December 2018

Missouri Cancer Registry and Research Center
Show-Me-Tips

Coding...Abstracting...Education…

Ed 8:04

2018 New Radiation Codes

These changes are effective with cases diagnosed 1/1/2018 and later

Regional Treatment Modality has been divided into 2 phase-specific data items:

- **Radiation Treatment Modality** - external beam, brachytherapy, radioisotope, subtypes or a combination of modalities
- **External Beam Planning Technique** - planning technique for external beam treatment

Note: CoC accredited facilities will collect all the new Radiation Treatment fields but only the new field "**Radiation Treatment Modality"** is required by MCR

All the radiation data items will typically be found in the radiation oncologist's summary letter for the first course of treatment.

Source: STORE 2018 Manual https://www.facs.org

Review the Delivery Technology & Coding with your Radiation Oncologist to know which treatments are used in your facility

Lung Radiation Tips

- Be attentive to **Dose per Fraction** (fraction size) and **Number of Fractions**!
  - Outcomes are strongly related to the dose delivered!
- If IMRT and SBRT are mentioned in the prescription, code to SBRT.
- When SBRT is prescribed for curative treatment of lung cancer, regional LNs are not included in irradiated field. When there are no positive LNs, SBRT can be prescribed.
- When there are positive LNs and EBRT is prescribed, expect standard fractionation to be used (180-200 cGy/fx)
- Gamma knife is considered EBRT and treatment modality code is always 02: external beam. There is a special code for planning technique for Gamma knife, 08.

Adapted from a presentation by and used with permission of Wilson Apollo, MS, RTT, CTR

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External beam radiation therapy (EBRT) directs a beam of radiation from outside the body at cancerous tissues inside the body. Radiation beams used in external radiation therapy comes from three types of particles: **Photons, Protons** and **Electrons**. Examples of EBRT include 3D conformal radiation therapy, IMRT, IGRT, TomoTherapy, stereotactic radiosurgery and stereotactic body radiation therapy.

Source: National Cancer Institute https://www.cancer.gov

Stereotactic Body Radiation Therapy (SBRT) is a treatment procedure similar to central nervous system (CNS) stereotactic radiosurgery, except that it deals with tumors outside of the CNS. A stereotactic radiation treatment for the body means that a specially designed coordinate-system is used for the exact localization of the tumors in the body in order to treat it with limited but highly precise treatment fields. SBRT involves the delivery of a single high dose radiation treatment or a few fractionated radiation treatments (usually up to 5 treatments).

Source: UCLA Health https://www.uclahealth.org

Radiation Treatment Modality Code	External Beam Planning Technique Code	Comments
02, External beam, photons	02, Low energy x-ray/photon therapy	Energies are expressed in units of kilovolts (kV). Referred to as electronic brachytherapy or orthovoltage or superficial therapy. Brand names Axxent, INTRABEAM or Esteya
02, External beam, photons	03, 2D Therapy	An external beam planning techniques using 2-D imaging, such as plain film x-rays or fluoroscopic images. Composed of two coplanar treatment fields. Should be clearly described as 2-D therapy.
02, External beam, photons	04, Conformal or 3D Conformal	An external beam planning technique using multiple, fixed beams shaped to conform to target. Predecessor to IMRT. Should be clearly described as conformal or 3-D therapy.

Source: STORE 2018 Manual https://www.facs.org

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Radiation Treatment Modality Code	External Beam Planning Technique Code	Comments
02, External beam, photons	05, Intensity modulated therapy (IMRT)	An external beam planning technique where shape or energy of beams is optimized using software algorithms. When IMRT and SBRT are mentioned in the prescription, code to SBRT.
01, External beam, NOS	06, Stereotactic radiotherapy or radiosurgery, NOS	Treatment planning using stereotactic radiotherapy/ radiosurgery techniques, but the treatment is not described as Cyberknife or Gamma Knife.
02, External beam, photons	07, Stereotactic radiotherapy or radiosurgery, robotic	Treatment planning using stereotactic radiosurgery techniques which is specifically described as robotic (e.g. Cyberknife)
02, External beam, photons	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 treatment in the brain.
02, External beam, photons	09, CT-guided online adaptive therapy	An external beam technique in which the treatment plan is adapted to reflect changes in the patient's tumor using a CT scan obtained at the treatment machine (online). If a treatment is described as "adaptive" but does not include the descriptor "online", this code should not be used.
02, External beam, photons	10, MR-guided online adaptive therapy	An external beam technique in which the treatment plan is adapted to reflect changes in the patient's tumor using a MRI scan obtained at the treatment machine (online). If a treatment is described as "adaptive" but does not include the descriptor "online", this code should not be used.

Source: STORE 2018 Manual https://www.facs.org

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IORT Delivery Technology & Coding

Based on STORE 2018 Manual

Equipment	Dose Delivery Method	Radiation Treatment Modality Code	External Beam Planning Technique Code	Comments
Ziess Intrabeam	50 kVp Linac	12, Brachytherapy, electronic	02, Low energy x-ray/photon therapy	Isotope-free. No radioactive source used
XOFT Axxent	50 kVp Linac	12, Brachytherapy, electronic	02, Low energy x-ray/photon therapy	Isotope-free. No radioactive source used
LIAC 10 by Sordina IORT	Electron Accelerator	04, Electron	01, External beam, NOS	Max energy is 10 MeV
LIAC 12 by Sordina IORT	Electron Accelerator	04, Electron	01, External beam, NOS	Max energy is 12 MeV
NOVAC 11 by Sordina IORT	Electron Accelerator	04, Electron	01, External beam, NOS	4 MeV to 10 MeV
Mobetron	Electron Accelerator	04, Electron	01, External beam, NOS	Electron energies of 6 MeV, 9 MeV, 12 MeV
Strut Assisted Volume Implant (SAVI)	Ir-192 source	09, Brachytherapy, intracavitary, HDR	88, Not Applicable (treatment not by external beam)	Most applications are HDR, intracavitary
Mammosite	Ir-192 source	09, Brachytherapy, intracavitary, HDR	88, Not Applicable (treatment not by external beam)	Most applications are HDR, Intracavitary
Contura MLB	Ir-192 source	09, Brachytherapy, intracavitary, HDR	88, Not Applicable (treatment not by external beam)	Most applications are HDR, intracavitary

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Before 2018 Radiation Codes

These codes are for cases diagnosed before 1/1/2018

IORT Delivery Technology & Coding

Based on FORDS Manual

Equipment	Dose Delivery Method	Radiation Treatment Modality	Regional Treatment Modality Code	Comments
Ziess Intrabeam	50 kVp Linac	Orthovoltage	21	Isotope-free. No radioactive source used
XOFT Axxent	50 kVp Linac	Orthovoltage	21	Isotope-free. No radioactive source used
LIAC 10 by Sordina IORT	Electron Accelerator	Electron	28	Max energy is 10 MeV
LIAC 12 by Sordina IORT	Electron Accelerator	Electron	28	Max energy is 12 MeV
NOVAC 11 by Sordina IORT	Electron Accelerator	Electron	28	
Mobetron	Electron Accelerator	Electron	28	Electron energies of 6 MeV, 9 MeV, 12 MeV
Strut Assisted Volume Implant (SAVI)	Ir-192 source	HDR	52	Most applications are HDR, intracavitary
Mammosite	Ir-192 source	HDR	52	Most applications are HDR, intracavitary
Contura MLB	Ir-192 source	HDR	52	Most applications are HDR, intracavitary

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Abbreviations	Term	Abbreviations	Term
AP	Anterior-Posterior	LL	Left Lateral
BED	Biological Equivalent Dose	LPO	Left Posterior Oblique
BID	Twice a day	MLC	Multileaf Collimator
CAX	Central Axis	MP	Midplane
cGy	Centigray, 1/100th of a Gy	MU	Monitor Unit
CTV	Clinical Tumor Volume	OAR	Organs at Risk
DART	Dynamic Adaptive Radiotherapy	OBI	On-Board Imaging
Dmax	Depth of Maximum Dose	ODI	Optical Distance Indicator
DMLC	Dynamic Multileaf Collimator	PA	Posterior-Anterior
DVH	Dose-Volume Histogram	PSA	Patient Support Assembly (treatment couch)
Dx	Diagnosis	PTV	Planning Tumor Volume
EBRT	External Beam Radiation Therapy	RAO	Right Anterior Oblique
EFRT	Extended Field Radiation Therapy	RBE	Relative Biological Effect
ENLs	Extra nodal Lymphomas	RL	Right Lateral
EPID	Electronic Portal Imaging Device	RPO	Right Posterior Oblique
Fx	Fraction	Rx	Prescription
GTV	Gross Tumor Volume	SAD	Source-to-Axis Distance
Gy	Gray, unit of absorbed dose	SART	Stereotactic Ablative Radiation Therapy
IFRT	Involved Field Radiation Therapy	SBPT	Stereotactic Body Proton Therapy
IGRT	Image-guided Radiation Therapy	SBRT	Stereotactic Body Radiation Therapy
IMRT	Intensity Modulated Radiation Therapy	SDD	Source-to-Diaphragm Distance
INRT	Involved Nodal Radiation Therapy	SSD	Source-to-Skin Distance
IORT	Intraoperative Radiation Therapy	STD	Source-to-Target Distance
ISRT	Involved Site RadiationTherapy	TBI	Total Body Irradiation
ITV	Irradiated Tumor Volume	TID	Three times a day
LAO	Left Anterior Oblique	TSEB	Total Skin Electron Boost