



A Joint Project of the Sylvester Comprehensive Cancer Center and the Florida Department of Health

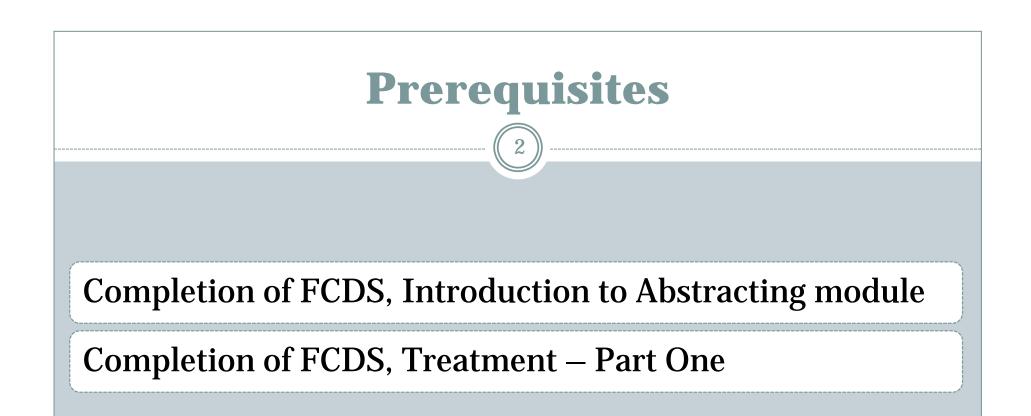








FLORIDA CANCER DATA SYSTEM



Learning Objectives

Recognize cancer treatment modalities

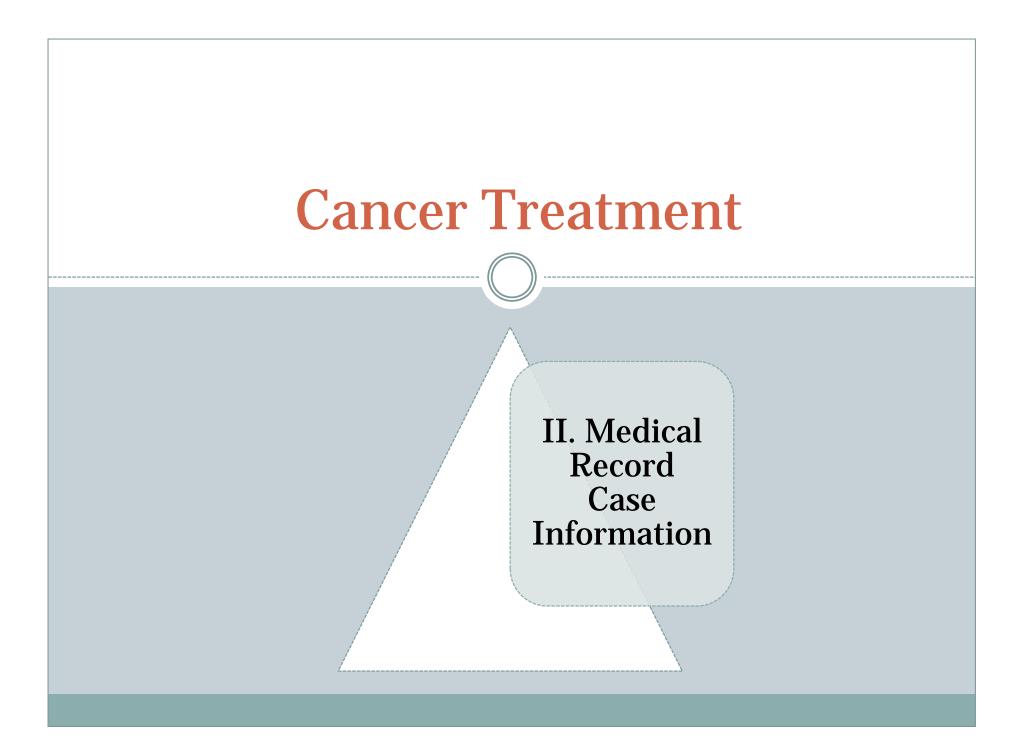
Acquire a basic understanding of how cancer treatments work and methodologies used in their administration

Locate cancer treatment information in the medical record

Identify the coding fields used to abstract cancer treatment information

Understand how to apply treatment codes to medical record information

Identify challenging areas in correctly applying treatment codes



What kind of treatment was given?

The medical record of the patient is the primary source of treatment information.

Pathology and operative reports document surgical procedures performed.

Biopsy procedures may be performed in a physician's office or clinic setting.

Hospital Record

If an inpatient hospitalization occurs, the history and physical and discharge summaries may also refer to and summarize surgical procedures and findings, and the discharge summary may outline a plan for further treatment or oncologic referrals after surgery.

Radiation Record

Radiation records in many facilities are maintained separately within the radiation department, though a consult report and treatment summary may be kept with the hospital medical record.

Radiation files usually include copies of all diagnostic and treatment reports, and the radiation consultation generally provides an excellent summary of the patient's diagnostic workup and treatment to date.

Medical Oncology Record

Systemic therapies administered by medical oncologists are documented in the hospital medical record if given on an inpatient or outpatient basis, and in physician office or clinic records if given in these venues.

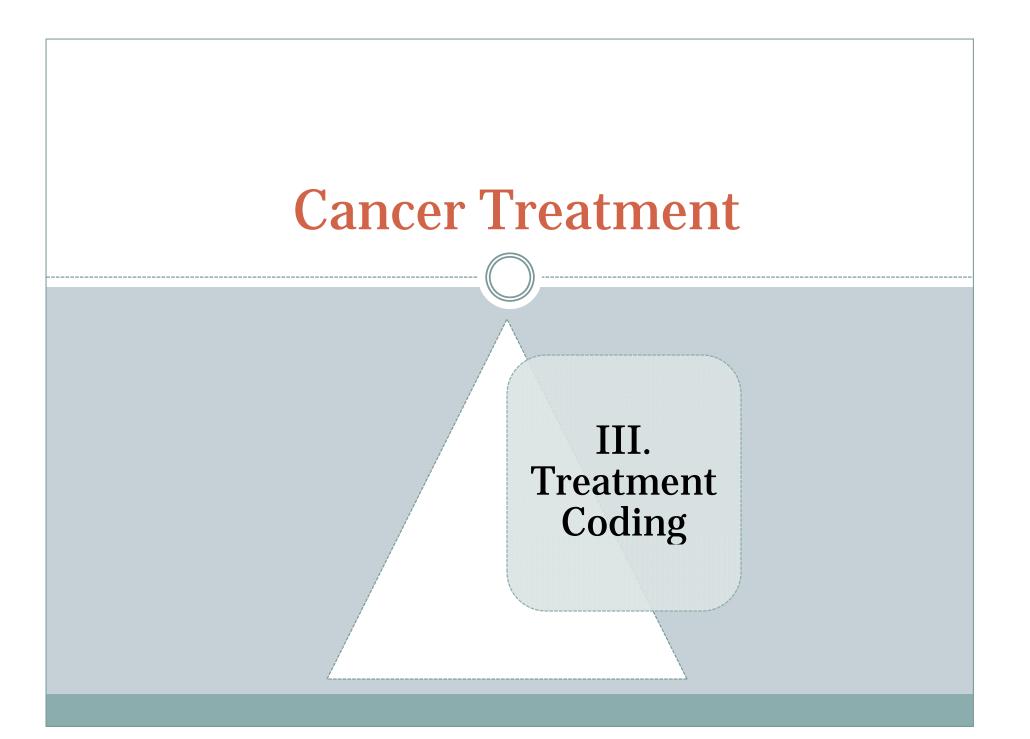
The primary sources for chemotherapy information are physician's orders and drug administration records.

Some types of therapies that the patient self-administers as an oral medication, such as Tamoxifen for breast cancer, may only be documented within physician office notes.

Planned systemic therapy may be documented in a treatment plan in the hospital record, while later admissions in the hospital record present confirmation that the therapy was received.

(9) The electronic medical record, especially when it brings clinic records into the same system as hospital records and depending on the level of integration of radiation records, provides a single access point to treatment information for all patients and all physicians within the system. Information on treatment rendered in offices or clinics outside the system must be gathered using traditional mechanisms of queries to offices and

clinics or access privileges to records maintained by those facilities.



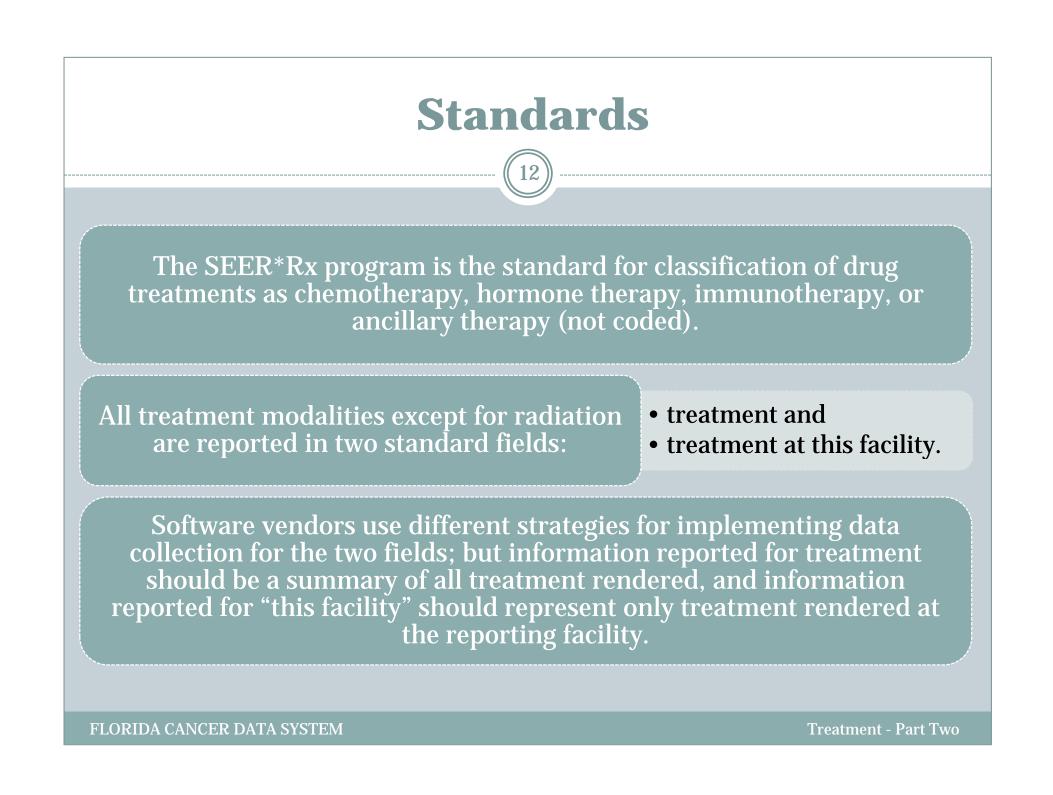
How is the treatment coded?

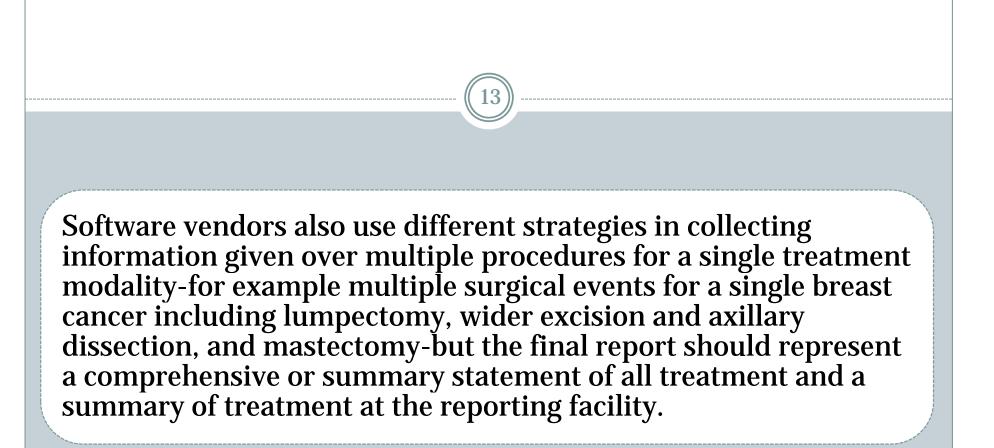
The Facility Oncology Registry Data Standards (FORDS) manual published by the Commission on Cancer (CoC) of the American College of Surgeons (ACoS) specifies the data fields, codes, and data definitions used to abstract treatment information.

The online Inquiry and Response (I&R) system maintained by the COC provides definitive answers to coding questions that arise and require an interpretation of standards.

The SEER Inquiry System is similar, serving as a resource for participants in SEER registries to ask coding questions and receive answers, but also available to registrars in non-SEER facilities.

SEER and CoC have worked to bring their coding rules and definitions into agreement, but there may be differences in particular fields, the most notable for treatment being the definition for date of first course of treatment.





Surgery Data Fields and Codes

Surgery is coded within three fields in the standard registry abstract,

- Surgery of Primary Site,
- Scope of Regional Lymph Node Surgery, and
- Surgical Procedure/Other Site.

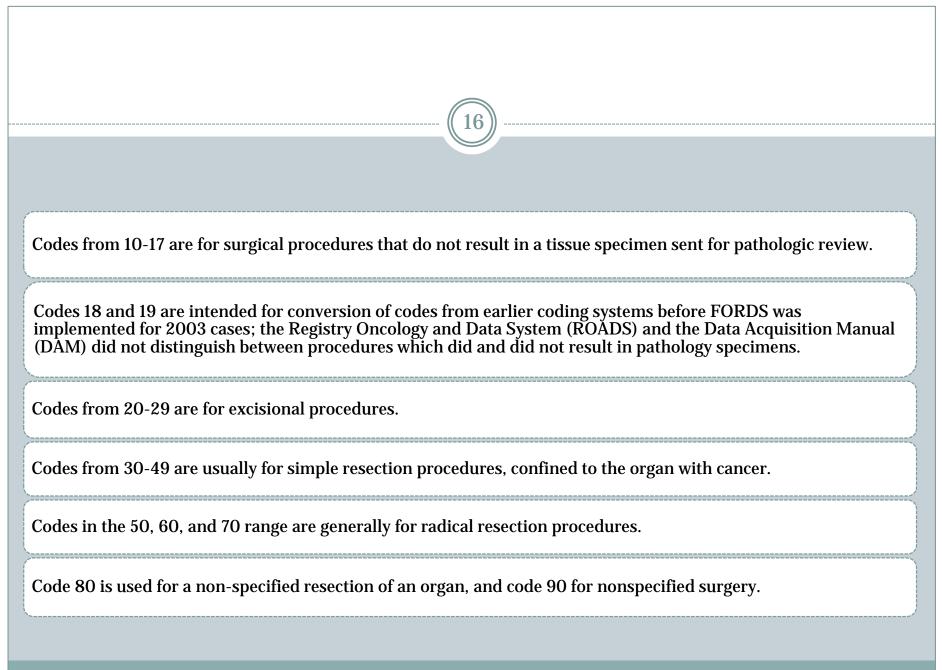
Surgery of Primary Site is coded using site-specific surgery codes listed in an appendix to the FORDS manual.

Primary Site-Specific Codes

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Site-specific codes are provided for groups of sites categorized as Oral Cavity, Parotid and Other Unspecified Glands, Pharynx, Esophagus, Stomach, Rectosigmoid, Rectum, Anus, Liver and Intrahepatic Bile Ducts, Pancreas, Larynx, Lung,

Hematopoietic/Reticuloendothelial/Immunoproliferative/Myloproliferative Disease, Bones/Joints/Articular Cartilage/Peripheral Nerves and Autonomic Nervous System/Connective/Subcutaneous and Other Soft Tissues, Spleen, Skin, Breast, Cervix Uteri, Corpus Uteri, Ovary, Prostate, Testis, Kidney/Renal Pelvis/Ureter, Bladder, Brain, Thyroid Gland, Lymph Nodes, All Other Sites, and Unknown and Ill-Defined Primary Sites.



Codes are applied according to the definitions for the specific sites.

The codes are listed in a hierarchical order by position, which does not always follow the numerical hierarchy; for example, in oral cavity, code 25 for laser excision is placed after 27 for excisional biopsy, and code 25 would be used in preference to code 27.

The hierarchy is used for all codes before 80 (excluding 18 and 19).

If only one surgical procedure can be recorded in the software, the selected code should indicate the most definitive procedure that was performed; if multiple surgical procedures can be recorded, the code associated with the last surgical procedure should indicate the final result of all the surgeries performed. In the example given above with three procedures, lumpectomy, wider excision and axillary dissection, and mastectomy for breast cancer, the final code should indicate a modified radical mastectomy, appropriate for a mastectomy with axillary dissection.

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The definitions for site-specific surgeries provide special instructions to clarify the meaning for certain codes, including notes to code other treatment items in certain instances.

Breast codes incorporate prophylactic mastectomies of the contralateral breast and reconstruction using implants and tissue. As noted previously, an excisional biopsy of a nodal mass for a nodal lymphoma is coded as surgery only if it removes all known disease in the body.

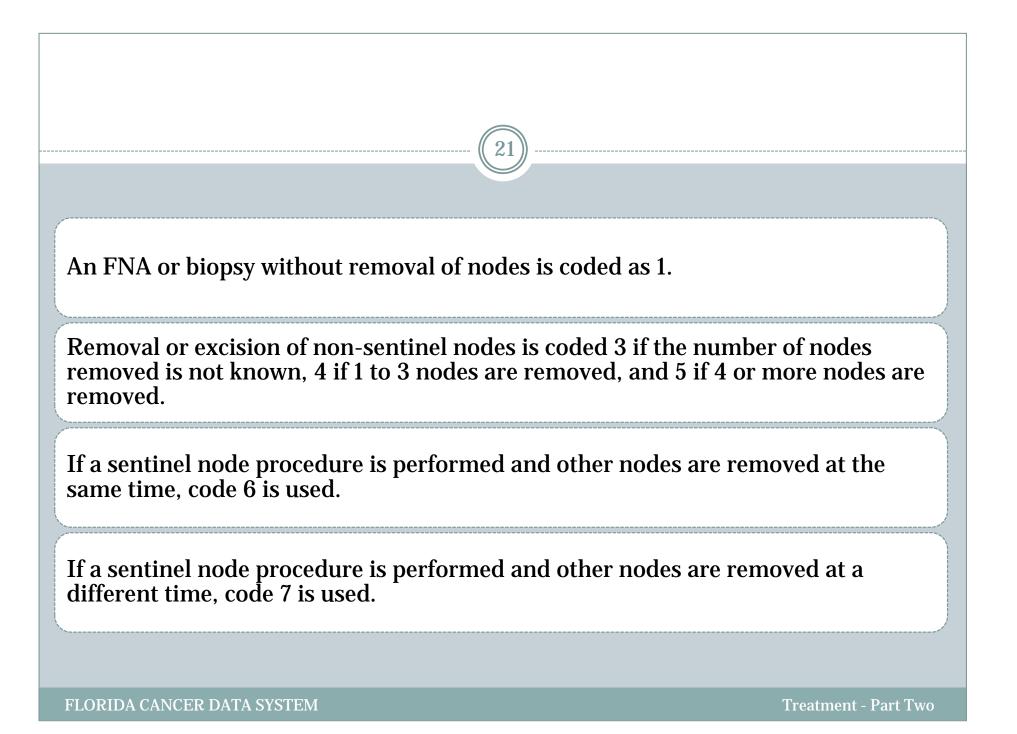
Surgical procedures for extranodal lymphomas are coded using the appropriate scheme for the primary site of origin of the lymphoma.

Surgery of primary site for bone marrow malignancies, ill-defined, and unknown primaries is coded as 98, not applicable.

Nodes and Other Site Codes

All nodal procedures (except for nodal lymphomas) are coded in the Scope of Regional Lymph Node Surgery field, including fine needle aspirates, biopsies, and nodal excisions.

Codes 0-7 are hierarchical, with the higher code being used in preference to a lower code, except code 2 is used if a sentinel node biopsy only is performed, rather than codes 3-5 which indicate the number of nodes removed.





As noted in the FORDS manual, the distinction between 1 to 3 nodes and 4 or more nodes is made for comparison with historical data; the codes do not evaluate the treatment rendered.

Coding FNAs in this field also preserves information for comparison with historical data; an FNA of a node is generally not regarded by clinicians as treatment.

The data item is coded as 9, not applicable, for tumors in the central nervous system, hematopoietic malignancies, and primaries of unknown and ill-defined sites.

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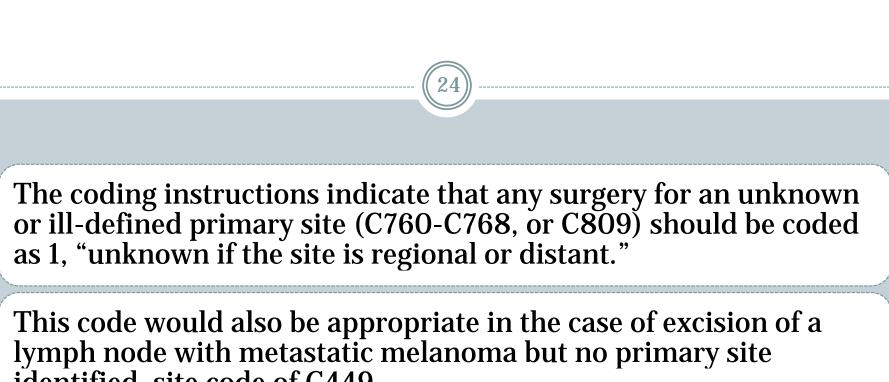
The Surgical Procedure/Other Site field is used to code surgical procedures of non-primary sites, including regional sites, distant nodes, distant metastatic sites, and any sites where the primary site is unknown.

Surgery of a regional site, code 2, could be excision of a chest wall mass for a breast cancer.

Surgery of distant nodes, code 3, may be removal of an axillary mass for a lung cancer.

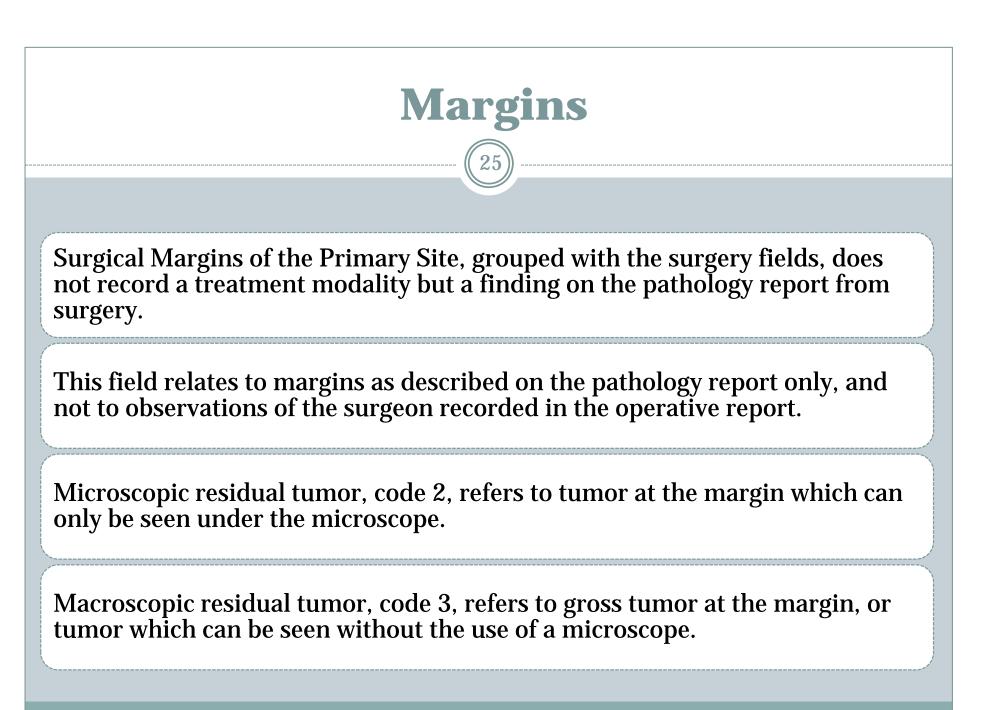
Surgery of a distant metastatic site, code 4, could be removal of a solitary liver lesion for a colon cancer.

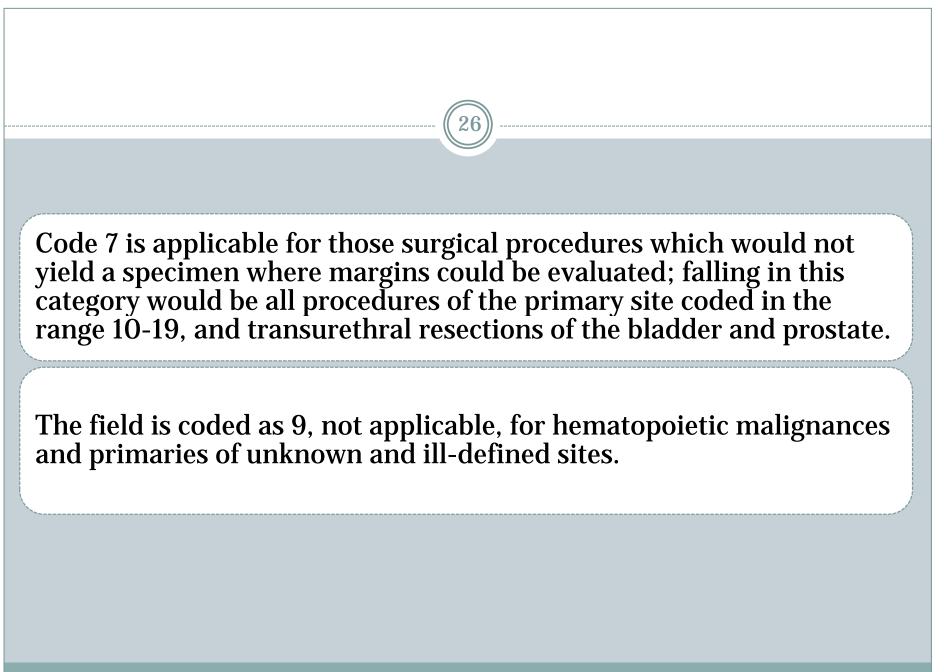
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identified, site code of C449.

The Collaborative Staging Manual identifies regional organs by primary site.





Radiation Data Fields and Codes

Radiation information is collected in a number of fields, including:

- Location of Radiation Treatment,
- Radiation Treatment Volume,
- Regional Treatment Modality,
- Regional Dose,
- Boost Treatment Modality,
- Boost Dose, and
- Number of Treatments to This Volume.

Rather than collecting information about where treatment was given in two modality fields, treatment and treatment at this facility, a field was defined for radiation to specify the location of treatment:

- all radiation at this facility,
- regional treatment here and boost elsewhere,
- boost here and regional treatment elsewhere, and
- all radiation treatment elsewhere.

This field allows the collection of the same kind of information about where treatment is given as do the fields for surgery and the systemic modalities, but in a different manner.

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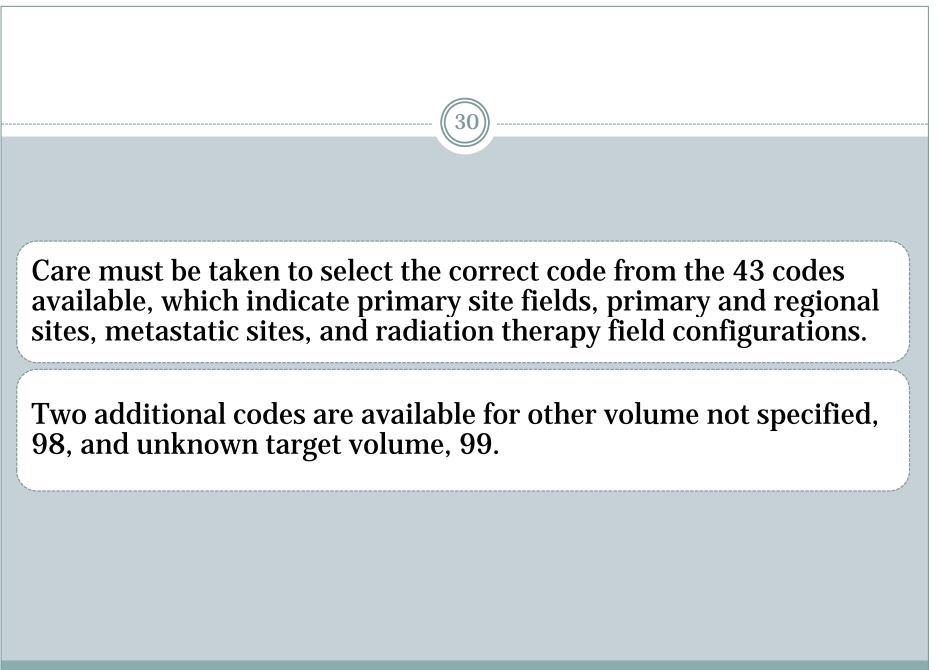
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Treatment Volume

The Radiation Treatment Volume field describes the volume or anatomic target of the most clinically significant regional radiation therapy delivered to the patient.

"Regional" in this context does not refer to extent of disease from a primary site to a regional area, but rather the area targeted by the radiation therapy, which could be limited to:

- the primary site of tumor-the larynx, code 07;
- the primary site plus regional nodes-breast cancer tumor bed and axillary lymph nodes, code 19;
- a metastatic site-spinal metastasis, code 24; or
- the whole body in systemic radiation treatment-Iodine 131 administered for thyroid cancer ablation, code 33.



Treatment Modalities

Regional Treatment Modality and Boost Treatment Modality are also fields which have a large number of codes available to specify both source of radiation energy and mechanism of delivery of radiation to the treatment area.

Regional treatment refers to the dominant modality used to deliver the most clinically significant regional dose to the primary volume of interest, the treatment that will affect the largest area of interest, while the boost treatment is focused on a smaller area within the region, generally the primary tumor bed itself. 32

Regional and boost treatments may both be given using an external beam, the boost treatment encompassing a smaller field focused on the site.

Regional and boost treatments may be given as a combination of external beam and brachytherapy, the brachytherapy with implants placed directly into the cancerous organ being the boost modality.

Where only one type of treatment is given, such as brachytherapy alone, it is coded as a regional modality.

The coding structure is the same for both regional and boost treatment modalities; codes specify sources of radiation energy for external beam; ranges of photon energy; type of delivery plan-3D conformal, IMRT, stereotactic radiosurgery; brachytherapy-interstitial and intercavitary, low dose and high dose; systemic isotopes.

Radiation Dose



Regional and boost treatment dosages are coded in the two dose fields in centiGray units or rads; brachytherapy and radioisotope dosages are recorded as 88888.

The number of treatment sessions are recorded in the number of treatments to volume field.

External beam therapy is delivered in fractions to the total dose, and is expressed in radiation oncology records as number of fractions delivered over a total number of days.

Brachytherapy may be administered in a single or limited number of sessions.

Radioisotopes may be administered in a single session.

The total number of sessions is recorded for combined modality treatments-25 fractions of external beam therapy to the prostate plus one brachytherapy session with implantation of seeds would be recorded as 26 treatments.



Registry software systems may elaborate coding for systemic therapy, possibly including codes for single drugs, multi-agent regimens, dosages, number of cycles, and response to therapy.

Instructions for appropriate coding in these fields should be provided by the software vendor.

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Treatment - Part Two



- no treatment given, code 00,
- treatment given, code 01, and
- unknown if treatment given, code 99.

As with chemotherapy, registry software systems may elaborate coding for these fields as well, based on the type of agent used.

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Hematologic Transplant and Endocrine Procedures

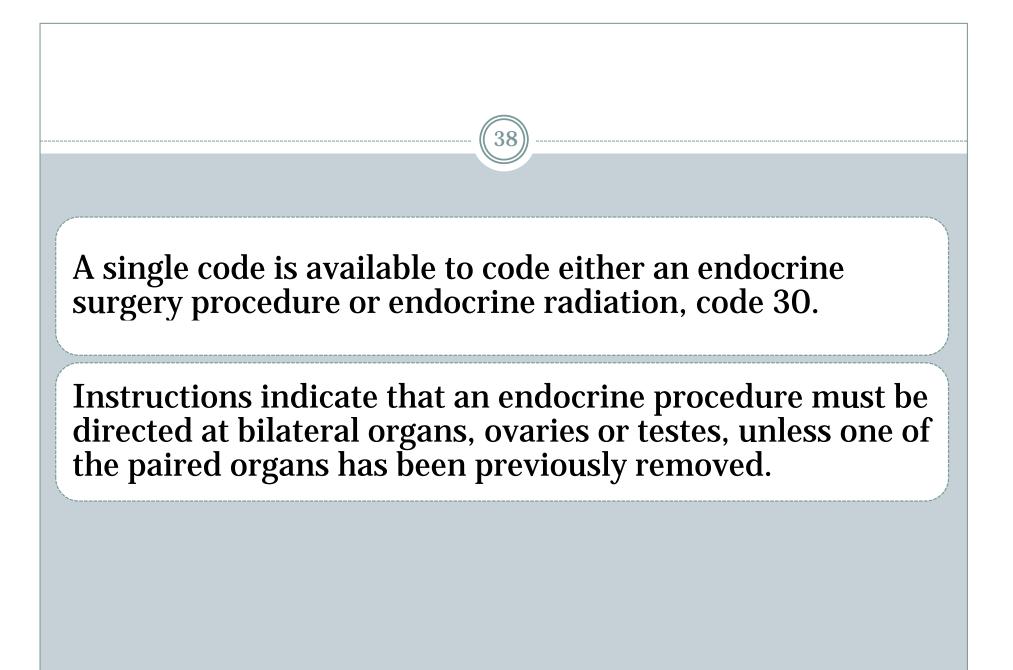
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A single field is provided to code transplant and endocrine procedures.

Transplant and endocrine procedures are not a single category of cancer treatment, but are grouped in a single data item as procedures that use surgical or radiation interventions to achieve their effects but are not properly classified as surgery or radiation.

Codes are available to indicate:

- bone marrow transplant type unknown, code 01;
- autologous bone marrow (from a donor source), code 11;
- allogeneic bone marrow (from the patient), code 12; and
- stem cell harvest, code 20.



Other treatment



The other treatment field provides codes for:

- no treatment, code 0;
- cancer treatments for the hematopoietic diseases added in 2001, code 1;
- experimental treatments, code 2;
- treatments on double-blind studies, code 3; and
- unproven treatments, code 6.

Cancer Treatment IV. Other **Procedures**

Are all documented procedures and drugs coded as treatment?

Cancer-directed treatment is distinguished from non-cancer directed treatment, procedures or substances that do not modify, control, remove, or destroy cancer cells.

Surgical procedures may be diagnostic-a biopsy of the primary site that removes part of a tumor for cytologic or pathologic examination to determine whether it is malignant, or a surgical exploration where it is determined that a cancer is nonresectable and only a biopsy is taken to confirm malignancy.

Non-Cancer Directed Procedures and Drugs

Non-cancer directed surgical procedures may also include:

- pain management-peripheral nerve block or peripheral nerve catheter infusion for metastatic lesion pressing on the nerve;
- preservation of function in affected organs-placement of biliary stent to open a bile duct being compressed by a pancreatic tumor.

Non-cancer directed procedures may be entered into the abstract of a cancer case as a diagnostic procedure or palliative care.

Biopsy procedures on primary sites and metastatic sites other than regional nodes are coded in the field Surgical Diagnostic and Staging Procedure.

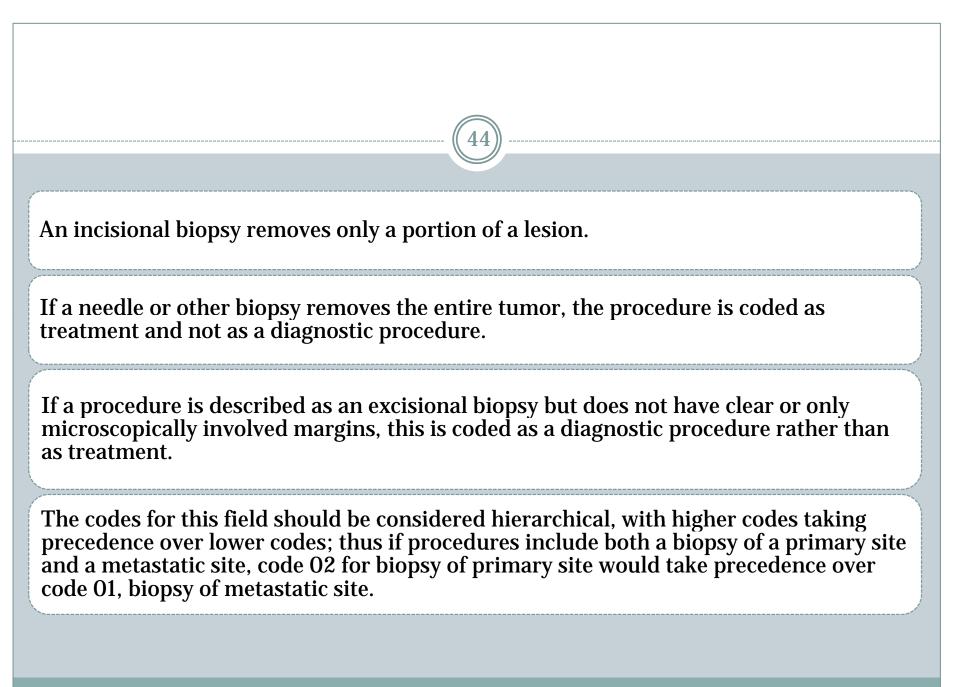
Care must be taken to meet the coding requirements for this field.



Procedures which result in cytologic findings only-brushings, washings, cell aspirations, and peripheral blood smears-are not coded here.

Positive results from these procedures, if no other tissue findings are made, are coded in the field Diagnostic Confirmation as code 2, positive cytology.

A distinction must be made between incisional biopsies, which are coded here, and excisional biopsies, which are coded as surgical treatment.



Biopsies of regional nodes are not coded in this field, but in the field Scope of Regional Lymph Node Surgery.

However, if an exploratory or bypass procedure of the primary or metastatic site includes a biopsy of a regional node, code 05 or 06 would be used to indicate the procedure plus biopsy of other site, and the node biopsy would also be coded in the Scope of Regional Lymph Node Surgery field.

Bypass procedures are coded in this field if they are secondary to the diagnostic workup.

If they are undertaken to relieve symptoms from a known tumor, they are coded as palliative care only.

Palliative Care

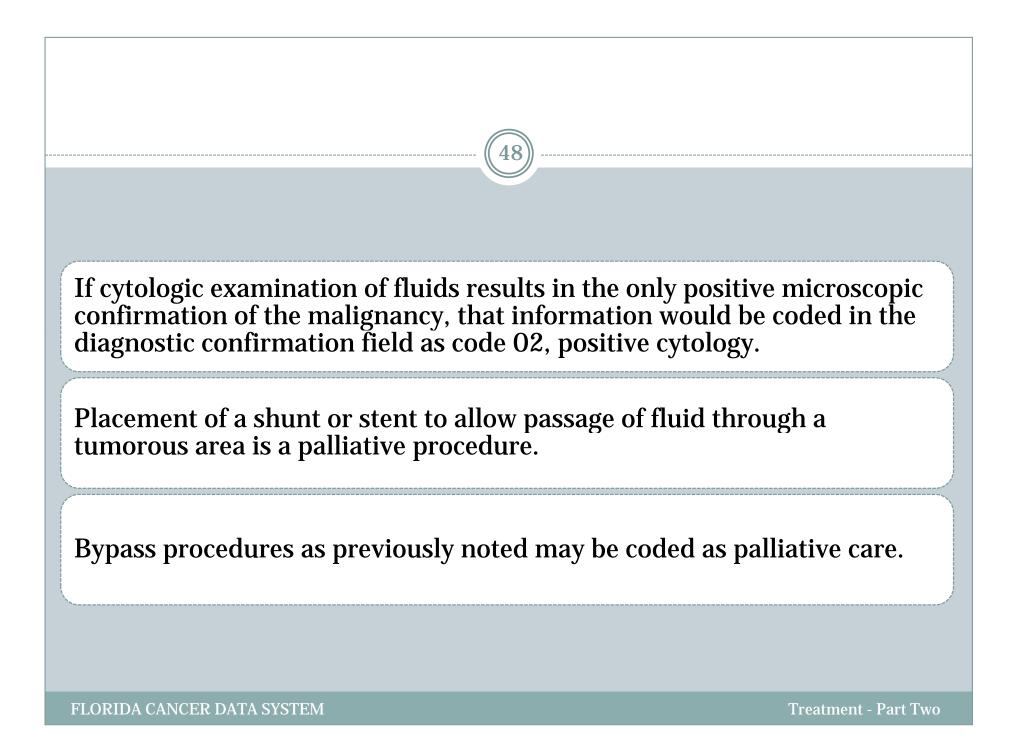
Palliative care is considered treatment, but a distinction is made between palliative care which works by modifying, controlling, removing, or destroying malignant cells and care which manages symptoms or pain by other mechanisms.

All palliative procedures which control malignancies are coded as both treatment and palliative care. For example, laser therapy to reduce the blockage from an esophageal tumor is coded as a surgical treatment as well as code 1 in the Palliative Care field.

Radiation to relieve the pain of bone metastases in prostate cancer is coded as radiation as well as code 2 in the Palliative Care field.

Palliative chemotherapy for late stage lung cancer is coded as chemotherapy as well as code 3 in the Palliative Care field.

However, non-diagnostic procedures which remove bodily fluids to make the patient more comfortable, such as thoracenteses and abdominal centeses, are only coded as palliative care.



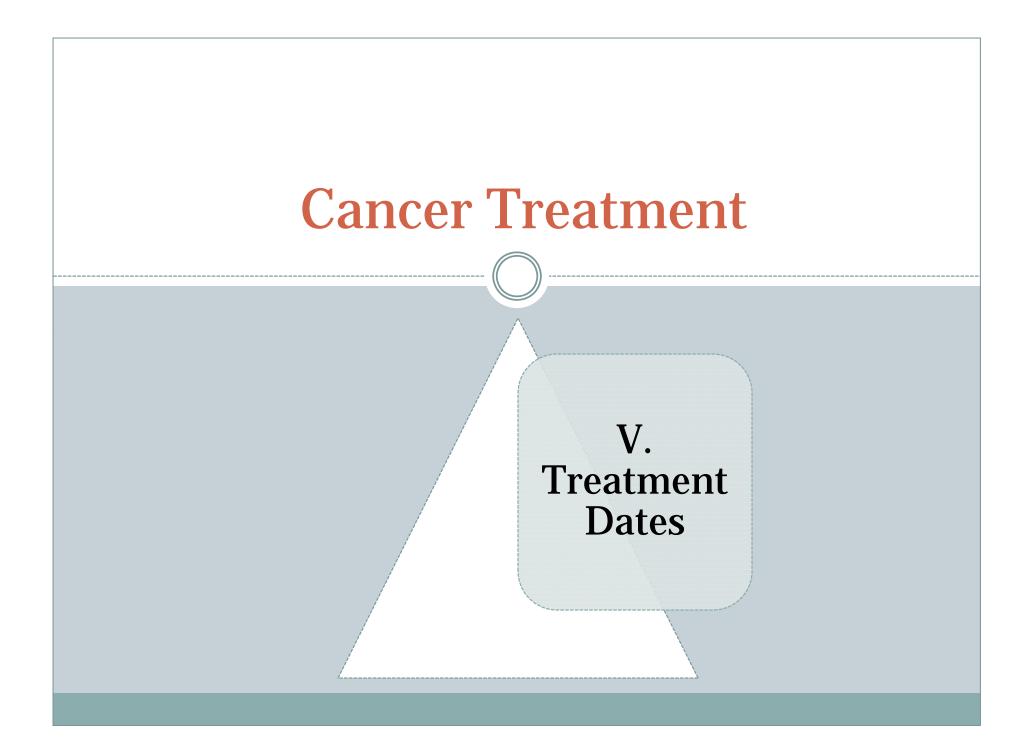


Pain management is a palliative procedure; it is coded as a single treatment modality if no other palliative treatment is rendered, code 4.

If pain management is offered in combination with another palliative modality such as radiation or chemotherapy, a combination code is available to record this, code 6.

Nutritional support, including placement of PEG tubes for feeding, is not coded as palliative care.

Drugs administered to cancer patients do not all fall into a treatment category.
Drugs administered to cancer patients do not all fall into a treatment category.
SEER*Rx is the accepted standard reference source for determining whether a particular drug is considered treatment or ancillary to treatment.
An ancillary drug may be coded as palliative care, meeting the definition in code 3, systemic drug to alleviate symptoms, depending on the nature of activity of the drug.
Zometa, used to relieve the pain of bone metastases, and Neulasta, used to reduce the risk of infection in a patient undergoing chemotherapy, are both ancillary, palliative systemic therapy.
Ancillary drugs are not coded in the chemotherapy, hormone therapy, and immunotherapy fields.



When did treatment start?

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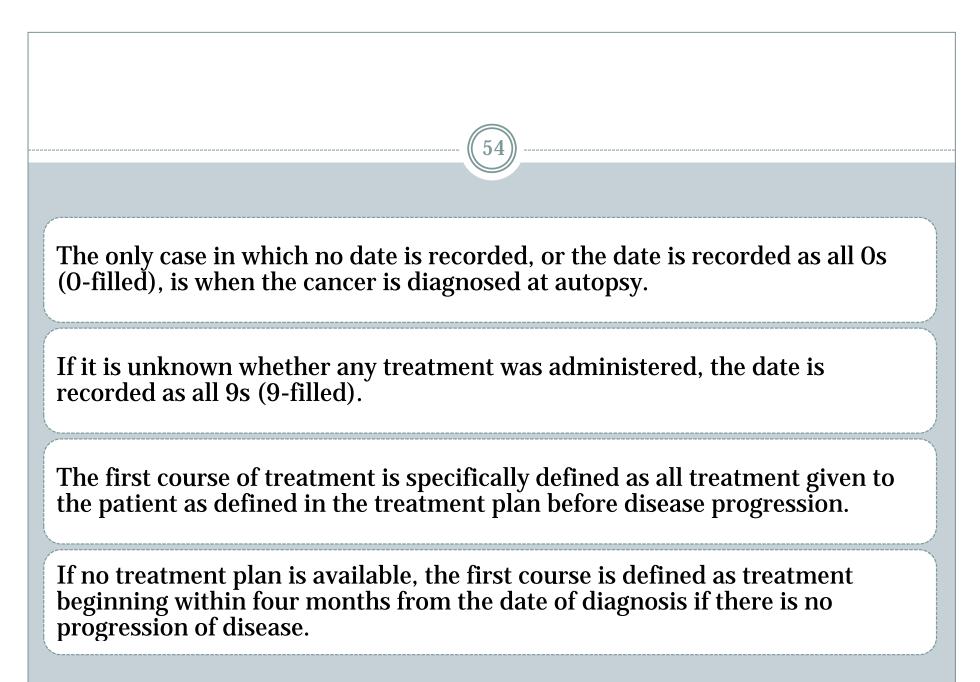
The standard registry abstract includes certain treatment dates: • Date of First Course of Treatment,

- Date of First Surgical Procedure,
- Date of Most Definitive Surgical Resection of the Primary Site,
- Date of Surgical Discharge,
- Date Radiation Started,
- Date Radiation Ended,
- Date Systemic Therapy Started, and
- Date Other Treatment Started.

First Course of Treatment

The Date of First Course of Treatment is:

- the first date recorded for any of the treatment modalities-surgery, radiation, systemic therapy, or other treatment;
- the date of palliative care if this is the only treatment rendered (this date is not recorded in a separate field); or
- the date the decision was made not to treat the cancer, the patient refused treatment, or the patient expired before treatment started.



Surgery Dates

The Date of First Surgical Procedure is the first date that a procedure recorded in any of the three surgical fields is performed:

- Surgery of Primary Site,
- Scope of Regional Lymph Node Surgery, and
- Surgery of Other Site.

Because an FNA of a regional node is coded in the Scope of Regional Lymph Node Surgery data item, if this was the first procedure performed, this date would also be recorded in the Date of First Surgical Procedure; and would also be recorded as the Date of First Course of Treatment if it was not preceded by any other treatment modality. 56

The Date of Most Definitive Surgical Procedure is the date the most extensive surgery was performed on the primary site, the date associated with the highest code entered into the Surgery of Primary Site field.

The Date of Surgical Discharge is also recorded for the most definitive surgery or highest coded entered in the Surgery of Primary Site field.

This date may be the same as the date of definitive surgery if this was performed as an outpatient procedure; if the most definitive surgery was performed as an inpatient procedure, this is the date of inpatient discharge.

It is worth emphasizing that the Date of First Surgical Procedure relates to any of the three surgery fields; the Date of Most Definitive Surgical Procedure and the Date of Surgical Discharge relate to the Surgery of Primary Site only.

Readmission to the Same Hospital within 30 Days of Surgical Discharge is another field that is related to the Surgery of Primary Site field and the Date of Most Definitive Surgery. This field records whether a patient is admitted to the same hospital where the definitive surgery was performed, within the first 30 days after discharge, and whether the admission is planned or unplanned. A planned admission could be for chemotherapy port insertion; an unplanned admission could be for treatment of surgical wound infection.

Admissions unrelated to cancer are not coded in this field, such as emergency surgery for an appendectomy.

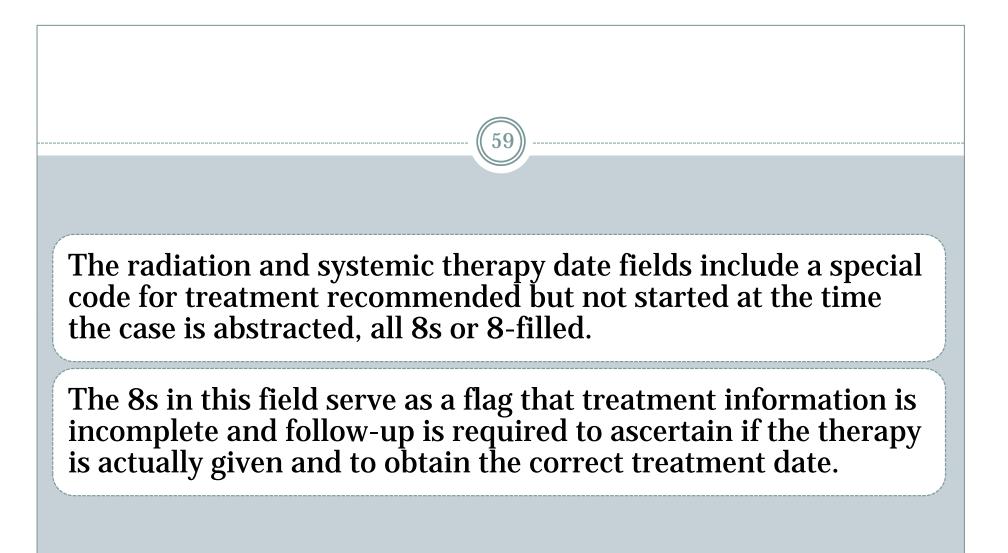
Radiation Dates



The Date Radiation Started records the first date of radiation therapy, and the Date Systemic Therapy Started records the first date of any of the treatments recorded in the systemic therapy fields:

- chemotherapy,
- immunotherapy,
- hormone therapy, and
- hematologic transplant and endocrine procedures.

The software system may provide separate date fields for all the systemic therapy types, but the reported date is the first date for any of these types.



Other Treatment Date

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The Other Treatment field has an associated date field, Date Other Treatment Started.

The coding choices for this field are similar to the surgery date fields:

- O-filled for no treatment given,
- 9-filled for unknown if treatment given, and
- the specific date for the date of treatment.

This date field, like the surgery date fields, does not provide the 8-filled code for treatment recommended but not started.

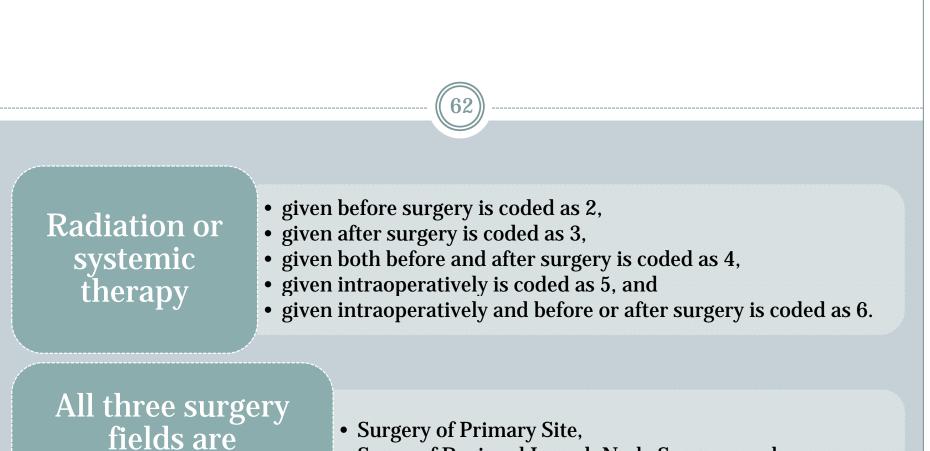
Therapy Sequence Codes

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Two fields are available to code sequence of treatment:

- Radiation/Surgery Sequence and
- Systemic/Surgery Sequence.

For both sequence fields, if both types of therapy are not given, or if it is unknown if one or both types of the therapy are given, the field is coded as 0, indicating no sequence in therapy administration.



- Scope of Regional Lymph Node Surgery, and
 - Surgical Procedures of Other Sites.

considered in using

the sequence codes-

Treatment End Dates

The Date of Most Definitive Surgery is usually the last date surgery is performed during the first course of therapy.

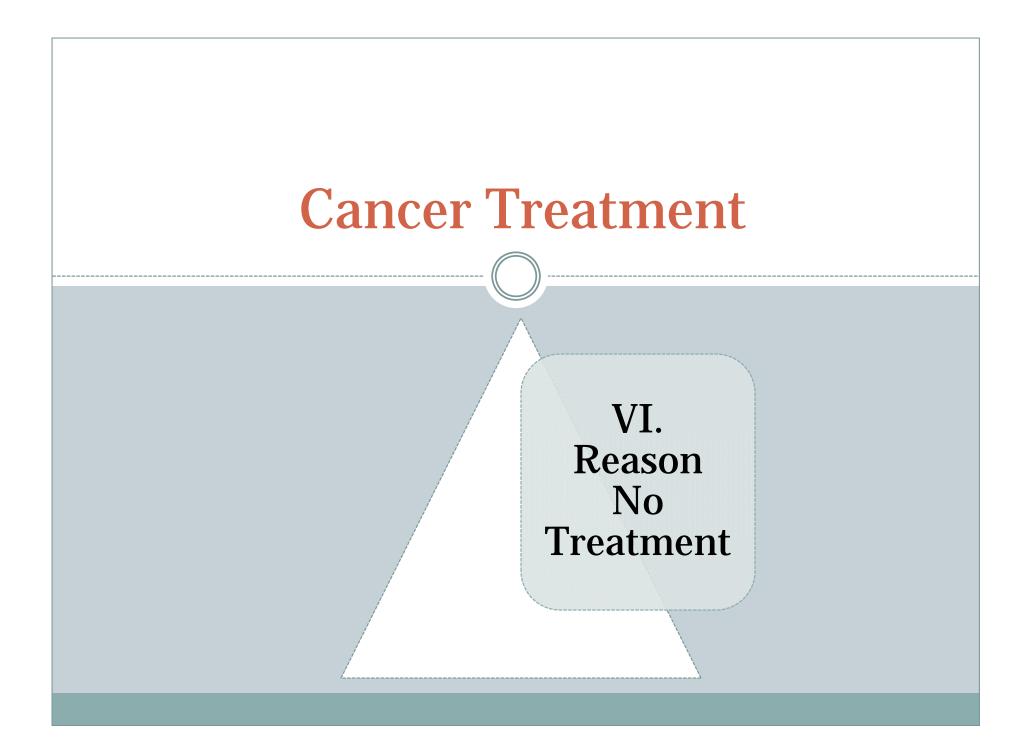
If neoadjuvant treatment is given, a definitive resection procedure may occur months after the date of diagnosis or date of an initial surgical procedure.

The last date of treatment is recorded for radiation therapy in the Date Radiation Ended field.

The last date of treatment is not recorded for systemic therapies, though it may be documented in the treatment text fields, especially if the treatment is interrupted or terminated early.

The 8-filled code is available in the Date Radiation Ended field and carries a particular meaning for this field: treatment was started but not completed at the time the case was abstracted.

If the Date Radiation Started field is 8-filled, treatment recommended but not started yet, the Date Radiation Ended field is coded as 0filled.



If no treatment was given, why was it not given?

Cancer-directed treatment may not be administered for a number of reasons.

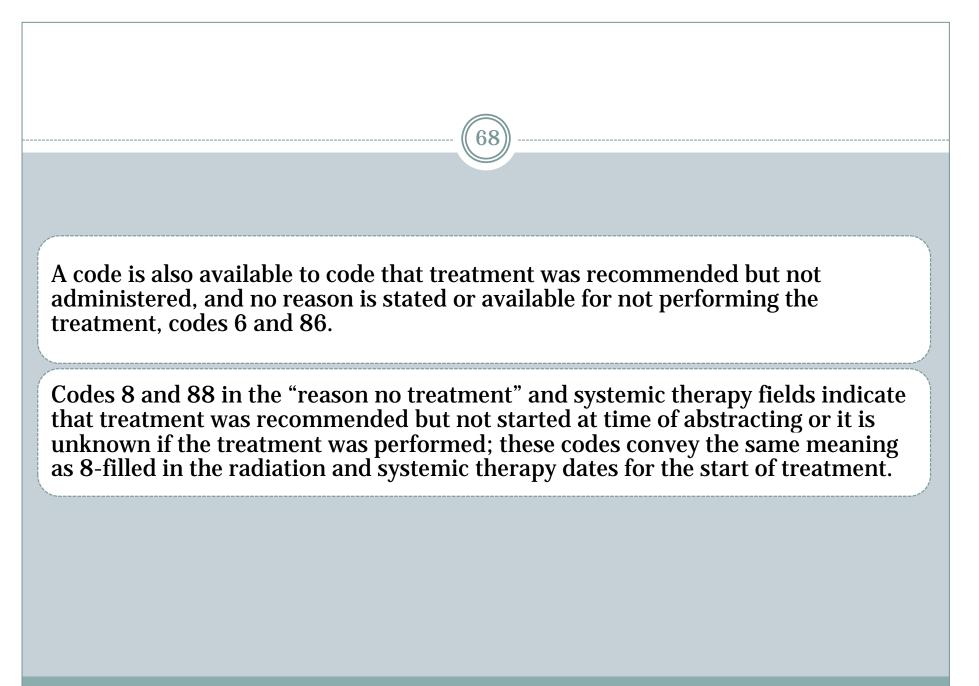
The treatment fields provide two ways to code why treatment is not given, using "reason no treatment" fields for surgery and radiation, and "reason no treatment" codes within the treatment fields for systemic therapy and other therapy.

Single-digit codes are available in the Reason For No Surgery of Primary Site and Reason for No Radiation fields; corresponding codes in the systemic therapy fields are two-digits.

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The reasons available to code include:

- treatment not recommended, codes 1 and 00;
- treatment contraindicated due to patient risk factors such as comorbidities or age, codes 2 and 82;
- treatment not administered because the patient died prior to the start of recommended therapy, codes 5 and 85;
- treatment refused by the patient, patient's family, or guardian, codes 7 and 87; and
- cancer diagnosed at autopsy, codes 1 and 00.



If treatment was not recommended due to the stage of disease, the appropriate code is 1 in the "reason no treatment" fields and 00 in the systemic modality fields. Codes 2 and 82 are reserved for cases in which factors not related to the cancer preclude treatment in the patient. If one of multiple treatment options is selected by the patient, the appropriate codes are 1 in the "reason no treatment" fields, 00 in the systemic therapy fields, and 0 in the other treatment field for the treatments that are not given, rather than codes 7 and 87, refused by the patient.

If the patient refuses to consider all forms of treatment, 7 should be coded in the two "reason no treatment" fields and 87 in all the systemic therapy fields.

The Other Treatment field includes one code for a "reason no treatment", 7 for patient refusal.

This field also has a code 8 with a similar meaning to 8 for other therapies, treatment recommended but unknown if it was administered.

Cancer Treatment

VII. Assessing Completeness of Treatment Information

Is there likely to be other treatment given in a setting outside the hospital?

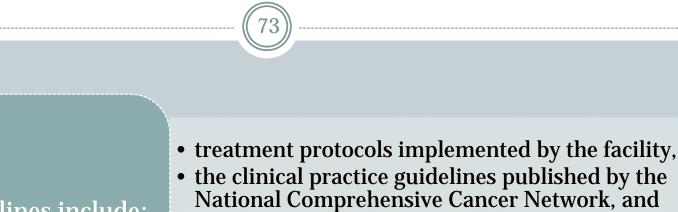
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The registrar abstracting a case has many guidelines to assist in deciding if all treatment information has been identified and abstracted.

These include documentation that is specific to the case being abstracted, plus general treatment guidelines for cancer by site and stage of disease.

Specific case documentation includes:

- the treatment plan entered in the patient's medical record by the managing physician,
- the treatment plan documented at Tumor Board case presentation, and
- radiation and medical oncology consultation documents in the patient record.



Practice guidelines include:

• the Cancer Program Practice Profile Reports (CP3R) data quality reporting system offered by the National Cancer Data Base (NCDB).

Finally, the registrar may call upon personal experience in abstracting many cancer cases in deciding whether to mark case abstracting as complete.

Cancer Treatment

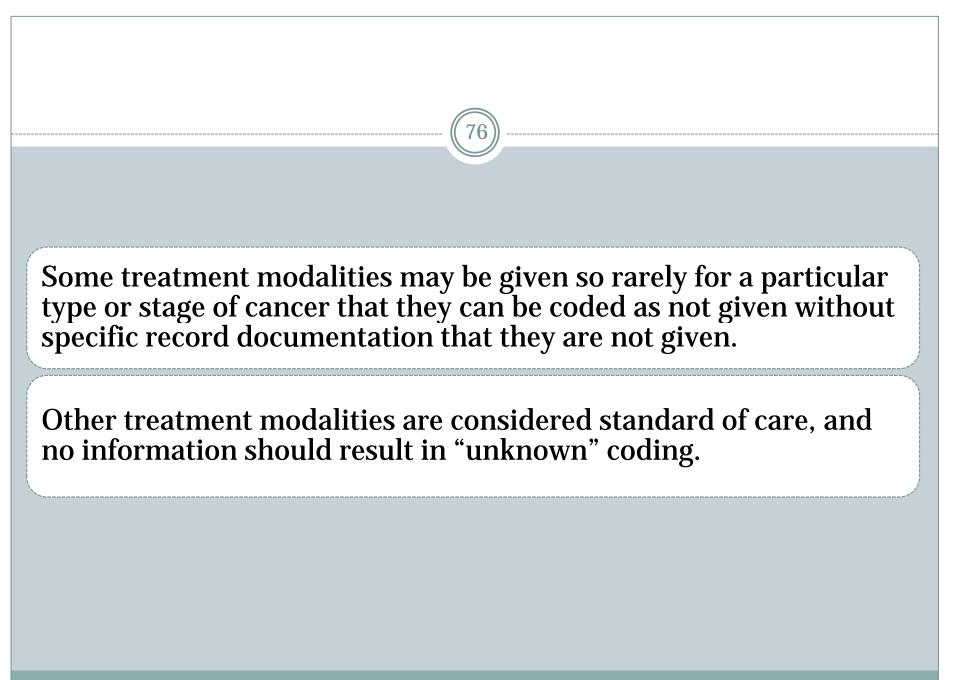
VIII. Coding Unknown Treatment Information

How is unknown information coded?

The goal of treatment abstracting is to gather complete and accurate treatment information fully and correctly describing the patient's first course of treatment.

"Unknown" treatment codes, 8s and 9s, and "NOS" codes are available across all treatment data fields.

"Unknown" and "NOS" codes should be viewed as data flags rather than final codes, indicating an incomplete record that requires followup.



Cancer Treatment

IX. Using Text to Support Coding

What text is necessary to support treatment coding?

The basic rule for all cancer abstracting is that text should be available to support any coded item.

For treatment items, the date treatment given, the type of treatment rendered, the reason no treatment was given, and the facility at which treatment was given should be documented in the text fields.

Surgery text should include the dates and types of all procedures performed and the extent of tissues removed; findings related to stage of disease should be coded in cancer description and staging fields rather than in the treatment fields.

Radiation text should include the date treatment completed, type of radiation, regional and boost dosages, volume treated, and number of treatments.

Systemic therapy fields should include the names of drugs given to support the selection of codes.

Cancer Treatment

X. Coding Review

Are there "troublesome" data fields to pay attention to in reviewing an abstract?

The date of the first course of treatment is the date the first type of any cancer-directed treatment is given, or a decision was made not to treat; it could be the date of decision for watchful waiting or expectant observation.

It is not the date of first biopsy, if that biopsy is not considered treatment.



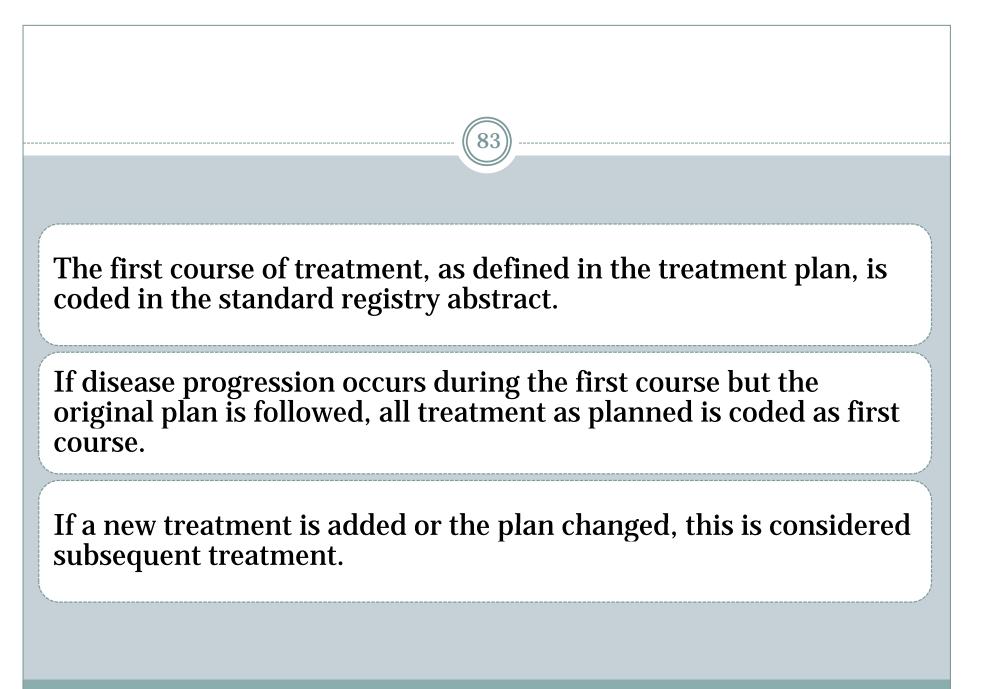
Excisional biopsies are coded as surgery, incisional biopsies are not.

Date of Most Definitive Surgery of Primary Site, Reason for No Surgery of Primary Site, Surgical Margins of Primary Site, Date of Surgical Discharge, Readmission to the Same Hospital within 30 Days of Surgical Discharge, and Reason for No Surgery of Primary Site, all relate to Surgical Procedure of Primary Site.

Date of First Surgical Procedure, Radiation/Surgery Sequence, and Systemic Therapy/ Surgery Sequence, relate to any of the three surgery fields, Surgical Procedure of Primary Site, Scope of Regional Lymph Node Surgery, and Surgical Procedure/Other Site. The hierarchy of site-specific surgery codes is based on their order of presentation in the manual rather than on numerical order.

Software menus should be reviewed to confirm that codes have not been reordered numerically, and that all coding notes available in the manual are also available in the software menus.

SEER*Rx is the authority on category of agent to which a drug belongs.



A change from one chemotherapy drug to another drug of the same category during a course of treatment does not start a new course of treatment.

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A change to another category of drug does start a new course of treatment, if the second category was not included in the original treatment plan.