.   |
| 006000 | A patient with a left supraclavicular metastasis from a gastric carcinoma received 6,000 cGy to the left supraclavicular region during Phase III Radiation Treatment. Record the Phase III Total Dose as 6,000 cGy.  |
| 005500 | A patient with a Stage II breast carcinoma is treated with the breast intact. During Phase III treatment tangent fields are utilized to bring the dose of the breast to 5,500 cGy. The supraclavicular (draining) lymph nodes are treated 4,500 cGy, calculated to a depth of 3 cm. Record the Phase III Total Dose as 5,500cGy. |

## NUMBER OF PHASES OF RADIATION TREATMENT TO THIS VOLUME

- Identifies the total number of phases administered to the patient during the first course of treatment. A “phase” consists of one or more consecutive treatments delivered to the same anatomic volume with no change in the treatment technique. Although the majority of courses of radiation therapy are completed in one or two phases (historically, the “regional” and “boost” treatments) there are occasions in which three or more phases are used, most typically with head and neck malignancies.
- The number of phases of radiation treatment is used to evaluate patterns of radiation therapy and the treatment schedule
- The number of phases of radiation treatment will typically be found in the radiation oncologist’s summary letter for the first course of treatment. Determination of the exact number of phases delivered to the patient may require assistance from the radiation oncologist for consistent coding.
- Codes
- 00 = No radiation treatment
- 01 = 1 phase
- 02 = 2 phases
- 03 = 3 phases
- 04 = 4 or more phases
- 99 = Unknown number of phases; Unknown if radiation therapy administered.

**NUMBER OF PHASES OF RADIATION TREATMENT TO THIS VOLUME EXAMPLES**

| <b>Code</b> | <b>Reason</b>   |
|-------------|---|
| 00          | Radiation therapy was not administered.   |
| 02          | Patient with breast carcinoma treated in two phases, the whole breast with opposed x-ray fields (Phase 1) followed by an electron beam boost to the surgical bed (Phase 2). |

---

## RADIATION TREATMENT DISCONTINUED EARLY

- This field is used to identify patients/tumors whose radiation treatment course was discontinued earlier than initially planned. That is, the patient/tumor received fewer treatment fractions (sessions) than originally intended by the treating physician.
- Currently, the total dose of radiation reflects what was actually delivered rather than what was intended. When a patient doesn't complete a radiation course as initially intended this is typically commented on within the radiation end of treatment summary. By flagging these patients within the cancer registry database, these patients can be excluded from analyses attempting to describe adherence to radiation treatment guidelines or patterns of care analyses.

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## RADIATION TREATMENT DISCONTINUED EARLY

- Codes
  - 00 = No radiation treatment
  - 01 = Radiation treatment completed as prescribed
  - 02 = Radiation treatment discontinued early - toxicity
  - 03 = Radiation treatment discontinued early - contraindicated due to other patient risk factors (comorbid conditions, advanced age, progression of tumor prior to planned radiation etc.).
  - 04 = Radiation treatment discontinued early - patient decision
  - 05 = Radiation discontinued early - family decision
  - 06 = Radiation discontinued early - patient expired
  - 07 = Radiation discontinued early - reason not documented
  - 99 = Unknown if radiation treatment discontinued; Unknown whether radiation therapy administered.

---

## **RADIATION TREATMENT DISCONTINUED EARLY**

- Radiation treatment recorded as discontinued will typically be found in the radiation oncologist's summary letter for the first course of treatment.
- Use code 01 when there is no indication in the record that radiation therapy was discontinued or completed early.
- Use code 02-07 when there is an indication in the record that the radiation therapy discontinued or was completed early.
- Use code 99 when radiation therapy was administered, but it is not clear if the treatment course was discontinued early, if it is unknown whether radiation therapy was administered, or it is a death certificate only case.



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## TOTAL DOSE

- Identifies the total radiation dose administered to the patient across all phases during the first course of treatment. The unit of measure is centiGray (cGy).
- To evaluate the patterns of radiation care, it is necessary to capture information describing the prescribed total dose of radiation during the first course of treatment. Outcomes are strongly related to the dose delivered.
- Codes
  - 000000 = No therapy administered
  - 000001-999997 = Record the actual dose delivered in cGy
    - NEW! Include brachytherapy dosage in total dosage
  - 999998 = Not applicable, radioisotopes administered to the patient. ALSO use this code when multiple body sites (volumes) are treated simultaneously (e.g. simultaneous treatment to multiple metastatic sites) OR when both external beam and brachytherapy administered within first course treatment.
  - Doses should ONLY be summed to create a Total Dose when all of the phases were delivered sequentially to the same body site. If phases were delivered simultaneously (multiple body sites [volumes], e.g. simultaneous treatment to multiple metastatic sites, or dose-painting), then code 999998, Not applicable.
  - 999999 = Radiation therapy was administered, but the dose is unknown; it is unknown whether radiation therapy was administered

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## TOTAL DOSE

- Total radiation treatment dose will typically be found in the radiation oncologist's summary letter for the first course of treatment. If the total is not documented, add the dose from each phase (I, II, III, or IV or more) and document the total. Determination of the total dose of radiation therapy may require assistance from the radiation oncologist for consistent coding.
- For proton treatment, dosage may occasionally be specified as in cGe units (Cobalt Gray Equivalent) rather than cGy. 1 cGe = 100 cGy (for the Total Dose, you would need to multiply cGe by 100). Dose is still occasionally specified in "rads". One rad is equivalent to one centiGray (cGy).
- Code 000000, radiation therapy not administered, when diagnosed at autopsy.
- There may be times when the first course of treatment information is incomplete. Therefore, it is important to continue follow-up efforts to be certain the complete treatment information is collected.



## CASE SCENARIOS





## Q&A



