

# NON-SURGICAL CANCER TREATMENTS

Abstractors Training

# Forms of Non-Surgical Cancer Treatments

- Chemotherapy
- Hormone Therapy
- Immunotherapy
- Transplant/Endocrine Therapy
- Radiation Therapy
- Other Therapy

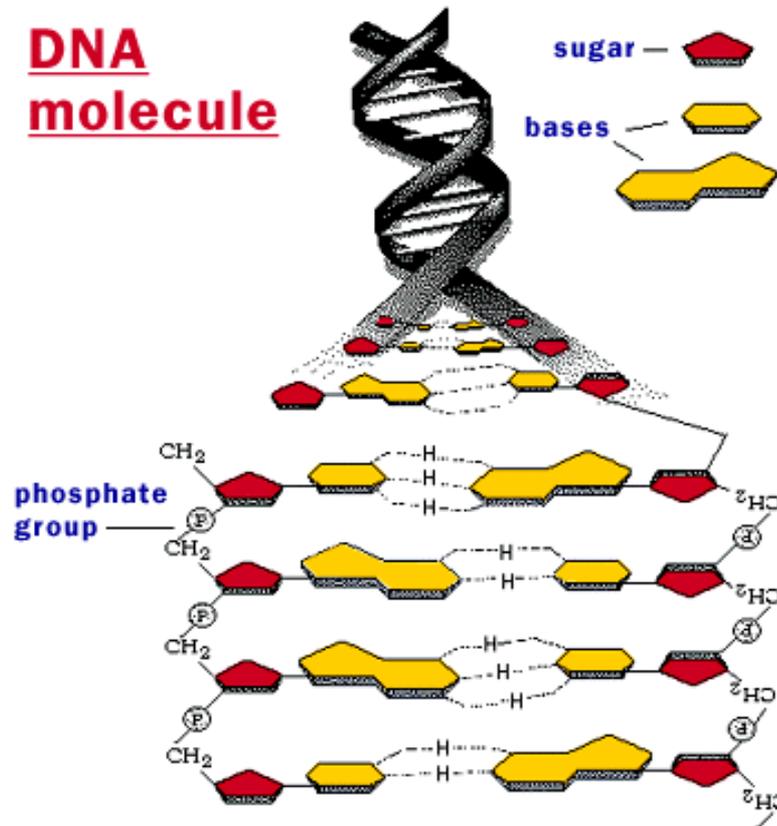
# CHEMOTHERAPY:

Treatment method in which chemicals (not hormones) are used to kill cancer cells within the patient's body, resulting in tumor reduction or eradication.

Chemotherapy drugs interfere with DNA production and cell division.

# How Does Chemotherapy Act?

## DNA molecule



# Types of Chemotherapy Drugs

1. Alkylating agents
2. Antimetabolites
3. Anti-Tumor Antibiotics
4. Topoisomerase Inhibitors
5. Mitotic Inhibitors

# What NOT to code!

- ▶ Code Chemotherapy - NOT the method of administration.
- ▶ Do NOT code radiosensitizer drugs - these are classified as ancillary drugs.

# Is this drug “chemotherapy”?

- ▶ Use SEER\*Rx to determine whether or not to code drug as a true chemotherapy drug.
- ▶ **Ancillary** drugs are NOT coded as chemotherapy drugs.
- ▶ <https://seer.cancer.gov/seertools/seerrx/>

# Using SEER\*Rx

The screenshot displays the SEER\*Rx Interactive Antineoplastic Drugs Database interface. At the top, the NIH National Cancer Institute logo and the program name are visible. The navigation menu includes Home, Cancer Statistics, SEER Data & Software, Registry Operations, News, and About. The breadcrumb trail shows Home > Registrars > Tools & Services > SEER\*Rx. The main heading is "SEER\*Rx Interactive Antineoplastic Drugs Database". Below this, there is a search bar with a "Search" button and a "Downloads" dropdown. The interface shows two tabs: "Drugs (1905)" and "Regimen (513)". A "Show" dropdown is set to "25" and "Entries" is displayed. The table below lists drug entries with columns for Name, Category, Primary Site, and Code?.

Name	Category	Primary Site	Code?
1,25-Dihydroxyvitamin D3	Differentiation inducing agent		No
1-Methyl-D-tryptophan	Chemotherapy	Melanoma, Other types, NOS	Yes
1018-ISS	Chemotherapy	Lymphoma	Yes
109881	Chemotherapy	Brain cancer	Yes
131I-MIBG	Radiation	Neuroblastoma	No
131I-TM-601	Radiation	Glioma	Yes
17-DMAG	Chemotherapy	Solid tumors	Yes

# Chemotherapy Fields

Tx Type

Tx Course

Date Tx Started

Therapy Facility

At This Facility

Chemotherapy Code

Treatment Notes

# Single or multiple drugs?

- ▶ Code “1” = chemo drug(s), NOS
- ▶ Code “2” = single chemo drug
- ▶ Code “3” = multiple chemo  
drugs; a drug regimen

# Single chemo drug + ancillary drug?

- ▶ Ancillary drugs are NOT coded!
- ▶ For patients receiving a single chemotherapy drug plus an ancillary medication, code as single chemotherapy drug, code “2”.

# Chemoembolization

- ▶ Chemoembolization is a procedure in which the blood supply to the tumor is blocked surgically or mechanically and anticancer drugs are administered directly into the tumor.
- ▶ Code as chemotherapy when the embolizing agent(s) is a chemotherapeutic drug(s) or when the term 'chemoembolization' is used with no reference to the agent.

# How to handle a change in chemo:

- ▶ Drug(s) may be changed due to pt sensitivity; still 1<sup>st</sup> course treatment as long as substitution is from same drug group.
- ▶ Drug changes due to treatment failure/disease progression are no longer 1<sup>st</sup> course; they become subsequent therapies.

# Sample Coding...

Colon cancer patient treated with 5-FU & Leucovorin. Chemo code?

Colon cancer patient dx 12/27/12 receiving FOLFOX with Avastin. Chemo code?

Colon cancer pt goes to neighboring town and receives chemo, NOS. Chemo code?

# HORMONE THERAPY

- ▶ Hormones or hormone antagonists may be administered as definitive cancer treatment.
- ▶ This is NOT the same as “hormone replacement therapy”!

# How does Hormone Therapy act?

- ▶ Changing the levels of or activity of some hormones can slow down or kill cancer cells.
- ▶ One or more agents may be used.
- ▶ Hormones are often given to treat breast, prostate, endometrial, and thyroid cancers, as well as lymphomas and leukemias.

# When to code Prednisone....

- ▶ Code Prednisone, a steroid, when it is given as part of a combination regimen (Ex = MOPP, CHOP).
- ▶ Do NOT code Prednisone when given for reasons other than “definitive” cancer treatment.

# Is this drug “hormone therapy”?

- ▶ Use SEER\*Rx to determine whether or not to code drug as a true hormone agent.
- ▶ **HRT (hormone replacement therapy)** is not coded except in certain thyroid cases.

# Coding Thyroid hormone therapy...

- ▶ Code thyroid replacement hormone therapy when it is given for papillary and/or follicular carcinoma of thyroid. Do not code as hormone therapy for medullary thyroid carcinoma.

# Hormone Therapy Fields

Tx Type “H”

Tx Course

Date Tx Started

Therapy Facility

At This Facility

Hormone Therapy Code “1”

Treatment Notes

# Sample Coding...

Patient with breast Ca was started on Femara. HRT code?

Lymphoma patient underwent CHOP therapy. HRT code?

# IMMUNOTHERAPY

Also known as biological response modifiers or biotherapy, these agents use the immune system to fight cancer.

# ImmunoTx works in various ways...

- ▶ Makes cancer more recognizable
- ▶ Increases killing power of immune cells
- ▶ Changes cancer growth patterns
- ▶ Prevents cancer cells from spreading

# Types of Immunotherapy

- ▶ Cancer Vaccine - still experimental
- ▶ Interferons - natural proteins made by WBC's
- ▶ Interleukin (IL2) - kidney Ca & melanoma
- ▶ Monoclonal Antibodies (Mab) - made in lab; check SEER\*Rx for category to code

# Immunotherapy Code

- ▶ Create “I” therapy, record the course of treatment and treatment start date.
- ▶ Record “1” to show that immunotherapy was given.
- ▶ Spell out the treatment agent in the text line at the end of the therapy field.

- ▶ Patient with advanced colon cancer diagnosed 2/3/13 receiving FOLFOX with Avastin.

Create “I” therapy; code “1” for treatment received.

Check SEER\*Rx for treatment type; code appropriately!

## Sample Coding...

# TRANSPLANT OR ENDOCRINE THERAPY

Create “T” for any of these procedure types :

Bone marrow transplant

Stem cell harvest

Endocrine surgery

Endocrine irradiation

# Types of bone marrow transplants

- ▶ Autologous - marrow originally taken from patient is reintroduced after total body irradiation/ chemotherapy.
- ▶ Allogeneic - marrow is donated by another person; includes donation from identical twin.

# Endocrine Treatments

- ▶ Endocrine surgery - removal of endocrine glands results in beneficial effect on cancer of another site due to absence of hormones. (Ex = bilateral orchiectomy for advanced prostate Ca).
- ▶ Endocrine irradiation - this treatment shrinks glands, which then produce fewer hormones, having a beneficial effect on cancer of another site.

# Transplant/Endocrine Tx Codes

- 00 No transplant procedure or endocrine therapy administered; diagnosed at autopsy
- 10 Bone marrow transplant procedure administered, type not specified
- 11 Bone marrow transplant - *autologous*
- 12 Bone marrow transplant - *allogeneic*
- 20 Stem cell harvest (and infusion); umbilical cord stem cell transplant

# Transplant/Endocrine Tx Codes (Cont'd)

30 Endocrine surgery &/or endocrine radiation therapy

40 Combination of endocrine surgery &/or radiation with a transplant procedure (combination of codes 30 and 10, 11, 12, or 20)

# Sample Coding...

80 y/o male presents with bone pain, elevated PSA, and DRE evidence of nodular prostate. Biopsies are positive for Gleason score 9 prostate adenocarcinoma. Bone scan reveals bone metastases. Patient opts for removal of bilateral testes instead of ongoing hormone therapy.

Treatment code ?

# Sample Coding...

25 y/o male with acute leukemia is scheduled for a bone marrow transplant. He receives marrow tissue from a sibling. Following recovery, he is in complete remission.

Therapy code?

# RADIATION THERAPY

“Radiation therapy (or radiotherapy) is the medical use of ionizing radiation as part of cancer treatment to control malignant cells”.

(source: Wikipedia, 8/6/08)

# Types of Radiation Therapy

- ▶ External Beam Radiation
- ▶ Brachytherapy
- ▶ Radioisotopes

# Linear Accelerator (delivers external beam)



(source: [Wikipedia](#))

# Brachytherapy (seed implants)



(Source: Dept of Human Oncology, University of Wisconsin School of Medicine & Public Health website)

# Radiation Therapy Fields - required by KCR

- ▶ **Therapy Type**
- ▶ **Therapy Course**
- ▶ **Therapy Facility**
- ▶ **Date Therapy Started**
- ▶ **Date Radiation Ended**
- ▶ **Radiation Treatment Discontinued Early**
- ▶ **Location of Radiation**
- ▶ **Number of Phases**
- ▶ **Total Dose (Across all phases)**
- ▶ **Phase I, II, III Rad Primary Volume**
- ▶ **Phase I, II, III Rad to Draining Lymph Nodes**
- ▶ **Phase I, II, III Treatment Modality**
- ▶ **Phase I, I, III External Beam Planning Technique**
- ▶ **Phase I, I, II Dose per Fraction**
- ▶ **Phase I, II, III Number of Fractions**
- ▶ **Phase I, II, III Total Dose**
- ▶ **Phase I, II, III Therapy Local Hosp ID**
- ▶ **Treatment Notes**

# Radiation Therapy Fields - Required by ACoS

- ▶ **Therapy Type**
- ▶ **Therapy Course**
- ▶ **Date Therapy Started**
- ▶ **Date Radiation Ended**
- ▶ **Radiation Treatment Discontinued Early**
- ▶ **Location of Radiation**
- ▶ **Treatment Notes**

# Location of Radiation

Identifies facility where Rad Tx took place:

1= All Tx at this facility; Dx at autopsy

2= Regional Tx at this facility; boost elsewhere

3= Boost at this facility; regional Tx elsewhere

4= All radiation Tx elsewhere

8= Radiation therapy administered, but doesn't fit descriptions above

9= Unknown where administered; death certificate patient

# Phase I, II, III Radiation Primary Volume

- ▶ The main **target** of 1<sup>st</sup> course radiation Tx.
- ▶ If the primary tumor was not targeted, record the other regional or distant site that was targeted
- ▶ Found on radiation chart and radiation oncologist's summary letter upon completion.

# Phase I, II, III Radiation to draining lymph nodes

- ▶ Identifies the draining lymph nodes treated (if any)
- ▶ First phase of rad commonly treats both primary tumor and draining lymph nodes as a secondary site
- ▶ If primary volume is code 01-09, then this has to be coded to 88.

# Phase I, II, III Radiation Treatment Modality

- ▶ The main type of radiation Tx used to deliver the largest regional dose to the main target during 1<sup>st</sup> course.
- ▶ Record the dominant modality if multiple types were used.
- ▶ Code IMRT or conformal 3D whenever either is mentioned. [Tomotherapy is a type of IMRT and is coded '31'.]
- ▶ Code *radioembolization* as brachytherapy.

# Phase I, II, III Radiation external beam planning technique

- ▶ Specified the planning technique for external beam treatment
- ▶ Identifying the radiation technique is of interest for patterns of care and comparative effectiveness studies.

# Phase I, II, III Dose per Fraction

- ▶ Dose of regional radiation Tx in centiGray (cGy) per fraction
- ▶ Keep separate from boost dose.
- ▶ Code 99998 for brachytherapy or radioisotopes.
- ▶ Occasionally given in “rads”.

# Phase I, II, III Number of Fractions

- ▶ Records the total number of fractions (treatment sessions) delivered to the patient per phase.
- ▶ Used to evaluate patterns of radiation oncology care

# Phase I, II, III total dose

- ▶ Record total dose delivered in centiGray (cGy).
- ▶ Total dose = dose per fraction X number of fractions
- ▶ Code 999998 for radioisotopes.
- ▶ MAY be given in “rads”.

# Treatment Notes

- ▶ Briefly describe radiation treatment in notes section.

Work case problems!

# OTHER TREATMENT

- ▶ Treatment not defined as surgery, radiation, or systemic therapy.
- ▶ For hematopoietic diseases, this can include phlebotomy, transfusions, or aspirin (check SEER\*Rx & the SEER Hematopoietic Database).

# Other Therapy Fields

Tx Type “0”

Tx Course

Date Tx Started

Therapy Facility

At This Facility

Other Therapy Code

Treatment Notes

# Other Therapy Codes

- 0 Nondefinitive Tx (Optional: MAY record stent placement, supportive care, ancillary drugs)
- 1 Other (hematopoietic Tx's; embolization w/o chemotherapy or radiotherapeutic agents)
- 2 Other - Experimental (institutional clinical trials)
- 3 Other - Double Blind (clinical trials)
- 5 Antibiotics (CONSULT SEER\*Rx)
- 6 Unproven (Unconventional methods such as acupuncture, yoga, etc)

# Sample Coding...

- ▶ Patient with polycythemia vera undergoes phlebotomy to reduce the red blood cell volume. Coded?
- ▶ Patient diagnosed with bile duct carcinoma chooses to go to Mexico for nutritional therapy. Coded?

Questions?

