CHAPTER 3
SECTION 15.4

STEREOTACTIC RADIOSURGERY/RADIOTHERAPY

Issue Date: March 27, 1991
Authority: 32 CFR 199.4(b)(2), (c)(2), and (c)(3)

I. PROCEDURE CODES

61793, 77380, 77381, 77432

II. DESCRIPTION

A. Stereotactic radiosurgery / radiotherapy is a method of delivering ionizing radiation to small intracranial targets. Stereotactic radiosurgery entails delivering a high dose in a single session. Stereotactic radiotherapy entails fractionating the dose over a number of treatments.

B. There are three main variations of stereotactic radiosurgery / radiotherapy: gamma beam or gamma knife, linear accelerator (linac), and charged particle beam (proton or helium ion). The three radiation delivery devices differ technically in several ways: source of radiation, size and shape of the radiation field, and range of radiation dosages.

C. The radiosurgical / radiotherapy procedure is preceded by a process of localizing the target, which can be performed with one or more of the following techniques: skull x-ray, cerebral angiography, computerized tomography, or magnetic resonance imaging.

III. POLICY

A. Gamma knife radiosurgery / radiotherapy is covered for the following indications. This list of conditions is not all inclusive. Those conditions for which reliable evidence supports that the treatment is safe, effective, and comparable or superior to standard care, (proven) are also covered.

1. Arteriovenous malformations.

2. Benign brain tumors.

3. Acoustic neuromas (vesibular Schwannomas)

4. Pituitary adenomas.

5. Craniopharyngiomas.

6. Other tumors of the skull base.

7. Pineal region tumors.

8. Metastatic brain tumors.

9. High grade gliomas (glioblastoma multiforme, anaplastic astrocytomas).

B. Linear accelerator radiosurgery / radiotherapy is covered for the following indications. This list of conditions is not all inclusive. Those conditions for which reliable evidence supports that the treatment is safe, effective, and comparable or superior to standard care (proven) are also covered.

1. Arteriovenous malformations.

2. Acoustic neuromas (vestibular Schwannomas).

3. Metastatic brain tumors.

C. Proton beam radiosurgery / radiotherapy is covered for the following indications. This list of conditions is not all inclusive. Those conditions for which reliable evidence supports that the treatment is safe, effective, and comparable or superior to standard care (proven) are also covered.

1. Arteriovenous malformations.

2. Cushing's disease or acromegaly caused by pituitary microadenomas.

3. As postoperative therapy in patients who have undergone biopsy or partial resection of the chordoma or low grade (I or II) chondrosarcoma of the basisphenoid region (skull-base chordoma or chondrosarcoma) or cervical spine.

4. As primary therapy for patients with uveal melanoma, with no evidence of metastasis or extrascleral extension, and with tumors up to 22 mm in largest diameter and 14 mm in height.

5. Prostate cancer.

6. Meningioma.

7. Low grade glioma (astrocytoma, grade I-II).

D. Helium ion beam radiosurgery / radiotherapy is covered for the following indications. This list of conditions is not all inclusive. Those conditions for which reliable evidence supports that the treatment is safe, effective, and comparable or superior to standard care (proven) are also covered.

1. As primary therapy for patients with melanoma of the uveal tract, with no evidence of metastasis or extrascleral extension, and with tumors up to 24 mm in largest diameter and 14 mm in height.

2. As postoperative therapy in patients who have undergone biopsy or partial resection of the chordoma or low grade (I or II) chondrosarcoma of the basisphenoid region (skull-base chordoma or chondrosarcoma) or cervial spine.

IV. EXCLUSIONS

A. Proton radiosurgery is considered unproven for ependymoma and high grade glioma (glioblastoma multiforme).

B. Helium ion beam radiosurgery / radiotherapy is considered unproven for the following indications:

1. Arteriovenous malformations.

2. Ependymoma.

V. EFFECTIVE DATE

A. October 6, 1988, for gamma beam (gamma knife) radiosurgery / radiotherapy for treatment of arteriovenous malformation, benign brain tumors, acoustic neuromas, pituitary adenomas, craniopharyngiomas, other tumors of the posterior fossa and pineal region tumors.

B. January 1, 1994, for gamma beam (gamma knife) and linear accelerator radiosurgery / radiotherapy for metastatic brain tumors.

C. April 1, 1996, for linear accelerator radiosurgery / radiotherapy for arteriovenous malformations and acoustic neuromas.

D. February 26, 1986, for proton beam radiosurgery / radiotherapy for arteriovenous malformations.

E. March 1, 1988, for proton beam radiosurgery / radiotherapy for patients with Cushing's disease or acromegaly caused by pituitary microadenoma.

F. June 18, 1990, for proton beam radiosurgery / radiotherapy for chordomas or chondrosarcomas.

G. January 1, 1996, for proton beam radiosurgery / radiotherapy for uveal melanoma.

H. January 1, 1996, for helium ion beam radiosurgery / radiotherapy for uveal melanoma and chordomas or chondrosarcomas.

I. April 26, 1996, for proton beam radiosurgery / radiotherapy for prostate cancer.

J. October 1, 1997, for gamma knife radiosurgery / radiotherapy for high grade gliomas (glioblastoma multiformed, anaplastic astrocytomas).

- END -