## 2018 New Radiation Codes

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

<table>
<thead>
<tr>
<th>Regional Treatment Modality has been divided into 2 phase-specific data items:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- <strong>Radiation Treatment Modality</strong> - external beam, brachytherapy, radioisotope, subtypes or a combination of modalities</td>
</tr>
<tr>
<td>- <strong>External Beam Planning Technique</strong> - planning technique for external beam treatment</td>
</tr>
</tbody>
</table>

**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.


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**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.


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

<table>
<thead>
<tr>
<th>Radiation Treatment Modality Code</th>
<th>External Beam Planning Technique Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>02, External beam, photons</td>
<td>02, Low energy x-ray/photon therapy</td>
<td>Energies are expressed in units of kilovolts (kV). Referred to as electronic brachytherapy or orthovoltage or superficial therapy. Brand names Axxent, INTRABEAM or Esteya</td>
</tr>
<tr>
<td>02, External beam, photons</td>
<td>03, 2D Therapy</td>
<td>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.</td>
</tr>
<tr>
<td>02, External beam, photons</td>
<td>04, Conformal or 3D Conformal</td>
<td>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.</td>
</tr>
</tbody>
</table>


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<thead>
<tr>
<th>Radiation Treatment Modality Code</th>
<th>External Beam Planning Technique Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>02, External beam, photons</td>
<td>05, Intensity modulated therapy (IMRT)</td>
<td>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.</td>
</tr>
<tr>
<td>01, External beam, NOS</td>
<td>06, Stereotactic radiotherapy or radiosurgery, NOS</td>
<td>Treatment planning using stereotactic radiotherapy/radiosurgery techniques, but the treatment is not described as Cyberknife or Gamma Knife.</td>
</tr>
<tr>
<td>02, External beam, photons</td>
<td>07, Stereotactic radiotherapy or radiosurgery, robotic</td>
<td>Treatment planning using stereotactic radiosurgery techniques which is specifically described as robotic (e.g. Cyberknife)</td>
</tr>
<tr>
<td>02, External beam, photons</td>
<td>08, Stereotactic radiotherapy or radiosurgery, Gamma Knife</td>
<td>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.</td>
</tr>
<tr>
<td>02, External beam, photons</td>
<td>09, CT-guided online adaptive therapy</td>
<td>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.</td>
</tr>
<tr>
<td>02, External beam, photons</td>
<td>10, MR-guided online adaptive therapy</td>
<td>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.</td>
</tr>
</tbody>
</table>

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

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### 2018 New Radiation Codes

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#### IORT Delivery Technology & Coding

**Based on STORE 2018 Manual**

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

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Before 2018 Radiation Codes
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<table>
<thead>
<tr>
<th>Equipment</th>
<th>Dose Delivery Method</th>
<th>Radiation Treatment Modality</th>
<th>Regional Treatment Modality Code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ziess Intrabeam</td>
<td>50 kVp Linac</td>
<td>Orthovoltage</td>
<td>21</td>
<td>Isotope-free. No radioactive source used</td>
</tr>
<tr>
<td>Xoft Axxent</td>
<td>50 kVp Linac</td>
<td>Orthovoltage</td>
<td>21</td>
<td>Isotope-free. No radioactive source used</td>
</tr>
<tr>
<td>LIAC 10 by Sordina IORT</td>
<td>Electron Accelerator</td>
<td>Electron</td>
<td>28</td>
<td>Max energy is 10 MeV</td>
</tr>
<tr>
<td>LIAC 12 by Sordina IORT</td>
<td>Electron Accelerator</td>
<td>Electron</td>
<td>28</td>
<td>Max energy is 12 MeV</td>
</tr>
<tr>
<td>novac 11 by Sordina IORT</td>
<td>Electron Accelerator</td>
<td>Electron</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Mobetron</td>
<td>Electron Accelerator</td>
<td>Electron</td>
<td>28</td>
<td>Electron energies of 6 MeV, 9 MeV, 12 MeV</td>
</tr>
<tr>
<td>Strut Assisted Volume Implant (SAVI)</td>
<td>Ir-192 source</td>
<td>HDR</td>
<td>52</td>
<td>Most applications are HDR, intracavitary</td>
</tr>
<tr>
<td>Mammosite</td>
<td>Ir-192 source</td>
<td>HDR</td>
<td>52</td>
<td>Most applications are HDR, intracavitary</td>
</tr>
<tr>
<td>Contura MLB</td>
<td>Ir-192 source</td>
<td>HDR</td>
<td>52</td>
<td>Most applications are HDR, intracavitary</td>
</tr>
</tbody>
</table>

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

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