Stereotactic Radiosurgery and Stereotactic Body Radiation Therapy

I. Description

Stereotactic radiosurgery (SRS) is a method of delivering high doses of ionizing radiation to small targets. The technique differs from conventional radiotherapy, which involves exposing large areas of tissue to relatively broad fields of radiation over a number of sessions. SRS entails delivering highly focused convergent beams in a single session, so that only the desired target is radiated, sparing adjacent structures.

Two main methods of this technology exist: gamma-ray radiosurgery (Gamma Knife) and linear accelerator radiosurgery (e.g., LINAC and Cyberknife). The gamma knife and linear accelerator systems are similar in concept; both use multiple photon radiation beams or arcs that intersect at a stereotactically determined target, thus permitting higher doses of radiation delivery with sparing of surrounding normal tissues. The differences between the two relate to how the energy is produced (i.e., through decaying cobalt or from x-rays) and the number of energy sources used (i.e., multiple energy sources in the gamma knife versus one in the linear accelerator system).

Stereotactic body radiation therapy (SBRT) refers to stereotactically guided radiation therapy applied over several days. This fractionated form of radiation therapy is made possible by the recent availability of noninvasive repositioning devices that can be used in lieu of a head frame. SBRT is based on the basic radiobiologic principle that fractionation decreases the short- and long-term side effects of radiation therapy. In some settings, this permits higher total dosage to be given.

II. Criteria/Guidelines

A. SRS utilizing a gamma-ray or linear-accelerator unit is covered (subject to Limitations/Exclusions and Administrative Guidelines) for the following indications:
1. Arteriovenous malformations
2. Acoustic neuromas
3. Pituitary adenomas
4. Non-resectable, residual, or recurrent meningiomas
5. Solitary or multiple brain metastases in patients having good performance status and no active systemic disease (defined as extracranial disease that is stable or in remission)
6. Primary malignancies of the central nervous system (CNS), including but not limited to high-grade gliomas (initial treatment or treatment of recurrence)
7. Nasopharyngeal, oropharyngeal and high hypopharyngeal malignancies, spinal cord and meninges
8. Patients with disabling symptoms from Parkinson's disease refractory to conventional therapies
9. Trigeminal neuralgia refractory to medical management.

B. SBRT is covered (subject to Limitations/Exclusions and Administrative Guidelines) for the following indications:

1. Patients with stage T1 or T2a non-small cell lung cancer (not larger than 5cm) showing no nodal or distant disease and who are not candidates for surgical resection.
2. Spinal or vertebral body tumors (metastatic or primary) in patients who have received prior radiation therapy.

III. Limitations/Exclusions

A. Applications of SRS that are not covered include, but are not limited to the treatment of seizures and functional disorders other than trigeminal neuralgia, including chronic pain.

B. SBRT is not covered in the treatment of extracranial sites, except for cases of spinal tumors after prior radiation therapy and stage1 or T2a non-small cell lung cancer as noted above.

IV. Administrative Guidelines

A. Precertification is required. To precertify, please complete HMSA's Precertification Request and mail or fax the form as indicated. Requests must include the radiation oncologist’s consultation notes.

B. Applicable codes:

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<thead>
<tr>
<th>CPT Codes</th>
<th>Description</th>
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<tbody>
<tr>
<td>61796</td>
<td>Stereotactic radiosurgery (particle beam, gamma ray or linear accelerator), 1 simple cranial lesion</td>
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<tr>
<td>61797</td>
<td>each additional cranial lesion, simple (list separately in addition to code for primary procedure)</td>
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<tr>
<td>61798</td>
<td>Stereotactic radiosurgery (particle beam, gamma ray or linear accelerator), 1 complex cranial lesion</td>
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<tr>
<td>HCPCS Codes</td>
<td>Description</td>
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<tr>
<td>G0173</td>
<td>Linear accelerator based stereotactic radiosurgery, complete course of therapy in one session</td>
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V. **Important Reminder**

The purpose of this Medical Policy is to provide a guide to coverage. This Medical Policy is not intended to dictate to providers how to practice medicine. Nothing in this Medical Policy is intended to discourage or prohibit providing other medical advice or treatment deemed appropriate by the treating physician.

Benefit determinations are subject to applicable member contract language. To the extent there are any conflicts between these guidelines and the contract language, the contract language will control.

This Medical Policy has been developed through consideration of the medical necessity criteria under Hawaii’s Patients' Bill of Rights and Responsibilities Act (Hawaii Revised Statutes §432E-1.4), generally accepted standards of medical practice and review of medical literature and government regulations.
approval status. HMSA has determined that services not covered under this Medical Policy will not be medically necessary under Hawaii law in most cases. If a treating physician disagrees with HMSA's determination as to medical necessity in a given case, the physician may request that HMSA reconsider the application of the medical necessity criteria to the case at issue in light of any supporting documentation.

VI. References

1. American College of Radiology (ACR). Practice guideline for the performance of stereotactic radiosurgery. Effective 10/01/06.
5. ECRI Institute. HTAIS hotline service. Cyberknife and Gamma knife radiosurgery for trigeminal neuralgia. Updated 05/03/07.
11. Palmetto GBA LCD for Stereotactic radiosurgery L28303 Revision effective date 01/27/2011.