



**INTENSITY-MODULATED
RADIATION THERAPY (IMRT)
HS-094**



Harmony Behavioral Health, Inc.

Harmony Behavioral Health of Florida, Inc.

Harmony Health Plan of Illinois, Inc.

HealthEase of Florida, Inc.

*'Ohana Health Plan, a plan offered by
WellCare Health Insurance of Arizona, Inc.*

WellCare Health Insurance of Illinois, Inc.

WellCare Health Insurance of New York, Inc.

WellCare Health Plans of New Jersey, Inc.

WellCare of Florida, Inc.

WellCare of Connecticut, Inc.

WellCare of Georgia, Inc.

WellCare of Kentucky, Inc.

WellCare of Louisiana, Inc.

WellCare of New York, Inc.

WellCare of Ohio, Inc.

WellCare of Texas, Inc.

WellCare Prescription Insurance, Inc.

**Intensity-Modulated
Radiation Therapy**

Policy Number: HS-094

Original Effective Date: 4/2/2009

Revised Date(s): 4/30/2010; 4/30/2011

DISCLAIMER

The Clinical Coverage Guideline is intended to supplement certain standard WellCare benefit plans. The terms of a member's particular Benefit Plan, Evidence of Coverage, Certificate of Coverage, etc., may differ significantly from this Coverage Position. For example, a member's benefit plan may contain specific exclusions related to the topic addressed in this Clinical Coverage Guideline. When a conflict exists between the two documents, the Member's Benefit Plan always supersedes the information contained in the Clinical Coverage Guideline. Additionally, Clinical Coverage Guidelines relate exclusively to the administration of health benefit plans and are NOT recommendations for treatment, nor should they be used as treatment guidelines. The application of the Clinical Coverage Guideline is subject to the benefit determinations set forth by the Centers for Medicare and Medicaid Services (CMS) National and Local Coverage Determinations and state-specific Medicaid mandates, if any.

APPLICATION STATEMENT

The application of the Clinical Coverage Guideline is subject to the benefit determinations set forth by the Centers for Medicare and Medicaid Services (CMS) National and Local Coverage Determinations and state-specific Medicaid mandates, if any.

BACKGROUND

Intensity-modulated radiation therapy (IMRT) is a specialized form of external beam radiation treatment that allows clinicians to shape radiation doses to more closely match the contours of a tumor. By precisely targeting only the cancerous tissue, clinicians may be able to apply much higher radiation doses to tumors while minimizing unnecessary radiation of surrounding normal tissues. Larger, precisely targeted radiation doses may result in better local control with fewer side effects.

IMRT should be distinguished from conformal radiotherapy. Conformal radiotherapy uses computed tomography (CT)-based treatment planning to construct a precise target and more focused (conformal) delivery of radiation dose. Three-dimensional conformal radiation therapy (3D-CRT) systems are intended to permit higher radiation dosing of tumor tissue, limit dosing of normal tissue, and ultimately improve local control of radiation exposure. IMRT involves adjusting the beam-intensity to permit even more conformal dose distributions. In IMRT, the intensity of the radiation exposure in one portion of the field is modified depending on whether tumor or normal tissue is present in the beam pathway. To do this IMRT divides the beam into multiple beamlets. When the beamlet hits normal tissues, the intensity is lowered, and when the beamlet hits tumor, the intensity is higher. The changing of beam intensity is computer controlled. Conformal radiotherapy does not allow for this type of beam adjustment.

The first step in IMRT is treatment planning using computed tomography and magnetic resonance imaging to produce a model of the tumor. The patient is immobilized during scanning and treatment, often with a custom-fitted plastic mask. Using computer software, the radiation oncologist and medical physicist develop a plan to deliver the desired amount of radiation to the tumor. The treatment step involves the delivery of a radiation beam produced by a linear accelerator and modified by the computerized MLC as the whole unit is moved around the patient's head. The total dose is delivered in small daily amounts (fractions) over 15 to 30 minutes, 5 days a week, for 2 to 6 weeks. Treatment is given in a hospital radiation oncology outpatient unit. The oncology team includes the radiation oncologist, medical physicist, dosimetrist, radiation therapist, and oncology nurses.

The decision process for using IMRT requires an understanding of accepted practices that take into account the risks and benefits of such therapy compared to conventional treatment techniques. While IMRT technology may empirically offer advances over conventional or three-dimensional conformal radiation, a comprehensive understanding of all consequences is required before applying this technology.

IMRT is not a replacement therapy for conventional radiation therapy methods. Medicare will consider IMRT reasonable and necessary in instances where sparing the surrounding normal tissue is essential.

POSITION STATEMENT

Intensity-Modulated Radiation Therapy (IMRT) **is considered medically necessary** to treat the following indications:

- Primary, metastatic, or benign tumors of the central nervous system, including brain, brain stem, and spinal cord; **OR**,
- Primary, metastatic tumors of the spine where spinal cord tolerance may be exceeded by conventional treatment; **OR**,
- Primary, metastatic, or benign lesions to the head and neck area, including:
 - Orbits; **OR**,
 - Sinuses; **OR**,
 - Skull base; **OR**,
 - Aero-digestive tract; **OR**,
 - Salivary glands

- Carcinoma of the prostate; **OR**,
- Selected cases of thoracic and abdominal malignancies when target volume is in proximity to critical structures; **OR**,
- Selected cases (i.e., not routine) of breast cancers with close proximity to critical structures; **OR**,
- Other pelvic and retroperitoneal tumors that meet requirements for medical necessity (see below); **OR**,
- Reirradiation that meets the requirements for medical necessity (see below).

IMRT is considered medically necessary if the member has AT LEAST ONE of the following conditions:

- Important dose limiting structures adjacent to but outside the Planned Treatment Volume (PTV) are sufficiently close and require IMRT to assure safety and morbidity reduction; **OR**,
- An immediately adjacent volume has been irradiated and abutting portals must be established with high precision; **OR**,
- Gross Tumor Volume (GTV) margins are concave or convex and in close proximity to critical structures that must be protected to avoid unacceptable morbidity; **OR**,
- Only IMRT techniques would decrease the probability of grade 2 or grade 3 radiation toxicity, as compared to conventional radiation in greater than 15% of radiated similar cases.

NOTE: The first step in IMRT is treatment planning using computed tomography and magnetic resonance imaging to produce a model of the tumor. CT or MRI results must verify the need for IMRT.

CODING

CPT® Codes

- 77301** Intensity modulated radiotherapy plan, including dose-volume histograms for target and critical structure partial tolerance specifications
- 77418** Intensity modulated treatment delivery, single or multiple fields/arcs, via narrow spatially and temporally modulated beams (eg, binary, dynamic MLC), per treatment session

Category III CPT® Code

- 0073T** Compensator-based beam modulation treatment delivery of inverse planned treatment using 3 or more high resolution (milled or cast) compensator convergent beam modulated fields, per treatment session

Category II CPT® Code

- 4165F** Three-dimensional conformal radiotherapy (3D-CRT) or intensity modulated radiation therapy (IMRT) received (PRCA)¹

ICD-9-CM Procedure Codes

- 92.29** Nuclear medicine; therapeutic radiology and nuclear medicine; Other radiotherapeutic procedure

HCPCS Codes - No Applicable codes

ICD-9-CM Diagnosis Codes - This list may not be all inclusive.

- 140.0 - 140.9** Malignant Neoplasm of Lip
141.0 - 141.9 Malignant Neoplasm of Tongue
142.0 - 142.9 Malignant Neoplasm of Major Salivary Gland

144.0 - 144.9	Malignant Neoplasm of Floor of Mouth
145.0 - 145.9	Malignant Neoplasm of Other and Unspecified Parts of Mouth
146.0 - 146.9	Malignant Neoplasm of Oropharynx
147.0 - 147.9	Malignant Neoplasm of Nasopharynx
148.0 - 148.9	Malignant Neoplasm of Hypopharynx
149.0 - 149.9	Malignant Neoplasm of Ill-defined Sites within the Lip, Oral Cavity and Pharynx
150.0 - 150.9	Malignant Neoplasm of Esophagus
155.0 - 155.2	Malignant Neoplasm of Liver and Intrahepatic Bile Ducts
156.0 - 156.9	Malignant Neoplasm of Gallbladder and Extrahepatic Bile Ducts
157.0 - 157.9	Malignant Neoplasm of Pancreas
158.0 - 158.9	Malignant Neoplasm of Retroperitoneum and Peritoneum
160.0 - 160.9	Malignant Neoplasm of Nasal Cavities, Middle Ear and Accessory Sinuses
161.0 - 161.9	Malignant Neoplasm of Larynx
162.0 - 162.9	Malignant Neoplasm of Trachea, Bronchus and Lung
163.0 - 163.9	Malignant Neoplasm of Pleura
174.0 - 174.9	Malignant Neoplasm of Breast
185	Malignant Neoplasm of Prostate
190.0 - 190.9	Malignant Neoplasm of Eye
191.0 - 191.9	Malignant Neoplasm of Brain
192.0 - 192.9	Malignant Neoplasm of Other and Unspecified Parts of the Nervous System
195.0	Malignant Neoplasm of Head, Face and Neck
197.0	Secondary Malignant Neoplasm of Lung
197.6	Secondary Malignant Neoplasm of Retroperitoneum and Peritoneum
197.7	Malignant Neoplasm of Liver Secondary
198.3	Secondary Malignant Neoplasm of Brain and Spinal Cord
198.4	Secondary Malignant Neoplasm of Other Parts of Nervous System
198.7	Secondary Malignant Neoplasm of Adrenal Gland
225.0	Benign Neoplasm of Brain
225.1	Benign Neoplasm of Cranial Nerves
225.2	Benign Neoplasm of Cerebral Meninges
225.9	Benign Neoplasm of Nervous System Part Unspecified
227.3	Benign Neoplasm of Pituitary gland and Craniopharyngeal Duct
227.4	Benign Neoplasm of Pineal Gland

*Current Procedural Terminology (CPT) 2010 American Medical Association: Chicago, IL.®©

REFERENCES

Peer Reviewed

1. Hayes Brief. Intensity-Modulated Radiation Therapy (IMRT) for Malignant Gliomas. August 15, 2008.
2. Hayes Directory. Conformal and Intensity-Modulated Radiation Therapy for Pancreatic Cancer. December 6, 2006.
3. Hayes Directory. Conformal and Intensity-Modulated Radiation Therapy for Breast Cancer. December 4, 2006.
4. Hayes Directory. Conformal and Intensity-Modulated Radiation Therapy for Prostate Cancer. November 30, 2006.

Government Agencies, Professional and Medical Organizations

1. American Society for Therapeutic Radiation and Oncology (ASTRO). The ASTRO.ACR Guide to Radiation Oncology Coding, 2007.
2. Centers for Medicare and Medicaid Services (CMS), Local Coverage Determination (LCD) for Intensity Modulated Radiation Therapy (L28892). February 16, 2009.

3. National Cancer Institute (NCI). The National Cancer Institute Guidelines for the Use of Intensity-Modulated Radiation Therapy in Clinical Trials. January 14, 2005.
4. National Comprehensive Cancer Network (NCCN). Clinical Practice Guidelines in Oncology: Breast Cancer, 2008.

Other

1. BlueCross BlueShield Technology Assessment. Special Report: Intensity-Modulated Radiation Therapy for Cancer of the Breast or Lung. (Volume 20, No. 15). 2005.
2. UnitedHealthcare Technology Assessment. Intensity-Modulated Radiation Therapy for Breast Cancer. November 20, 2008.

HISTORY AND REVISIONS

Date	Action
12/1/2011	<ul style="list-style-type: none">• New template design approved by MPC.
4/30/2011	<ul style="list-style-type: none">• Approved by MPC.