MASSACHUSETTS

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Medical Policy

Stereotactic Radiosurgery and Stereotactic Body Radiotherapy

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Policy Number: 277

BCBSA Reference Number: 6.01.10
NCD/LCD: Local Coverage Determination (LCD): Stereotactic Radiation Therapy: Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiation Therapy (SBRT) (L35076)

Related Policies

- Charged-Particle (Proton or Helium Ion) Radiation Therapy #437
- Clinical Exception Form for Stereotactic Radiosurgery and Stereotactic Body Radiation Therapy (SBRT), #922
- Intracavitary Balloon Catheter Brain Brachytherapy for Malignant Gliomas or Metastasis to the Brain, #602
- Intensity-Modulated Radiotherapy of the Breast and Lung, #163
- Intensity-Modulated Radiotherapy of the Prostate, #090
- Intensity-Modulated Radiotherapy: Abdomen and Pelvis, #165
- Intensity-Modulated Radiotherapy: Central Nervous System Tumors, #910

Policy

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity

Stereotactic radiosurgery using a gamma ray or linear-accelerator may be considered **MEDICALLY NECESSARY** for the following:

- Arteriovenous malformations;
- Acoustic Neuromas;
- Pituitary adenomas;
- Nonresectable, residual, or recurrent meningiomas;
- Craniopharyngiomas;
- Glomus jugulare tumors;
- 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);
- Primary malignancies of the central nervous system, including but not limited to high-grade gliomas (initial treatment or treatment of recurrence);
- Trigeminal neuralgia refractory to medical management.

Stereotactic body radiotherapy may be considered **MEDICALLY NECESSARY** for the following indications:

- Spinal or vertebral body tumors (metastatic or primary) in patients who have received prior radiotherapy;
- Spinal or vertebral metastases that are radioresistant (eg, renal cell carcinoma, melanoma and sarcoma);
- Patients with stage T1 or T2a non-small-cell lung cancer (not > 5 cm) showing no nodal or distant disease and who are not candidates for surgical resection.

When stereotactic radiosurgery or stereotactic body radiotherapy are performed using fractionation for the medically necessary indications described above, it may be considered **MEDICALLY NECESSARY**.

INVESTIGATIONAL applications of stereotactic radiosurgery include, but are not limited to, the treatment of seizures and functional disorders (other than trigeminal neuralgia), including chronic pain, tremor, and uveal melanoma.

Stereotactic body radiotherapy is **INVESTIGATIONAL** for primary and metastatic tumors of the liver, pancreas, kidney, adrenal glands, and prostate, except as outlined in the policy statements above.

Providers may request an exception for SBRT for prostate cancer by completing this clinical exception form. Click here for the SBRT clinical exception form (#922).

Medicare HMO Blue^{SM} and Medicare PPO Blue^{SM} Members

Medical necessity criteria and coding guidance for **Medicare Advantage members living in Massachusetts** can be found through the link(s) below.

Local Coverage Determinations (LCDs) for National Government Services, Inc.

Local Coverage Determination (LCD): Stereotactic Radiation Therapy: Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiation Therapy (SBRT) (L35076)

Note: To review the specific LCD, please remember to click "accept" on the CMS licensing agreement at the bottom of the CMS webpage.

For medical necessity criteria and coding guidance for **Medicare Advantage members living outside of Massachusetts**, please see the Centers for Medicare and Medicaid Services website at https://www.cms.gov for information regarding your specific jurisdiction.

Clinical Exception Form for Organ-Confined Prostate Cancer

Providers **must** submit a request for an exception for organ-confined prostate cancer for not medically necessary or investigational indications by completing the clinical exception form. Click here for the SBRT exception form.

CPT Codes / HCPCS Codes / ICD Codes

Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

The following codes are included below for informational purposes only; this is not an all-inclusive list.

The above <u>medical necessity criteria MUST</u> be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity:

CPT Codes

CPT codes:	Code Description
61796	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); 1 simple cranial lesion
61797	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); each additional cranial lesion, simple
61798	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); 1 complex cranial lesion
61799	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); each additional cranial lesion, complex
61800	Application of stereotactic headframe for stereotactic radiosurgery
77371	Radiation treatment delivery, stereotactic radiosurgery (SRS), complete course of treatment of cranial lesion(s) consisting of 1 session; multi-source Cobalt 60 based
77372	Radiation treatment delivery, stereotactic radiosurgery (SRS), complete course of treatment of cranial lesion(s) consisting of 1 session; linear accelerator based
77432	Stereotactic radiation treatment management of cranial lesion(s) (complete course of treatment consisting of 1 session)

HCPCS Codes

HCPCS codes:	Code Description
G0339	Image guided robotic linear accelerator-based stereotactic radiosurgery, complete course of therapy in one session or first session of fractionated treatment
G0340	Image guided robotic linear accelerator-based stereotactic radiosurgery, delivery including collimator changes and custom plugging, fractionated treatment, all lesions, per session, second through fifth sessions, maximum 5 sessions per course of treatment

The following ICD Diagnosis Codes are considered medically necessary when submitted with the CPT and/or HCPCS codes above if medical necessity criteria are met:

ICD-10 Diagnosis Codes

ICD-10-CM Diagnosis codes:	**Code Description**
C69.30	Malignant neoplasm of unspecified choroid
C69.31	Malignant neoplasm of right choroid
C69.32	Malignant neoplasm of left choroid
C70.0	Malignant neoplasm of cerebral meninges
C70.9	Malignant neoplasm of meninges, unspecified
C71.0	Malignant neoplasm of cerebrum, except lobes and ventricles
C71.1	Malignant neoplasm of frontal lobe
C71.2	Malignant neoplasm of temporal lobe
C71.3	Malignant neoplasm of parietal lobe
C71.4	Malignant neoplasm of occipital lobe
C71.5	Malignant neoplasm of cerebral ventricle
C71.6	Malignant neoplasm of cerebellum
C71.7	Malignant neoplasm of brain stem
C71.8	Malignant neoplasm of overlapping sites of brain

C71.9	Malignant neoplasm of brain, unspecified
C72.20	Malignant neoplasm of unspecified olfactory nerve
C72.21	Malignant neoplasm of right olfactory nerve
C72.22	Malignant neoplasm of left olfactory nerve
C72.30	Malignant neoplasm of unspecified optic nerve
C72.31	Malignant neoplasm of right optic nerve
C72.32	Malignant neoplasm of left optic nerve
C72.40	Malignant neoplasm of unspecified acoustic nerve
C72.41	Malignant neoplasm of right acoustic nerve
C72.42	Malignant neoplasm of left acoustic nerve
C72.50	Malignant neoplasm of unspecified cranial nerve
C72.59	Malignant neoplasm of other cranial nerves
C72.9	Malignant neoplasm of central nervous system, unspecified
C75.1	Malignant neoplasm of pituitary gland
C75.2	Malignant neoplasm of craniopharyngeal duct
C75.5	Malignant neoplasm of aortic body and other paraganglia
C79.31	Secondary malignant neoplasm of brain
C79.32	Secondary malignant neoplasm of cerebral meninges
C79.40	Secondary malignant neoplasm of unspecified part of nervous system
C79.49	Secondary malignant neoplasm of other parts of nervous system
D32.0	Benign neoplasm of cerebral meninges
D32.9	Benign neoplasm of meninges, unspecified
D33.0	Benign neoplasm of brain, supratentorial
D33.1	Benign neoplasm of brain, infratentorial
D33.2	Benign neoplasm of brain, unspecified
D33.3	Benign neoplasm of cranial nerves
D33.7	Benign neoplasm of other specified parts of central nervous system
D33.9	Benign neoplasm of central nervous system, unspecified
D35.2	Benign neoplasm of pituitary gland
D35.3	Benign neoplasm of craniopharyngeal duct
D42.0	Neoplasm of uncertain behavior of cerebral meninges
D42.9	Neoplasm of uncertain behavior of meninges, unspecified
D43.0	Neoplasm of uncertain behavior of brain, supratentorial
D43.1	Neoplasm of uncertain behavior of brain, infratentorial
D43.2	Neoplasm of uncertain behavior of brain, unspecified
D44.3	Neoplasm of uncertain behavior of pituitary gland
D44.4	Neoplasm of uncertain behavior of craniopharyngeal duct
D44.7	Neoplasm of uncertain behavior of aortic body and other paraganglia
D49.6	Neoplasm of unspecified behavior of brain
D49.7	Neoplasm of unspecified behavior of endocrine glands and other parts of nervous system
G50.0	Trigeminal neuralgia
Q28.2	Arteriovenous malformation of cerebral vessels
Q28.3	Other malformations of cerebral vessels

The above medical necessity criteria MUST be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, Indemnity, Medicare HMO Blue and Medicare PPO Blue:

CPT Codes

CPT codes:	

	Code Description
63620	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); 1 spinal lesion
63621	Stereotactic radiosurgery (particle beam, gamma ray, or linear accelerator); each additional spinal lesion

HCPCS Codes

HCPCS codes:	Code Description
G0339	Image guided robotic linear accelerator-based stereotactic radiosurgery, complete course of therapy in one session or first session of fractionated treatment
G0340	Image guided robotic linear accelerator-based stereotactic radiosurgery, delivery including collimator changes and custom plugging, fractionated treatment, all lesions, per session, second through fifth sessions, maximum 5 sessions per course of treatment

The following ICD Diagnosis Codes are considered medically necessary when submitted with the CPT and/or HCPCS codes above if medical necessity criteria are met:

ICD-10 Diagnosis Codes

ICD-10-CM Diagnosis codes:	Code Description
C41.2	Malignant neoplasm of vertebral column
C70.1	Malignant neoplasm of spinal meninges
C72.0	Malignant neoplasm of spinal cord
C72.1	Malignant neoplasm of cauda equina
C72.9	Malignant neoplasm of central nervous system, unspecified
D32.1	Benign neoplasm of spinal meninges
D33.4	Benign neoplasm of spinal cord
D33.7	Benign neoplasm of other specified parts of central nervous system
D33.9	Benign Neoplasm Of Central Nervous System, Unspecified
D42.1	Neoplasm of uncertain behavior of spinal meninges
D43.4	Neoplasm of uncertain behavior of spinal cord

The above medical necessity criteria MUST be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity:

CPT Codes

CPT codes:	Code Description
32701	Thoracic target(s) delineation for stereotactic body radiation therapy (SRS/SBRT), (photon or particle beam), entire course of treatment
77373	Stereotactic body radiation therapy, treatment delivery, per fraction to 1 or more lesions, including image guidance, entire course not to exceed 5 fractions
77435	Stereotactic body radiation therapy, treatment management, per treatment course, to 1 or more lesions, including image guidance, entire course not to exceed 5 fractions

HCPCS Codes

HCPCS codes:	Code Description
G0339	Image guided robotic linear accelerator-based stereotactic radiosurgery, complete course of therapy in one session or first session of fractionated treatment

G0340	Image guided robotic linear accelerator-based stereotactic radiosurgery, delivery including collimator changes and custom plugging, fractionated treatment, all lesions, per session, second through fifth sessions, maximum 5 sessions per course of treatment

The following ICD Diagnosis Codes are considered medically necessary when submitted with the CPT and/or HCPCS codes above if medical necessity criteria are met:

ICD-10 Diagnosis Codes

ICD-10-CM Diagnosis codes:	Code Description
C34.00	Malignant neoplasm of unspecified main bronchus
C34.01	Malignant neoplasm of right main bronchus
C34.02	Malignant neoplasm of left main bronchus
C34.10	Malignant neoplasm of upper lobe, unspecified bronchus or lung
C34.11	Malignant neoplasm of upper lobe, right bronchus or lung
C34.12	Malignant neoplasm of upper lobe, left bronchus or lung
C34.2	Malignant neoplasm of middle lobe, bronchus or lung
C34.30	Malignant neoplasm of lower lobe, unspecified bronchus or lung
C34.31	Malignant neoplasm of lower lobe, right bronchus or lung
C34.32	Malignant neoplasm of lower lobe, left bronchus or lung
C34.80	Malignant neoplasm of overlapping sites of unspecified bronchus and lung
C34.81	Malignant neoplasm of overlapping sites of right bronchus and lung
C34.82	Malignant neoplasm of overlapping sites of left bronchus and lung
C34.90	Malignant neoplasm of unspecified part of unspecified bronchus or lung
C34.91	Malignant neoplasm of unspecified part of right bronchus or lung
C34.92	Malignant neoplasm of unspecified part of left bronchus or lung
C41.2	Malignant neoplasm of vertebral column
C70.1	Malignant neoplasm of spinal meninges
C72.0	Malignant neoplasm of spinal cord
C72.1	Malignant neoplasm of cauda equina
C72.9	Malignant neoplasm of central nervous system, unspecified
C79.40	Secondary Malignant Neoplasm of Unspecified Part of Nervous System
C79.49	Secondary Malignant Neoplasm of Other Parts of Nervous System
D32.1	Benign neoplasm of spinal meninges
D33.4	Benign neoplasm of spinal cord
D33.7	Benign Neoplasm of Other Specified Parts of Central Nervous System
D33.9	Benign Neoplasm of Central Nervous System, Unspecified
D42.1	Neoplasm of Uncertain Behavior of Spinal meninges
D42.9	Neoplasm of Uncertain Behavior Of meninges, Unspecified
D43.4	Neoplasm of uncertain behavior of spinal cord

Prior Authorization Information

Inpatient

- For services described in this policy, precertification/preauthorization **IS REQUIRED** for all products if the procedure is performed **inpatient**.

Outpatient

- For services described in this policy, see below for products where prior authorization **might be required** if the procedure is performed **outpatient**.

	Outpatient

Commercial Managed Care (HMO and POS)	Prior authorization is **not required**.
Commercial PPO and Indemnity	Prior authorization is **not required**.
Medicare HMO Blue℠	Prior authorization is **not required**.
Medicare PPO Blue℠	Prior authorization is **not required**.

Description

CONFORMAL RADIOTHERAPY

Stereotactic radiosurgery (SRS) and stereotactic body radiotherapy (SBRT) are techniques that use highly focused, conformal radiation beams to treat both neoplastic and non-neoplastic conditions. Although SRS and SBRT may be completed with 1 session (single-fraction), SRS typically refers to a single-session procedure to ablate the target lesion. However, either technique may require additional sessions (typically not >5) over a course of days, referred to as fractionated radiotherapy.

Platforms available for SRS and SBRT are distinguished by their source of radiation; they include gamma radiation from cobalt 60 sources; high-energy photons from linear accelerator (LINAC) systems; and particle beams (eg, protons). Particle beam therapy is not covered in this evidence review.

SRS and SBRT have been used for a range of malignant and nonmalignant conditions. A comprehensive review that encompasses all potential uses is beyond the scope of this evidence review. Thus, a brief introduction follows of common applications of SRS and SBRT for which published evidence has been identified in database searches.

STEREOTACTIC RADIOSURGERY

Non-Neoplastic Intracranial Conditions Treated With SRS

Arteriovenous Malformations

An arteriovenous malformation (AVM) comprises a tangled network of vessels in which blood passes from arteries to veins without intervening capillaries. AVMs range in size from small, barely detectable lesions to large lesions that can occupy an entire hemisphere. SRS incites an inflammatory response in the vessels, which results in ongoing fibrosis with eventual complete obliteration of the lesion over the course of months to years. This latency period is variable, depending on the size of the AVM and the dose distribution of the radiosurgery. During this latency period, an ongoing but declining risk of hemorrhage is present. In contrast, surgical excision provides an immediate effect on the risk of hemorrhage. Total surgical extirpation of the lesion, if possible, is the desired form of therapy to avoid future hemorrhage. However, a small subset of AVMs because of their size or location cannot be excised without serious neurologic sequelae. SRS is an alternative in selected patients.

Trigeminal Neuralgia

Trigeminal neuralgia is a disorder of the fifth cranial (ie, trigeminal) nerve that causes episodes of intense, stabbing pain in the face. The International Classification of Headache Disorders has defined classical trigeminal neuralgia as both idiopathic and related to vascular compression. Painful trigeminal neuropathy is caused by other conditions; post herpetic, posttraumatic, secondary to multiple sclerosis plaque or a space occupying lesion.[1]

Although trigeminal neuralgia is initially treated medically, in a substantial number of cases, drug treatment is either ineffective or the adverse effects become intolerable. Neurosurgical options include microvascular decompression which involves craniotomy, peripheral neurectomy or rhizotomy. Rhizotomy is a technique to percutaneously isolate the nerve and apply ablation techniques such as balloon compression, radiofrequency ablation or chemical injection. SRS of the proximal trigeminal nerve root has been investigated as an alternative to these neurosurgical treatments. There is a latency period of approximately one month for the effect to be observed.

Other Neurologic Disorders

Seizure disorders are initially treated medically. Surgical treatment is only considered in those instances when the seizures have proven refractory to all attempts at aggressive medical management, when the frequency and severity of the seizures are so frequent and severe as to significantly diminish quality of life, and when the seizure focus can be localized to a focal lesion in a region of the brain that is accessible to resection. SRS has been investigated as an alternative to neurosurgical resection. For chronic pain that is refractory to a variety of medical and psychological treatments, there are a variety of surgical alternatives. Neurodestructive procedures include cordotomy, myelotomy, dorsal root entry zone lesions, and stereotactic radiofrequency thalamotomy. SRS targeting the thalamus has been considered an investigative alternative to these neurodestructive procedures.

SRS for the destruction of the thalamic nuclei (thalamotomy) has been proposed for a treatment of essential tremor and other forms of tremor (ie, secondary to Parkinson disease, multiple sclerosis, or other neurologic conditions), as an alternative to medical therapy or surgical therapy in extreme cases.

Neoplastic Conditions Treated With SRS

Primary Intracranial Tumors

Acoustic neuromas, also called vestibular schwannomas, are benign tumors originating on the eighth cranial nerve, sometimes associated with neurofibromatosis, which can be linked to significant morbidity and even death if their growth compresses vital structures. The tumors arise from the Schwann cell sheath surrounding either the vestibular or cochlear branches of the eighth cranial nerve. Treatment options include complete surgical excision using microsurgical techniques; radiosurgery has also been used extensively, either as a primary treatment or as a treatment of recurrence after incomplete surgical resection.

Pituitary adenomas are benign tumors with symptoms related to hormone production (ie, functioning adenomas) or neurologic symptoms due to their impingement on surrounding neural structures. Surgical treatment options for pituitary adenomas include excision, conventional radiotherapy, or SRS. Surgical excision is typically offered to patients with functioning adenomas; this is because complete removal of the adenoma leads to more rapid control of autonomous hormone production. The effects of SRS on hormone production are delayed or incomplete. In patients with nonfunctioning adenomas, the treatment goal is to control growth; complete removal of the adenoma is not necessary. Conventional radiotherapy has been used in this setting with an approximate 90% success rate with few complications.

Craniopharyngiomas are benign tumors that arise from pituitary embryonic tissue at the base of the gland. However, because of proximity to the optic pathways, pituitary gland, and hypothalamus, these tumors may cause severe and permanent damage to these critical structures and can even be life-threatening. Total surgical resection is often difficult.

A glomus jugulare tumor is a rare, benign tumor arising in the skull temporal bone that involves middle and inner ear structure. No consensus exists on optimal management to control tumor burden while minimizing treatment-related morbidity.

SRS has been used for the treatment of other primary brain tumors, including gliomas, meningiomas, and primitive neuroectodermal tumors (ie, medulloblastoma, pineoblastoma). Treatment of primary brain tumors such as gliomas is more challenging, due to their generally larger size and infiltrative borders.

Intracranial Metastatic Diseases

Intracranial metastases are considered ideal targets for radiosurgery due to their small spherical size and noninfiltrative borders. Brain metastases are a frequent occurrence, seen in 25% to 30% of all patients with cancer, particularly in those with cancer of the lung, breast, colon cancer, melanoma, and kidney. Whole-brain radiotherapy is considered the standard of care in the treatment of brain metastases, and the addition of SRS to whole-brain radiotherapy has been shown to improve survival and local tumor control in selected patients. SRS offers the additional ability to treat tumors with relative sparing of normal brain tissue in a single fraction.

Uveal Melanoma

Melanoma of the uvea (choroid, ciliary body, and iris) is the most common, primary, malignant, intraocular tumor in adults. Established treatment modalities include enucleation, local resection, brachytherapy, and proton beam radiotherapy. The main objectives of treating the tumor are twofold: (1) to reduce the risk of metastatic spread; and (2) to salvage the eye with useful vision (if feasible). Treatment selection depends on tumor size and location, associated ocular findings, the status of the other eye, as well as other individual factors, including age, life expectancy, quality of life issues, concurrent systemic diseases, and patient expectations.

STEREOTACTIC BODY RADIOTHERAPY

Extracranial Primary Tumors Treated With SBRT
SBRT has been studied for the treatment of lung cancers, specifically non-small-cell lung cancer (NSCLC), with the greatest focus placed on inoperable stage I NSCLC.

Surgical resection is the preferred treatment of hepatocellular carcinoma—although at the time of diagnosis, less than 20% of patients are amenable to definitive surgical management due to advanced local disease or comorbidities. These patients may be candidates for local ablative therapies, including radiofrequency ablation and chemoembolization. Radiation may be considered as an alternative to local ablative/embolization therapies or if these therapies fail.

Radiation may be part of the treatment plan for pancreatic cancer, resectable or unresectable disease, and may be used in the adjuvant or neoadjuvant setting.

Localized renal cell carcinoma is conventionally treated surgically; local ablative methods may also be an option. Preoperative and adjuvant external radiation have not improved survival. However, because renal cell cancer brain metastases—although radioresistant to conventional external radiation—have been responsive to radiosurgery, interest remains in the possibility of treating primary kidney cancer with SBRT.

Extracranial Metastatic Tumors Treated With SBRT
Oligometastases are defined as isolated sites of metastasis, with the entire burden of disease being recognized as a finite number of discrete lesions that can be potentially cured with local therapies.[2]

In general, the indications for SBRT for oligometastases are the same as for metastasectomy. Recently proposed specific criteria for the use of SBRT in patients with oligometastases include the following: a controlled primary, favorable histology, limited metastatic disease, metachronous appearance of metastases, young age, and good performance status.[2]

Management of metastatic solid tumors has historically focused on systemic treatment with palliative intent. However, surgical treatment of oligometastatic disease is now common practice in some clinical settings.[3] Although a cure may be possible in some patients with oligometastatic disease, the aim of SBRT in this setting is mainly to achieve local control and delay progression, which may also postpone the need for further treatment.

Metastases from NSCLC to the adrenal gland are common, and systemic treatment is the most frequent therapeutic option. Nevertheless, in patients suffering from an isolated adrenal metastasis, a survival benefit could be achieved after surgical resection.

Spinal Primary and Metastatic Tumors Treated With SBRT
Metastatic tumors to the spine have historically been treated with conventional radiotherapy. The need for retreatment is high due to morbidity from metastatic disease (eg, pain, myelopathy, spinal cord compression), but radiotherapy to the spine is often limited due to concern for radiation myelopathy and other adverse radiation effects. SBRT to the spine has been most widely studied in patients requiring reirradiation, but interest has also developed in the use of SBRT for the initial treatment of spinal tumors.

Summary

Stereotactic radiosurgery (SRS) and stereotactic body radiotherapy (SBRT) are 3-dimensional conformal radiotherapy methods that deliver highly focused, convergent radiotherapy beams on a target that is defined with 3-dimensional imaging techniques with the ability to spare adjacent radiosensitive structures. Stereotactic radiosurgery primarily refers to such radiotherapy applied to intracranial lesions. Stereotactic body radiotherapy refers to therapy generally applied other areas of the body. Both techniques differ from conventional external-beam radiotherapy, which involves exposing large areas of tissue to relatively broad fields of radiation over multiple sessions.

Stereotactic Radiosurgery
For individuals who have non-neoplastic intracranial conditions (eg, arteriovenous malformations, trigeminal neuralgia), non-neoplastic neurologic conditions (eg, epilepsy, tremor and movement disorders, chronic pain), benign neoplastic intracranial lesion(s) (eg, acoustic neuromas, pituitary adenoma, meningiomas, craniopharyngioma, glomus jugulare tumors), and malignant neoplastic intracranial lesion(s) (eg, gliomas, astrocytomas, brain metastases), or uveal melanoma who receive SRS, the evidence includes randomized controlled trials, nonrandomized retrospective cohort studies, and observational studies or case series. Relevant outcomes are overall survival, symptoms, and treatment-related morbidity. General limitations of the body of evidence include a lack of trials that directly compare SRS and comparators, patient heterogeneity within and between studies, and failure to use standardized methods to collect and report outcomes (benefits and harms). There are several contextual factors to consider, such as SRS offers a noninvasive, highly precise radiotherapy alternative to surgery (particularly important for patients unable to undergo resection due to the presence of underlying comorbidities), intracranial lesions often are difficult to access surgically (and may be associated with a high risk for devastating adverse sequelae), intracranial lesions typically are located adjacent to vital organs and structures that are highly susceptible to radiation toxicities, and the accuracy and precision of SRS in this context make this technique a viable alternative to standard, nonconformal external-beam radiotherapy. Finally, given the rarity of many of the conditions under review, direct comparative trials are unlikely.

The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome for patients with:
- arteriovenous malformations;
- acoustic neuromas;
- pituitary adenomas, nonresectable;
- residual, or recurrent meningiomas;
- solitary or multiple brain metastases;
- primary malignancies of the central nervous system; and
- trigeminal neuralgia refractory to medical management.

The evidence is insufficient to determine the effects of the technology on health outcomes in patients with:
- craniopharyngiomas;
- glomus jugulare tumors;
- epilepsy;
- functional disorders other than trigeminal neuralgia;
- tremors;
- chronic pain; and
- uveal melanoma.

For individuals with craniopharyngiomas or glomus jugulare tumors, there was strong clinical support for SRS. Contextual factors considered included the rarity of these tumors, low likelihood of high-quality trials, and the potential for reduced harm compared with surgery.

Stereotactic Body Radiotherapy
For individuals who have benign or malignant extracranial lesion(s) (eg, extracranial primary and metastatic tumors) who receive SBRT, the evidence includes a few randomized controlled trials,

nonrandomized cohort studies, and case series. Relevant outcomes are overall survival, symptoms, and treatment-related morbidity. Limitations of the evidence include a lack of comparative trials, heterogeneity between patients and treatment schedules and planning techniques, and failure to use standardized methods to collect and report outcomes. Based on the available trials survival rates may be similar for SBRT compared with surgical resection for patients with stage T1 and T2a non-small-cell lung cancer (NSCLC) who are not candidates for surgical resection because of comorbid conditions. Further, SBRT has been shown to improve outcomes (reduce pain) in patients with spinal (vertebral) tumors.

The evidence is insufficient to determine the effects of the technology on health outcomes for patients with:

- stage T1 or T2a NSCLC tumors (not >5 cm) showing no nodal or distant disease and who are not candidates for surgical resection;
- spinal or vertebral body tumors (metastatic or primary) in patients who have received prior radiotherapy;
- spinal or vertebral metastases that are radioresistant (eg, renal cell carcinoma, melanoma, sarcoma); and
- solid tumors, primary or metastatic, of the liver, pancreas, kidney, adrenal glands, prostate;
- oligometastases, except metastases to the spine.

There was strong clinical support for the use of SBRT in patients with the conditions listed below. Contextual factors were considered (eg, the lack of alternatives in inoperable patients, and the potential for reduced harm compared with surgery).

- stage T1 or T2a NSCLC tumors (not >5 cm) showing no nodal or distant disease and who are not candidates for surgical resection;
- spinal or vertebral body tumors (metastatic or primary) in patients who have received prior radiotherapy; and
- spinal or vertebral metastases that are radioresistant (eg, renal cell carcinoma, melanoma, sarcoma).

Policy History

Date	Action
2/2019	Clarified coding language
12/2017	BCBSA National medical policy review. Medically necessary criteria clarified.
11/2016	SBRT Clinical Exception Form for Prostate Cancer clarified.
11/2015	New references added from BCBSA National medical policy.
2/2015	BCBSA National medical policy review. New investigational indications described. Clarified coding information. Effective 2/1/2015.
1/2015	Clarified coding information.
8/2014	Clinical exception clarified.
7/2014	Clinical exception clarified. Coding information clarified.
5/2014	Updated Coding section with ICD10 procedure and diagnosis codes. Effective 10/2015.
3/2014	BCBSA National medical policy review. New investigational indications described. Effective 3/2014.
1/2014	Coding information clarified.
2/2013	BCBSA National medical policy review. Changes to policy statement. Effective 2/4/2013.
1/2013	Updated to add new CPT code 32701.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements.
7/2011	Reviewed - Medical Policy Group - Hematology and Oncology. No changes to policy statements.
1/2011	Reviewed - Medical Policy Group - Neurology and Neurosurgery. No changes to policy statements.
6/2010	BCBSA policy review. No changes to policy statements.

1/2010	Reviewed - Medical Policy Group - Neurology and Neurosurgery. No changes to policy statements.
9/1/2009	BCBSA policy review. Changes to policy statement.
1/2009	Reviewed - Medical Policy Group - Neurology and Neurosurgery. No changes to policy statements.
1/2008	Reviewed - Medical Policy Group - Neurology. No changes to policy statements.
1/2007	Reviewed - Medical Policy Group - Neurology. No changes to policy statements.

Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:
Medical Policy Terms of Use
Managed Care Guidelines
Indemnity/PPO Guidelines
Clinical Exception Process
Medical Technology Assessment Guidelines

References

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