Phase III Radiation External Beam Planning Technique

KCR	Phase I-II-III Radiation External Beam Planning Tech (RadP1ExtBeamPlan)	50431	yes
NAACCR	Phase I-II-III Radiation External Beam Planning Tech	1502, 1512, 1522	yes

Field length: 2

Radiation External Beam Planning Technique--Phase I, II, and III, effective 01/01/2018, identify the external beam radiation planning technique used to administer the first, second, and third phase, respectively, of radiation treatment during the first course of treatment.

SEER Central Registries: Collect when available from CoC reporting facilities.

00	No radiation treatment	Radiation therapy was not administered to the patient. Diagnosed at autopsy.
01	External beam, NOS	The treatment is known to be by external beam, but there is insufficient information to determine the specific planning technique.
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.
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 radiation using a CT or cone beam CT (CBCT) 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. Clinic notes may refer to the brand name of a linear accelerator called Ethos.

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 radiation 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. Clinic notes may refer to an MR-Linac or the brand name of an MR-Linac called MRIidian or Unity.
88	Not Applicable	Treatment not by external beam.
98	Other, NOS	Other radiation, NOS; Radiation therapy administered, but the treatment planning technique is not specified or is unknown.
99	Unknown	It is unknown whether radiation therapy was administered.

Coding Instructions

- Radiation external beam treatment planning technique will typically be found in the radiation oncologist's summary letter. Determination of the external beam planning technique may require assistance

  from the radiation oncologist to ensure consistent coding.

- 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., accordingly.
- In keeping with contemporary practice, modern radiotherapy allows phases to be delivered simultaneously so new terminology is needed. Each phase is meant to reflect a "delivered radiation prescription.

  "At the start of the radiation planning process, physicians write radiation prescriptions to treatment volumes and specify the dose per fraction (session), the number of fractions, the modality, and

  the planning technique. A phase simply represents the radiation prescription that has actually been delivered (as sometimes the intended prescription differs from the delivered prescription).

- Phases can be delivered sequentially or simultaneously. In sequential phases, a new phase begins when there is a change in the anatomic target volume of a body site, treatment fraction size

  (i.e., dose given during a session), modality, or treatment technique. Any one of these changes will generally 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.

  Note: "Online adaptive therapy" refers to treatment where radiation treatment plans are adapted or updated while a patient is on the treatment table. When treatment plans are adapted, the shape of the target volume may change from day to day but, for registry purposes, the volume that is being targeted will not change. An adapted plan should not be coded as though a new phase of treatment has been initiated unless, as above, the radiation oncologist documents it as a new phase in the radiation treatment summary. Two new technique codes have been added to capture when online adaptive therapy is occurring: CT-guided and MR-guided adaptive therapy.

- Refer to the current **STandards for Oncology Registry Entry (STORE) Manual** and the **CTR Guide to Coding Radiation Therapy Treatment in the STORE** (see 2024 STORE Manual, Appendix M)

Examples

Code	Reason
04	A man with prostate cancer is initially treated with whole pelvis RT using a four-field approach, all fields shaped conformally to pelvic anatomy. He then was treated with an IMRT boost. Record the Phase I External Beam Radiation Planning Technique as 04 (Conformal or 3-D conformal therapy)
03	A woman with advanced multiple myeloma is referred for total body irradiation and is treated twice daily for three consecutive days in a total body stand at extended distance with open rectangular photon fields, 200cGy to mid-body per treatment. Record the Phase I External Beam Radiation Planning Technique as 03 (2-D therapy)
88	Record 88 as the Phase I External Beam Radiation Planning Technique for any phase uses radioisotopes or brachytherapy (e.g. I-131 radioiodine for thyroid cancer, brachytherapy for prostate cancer).