



Subject: Stereotactic Radiosurgery and Radiotherapy*

Effective Date: September 11, 2012

Department(s): Utilization Management

Policy: Medically necessary stereotactic radiosurgery and radiotherapy procedures are reimbursable under Plans administered by QualCare, Inc.

Objective: To assure proper and consistent reimbursement and to define the medical criteria and guidelines used to determine medical necessity of stereotactic radiosurgery and radiotherapy.

Procedure: A. Stereotactic radiosurgery [CPT 77371-7732, 77432, 63620, 63621, 61796-61800, G0339, G0340] is considered

medically necessary for treatment of the following conditions:

1. Brain malignancies-primary and metastatic [ICD-9 190.0-192.9; ICD-10 C69.40, C69.41, C69.00, C69.01, C69.02, C69.10, C69.11, C69.12, C69.20, C69.21, C69.22, C69.50, C69.51, C69.52, C69.42, C69.60, C69.61, C69.62, C69.80, C69.81, C69.82; C69.90, C69.91, C69.92]
2. Pituitary adenomas [ICD-9 227.3; ICD-10 D35.2, D35.3]
3. Intracranial arteriovenous malformations that

are surgically inaccessible or in poor surgical candidates. [ICD-9 747.81, 747.82 ; Q28.2, Q28.3,]

4. Vestibular Schwannoma [ICD-9 237.9; ICD-10 D43.3, D43.8, D43.9]
5. Glomus jugulare tumors [ICD-9 237.3; ICD-10 D44.6]
6. Trigeminal neuralgia unresponsive to medical therapy [ICD-9 350.1; ICD-10 G50.0]
7. Spinal and para-spinous tumors, primary and metastatic [ICD-9 170.2, 171,171.7, 171.8; ICD-10 C41.2,C47.6, C47.9 C70.1, C70.9, C72.0, C79.49, D32.1, D33.4, D42.1, D43.4]
8. Non-ruptured cerebral aneurysm [ICD-9 437.3; ICD-10 I67.1]

B. Stereotactic radiotherapy [CPT 77373, 77435] is considered medically necessary for the following conditions:

1. Non-small cell lung cancer stage I and II(T1-3,N0,M0) that is medically or surgically inoperable. [ICD-9 162.2-162.9; ICD-10 C34.00, C34.01, C34.02, C34.10, C34.11, C34.12, C34.2, C34.30, C34.31, C34.32, C34.80, C34.81, C34.82]
2. Recurrent lung cancer amenable to salvage therapy. [ICD-9 162.2-162.9; ICD-10 C34.00, C34.01, C34.02, C34.10, C34.11, C34.12, C34.2, C34.30, C34.31, C34.32, C34.80, C34.81, C34.82]
3. Extra-cranial oligometastases meeting any of the following:
 - A. For an individual with non-small cell lung cancer who:
 - Has had or who will undergo curative treatment of the primary tumor (based on T and N stage) and
 - Has 1 to 3 metastases in the synchronous setting.

[ICD-9 197.0, 197.2, 198.85, 198.89; ICD-10 C78.00, C78.01, C78.02, C78.7, C79.51, C79.52, C79.9]

B. For an individual with colorectal cancer who:

Has had or who will undergo curative treatment of the primary tumor **and** presents with 1 to 3 metastases in the lung or liver in the synchronous setting **and** for whom surgical resection is not possible. [ICD-9 197.0, 197.7; ICD-10 C78.00, C78.01, C78.02, C78.7)

C. For an individual with:

A clinical presentation of one 1 to 3 adrenal gland, lung, liver or bone metastases in the metachronous setting when all the following criteria are met: a. Histology is non-small cell lung, colon, breast, sarcoma, renal cell, or melanoma b. Disease free interval of > 1 year from the initial diagnosis c. Primary tumor received curative therapy and is controlled d. No prior evidence of metastatic disease (cranial or extracranial)[ICD-9 197.0, 197.2, 198.85, 198.89; ICD-10 C78.00, C78.01, C78.02, C78.7, C79.51, C79.52, C79.9]

4. Primary hepatocellular carcinoma not amenable to surgery. [ICD-9 155.0; ICD-10 C22.0, C22.2, C22.3, C22.4, C22.7, C22.8]
5. Recurrent pelvic and retroperitoneal tumors with prior radiation and not amenable to surgery [ICD-9 179-189, 152-154.8; ICD-10 C17.0, C17.1, C17.2, C17.3, C17.8, C17.9, C18.0, C18.1, C18.2, C18.3, C18.4, C18.5, C18.6, C18.7, C18.8, C18.9, C19, C20, C21.0, C21.1, C21.2, C21.8, C51, C51.1, C51.2, C51.8, C51.9, C52, C55, C53.0; C53.8; C53.9, C54.0, C54.1, C54.2, C54.3, C54.8 C54.9; C56.1, C56.2, C56.9, C57.00, C57.01, C57.02, C57.10, C57.11, C57.12, C57.20, C57.21, C57.22, C57.3, C57.4, C57.7, C57.8, C57.9, C60.0, C60.1, C60.2, C60.8, C63.7, C63.8, C60.9, C61, C62.00, C62.01, C62.02, C62.10, C62.11, C62.12, C62.90, C62.91, C62.92, C63.00, C63.01,

C63.02, C63.10, C63.11, C63.12, C63.2, C63.9, C64.1, C64.2, C64.3, C65.1, C65.2, C65.3, C66.1, C66.2, C66.9, C67.0, C67.1, C67.2, C67.3, C67.4, C67.5, C67.6, C67.7, C68.0, C68.1, C68.8, C68.9]

6. Pancreatic cancer in the following circumstances:
 - A. Locally advanced(no evidence of metastatic disease), unresectable disease with good performance status(ECOG 0-1), and there is no evidence of stomach or bowel invasion on imaging or endoscopy.[ICD-10 C25.0-C25.9]
 - B. Pancreatic bed recurrence after resection and no metastatic disease, with no evidence of stomach or bowel invasion on imaging or endoscopy.[ICD-10- C25.0-C25.9]

References

NCCN Guidelines-Soft Tissue sarcoma version2.2017. accessed at nccn.org.

NCCN Guidelines- Pancreatic Adenocarcinoma Version 3.2017- accessed at nccn.org

NCCN Guidelines- Prostate Cancer Version 2.2017-accessed at nccn.org

Kennedy TAC, Corkum MT, Louie AV. Stereotactic radiotherapy in oligometastatic cancer. Chin Clin Oncol. 2017;6(Suppl 2):S16(Sep)

Kothari G, Louie AV, Pryor D, Vela I et al. Stereotactic body radiotherapy for primary renal cell carcinoma and adrenal metastases. Chin Clin Oncol. 2017;6(Suppl 2):S17(Sep)

Hayes Medical technology Directory-Health technology Brief- Stereotactic Body Radiation Therapy with CyberKnife Robotic Radiosurgery System (Accuray Inc.) Boost Treatment in Primary Localized Prostate Cancer. Published October 20,2016.

Hayes Medical technology Directory-Health technology Brief- Stereotactic Body Radiation Therapy with CyberKnife Robotic Radiosurgery System (Accuray Inc.) for Monotherapy of Primary Localized Prostate cancer.Published October 13,2016.

Falk AT, Moureau-Zabotto L, Ouali M, et al. Effect on survival of local ablative treatment of metastases from sarcomas: a study of the French sarcoma group. Clin Oncol (R Coll Radiol). 2015 Jan; 27(1):48-55

Sahgal A, Aoyama H, Kocher M, et al. Phase 3 trials of stereotactic radiosurgery with or without whole-brain radiation therapy for 1 to 4 brain metastases: individual patient data meta-analysis. Int J Radiat Oncol Bio Phys. 2015 Mar 15; 91(4):710-717

Herman JM, Chang DT, Goodman KA, et al. Phase 2 multi-institutional trial evaluating gemcitabine and stereotactic body radiotherapy for patients with locally advanced unresectable pancreatic adenocarcinoma. *Cancer*. 2015 Apr 1; 121(7):1128-1137

Moningi S, Dholakia AS, Raman SP, et al. The role of stereotactic body radiation therapy for pancreatic cancer: a single-institution experience. *Ann Surg Oncol*. 2015 Jul; 22(7):2352-2358

Mellon EA, Hoffe SE, Springett GM, et al. Long term outcomes of induction chemotherapy and neoadjuvant stereotactic body radiotherapy for borderline resectable and locally advanced pancreatic adenocarcinoma. *Acta Oncol* 2015;54:979-985.

Reyes DK, Pienta KJ. The biology and treatment of oligometastatic cancer. *Oncotarget*. 2015 ;6(11):8491-524(Apr)

NCCN Guidelines- Pancreatic Adenocarcinoma Version 2.2015- accessed at nccn.org

NCCN Guidelines- Non-Small cell Lung cancer Version 2.2016- accessed at nccn.org

NCCN Guidelines- Prostate Cancer Version 1.2016-accessed at nccn.org

Wei Q, Yu W, Rosati LM, Herman JM. Advances of stereotactic body radiotherapy in pancreatic cancer. *Chin J Cancer Res*. 2015;27(4):349-57(Aug)

Buwenge M, Cellini F, Silvestris N, Cilla S. Robotic radiosurgery in pancreatic cancer: A systematic review. *World J Gastroenterol*. 2015;21(31):9420-9(Aug)

Swaminath A, Chu W. Stereotactic body radiotherapy for the treatment of medically inoperable primary renal cell carcinoma: Current evidence and future directions. *Can Urol Assoc J*. 2015;9(7-8):275-80(Jul-Aug)

Helis CA, Lucas JT Jr, Bourland JD, Chan MD, Tatter SB, Laxton AW. Repeat Radiosurgery for Trigeminal Neuralgia. *Neurosurgery*. 2015;77(5):755-61(Nov)

Guadagnolo BA, Liao KP, Giordano SH, Elting LS, Buchholz TA, Shih YC. Increasing use of advanced radiation therapy technologies in the last 30 days of life among patients dying as a result of cancer in the United States. *J Oncol Pract*. 2014;10(4):e269-76(Jul)

Scorsetti M, Clerici E, Comito T. Stereotactic body radiation therapy for liver metastases. *J Gastrointest Oncol*. 2014;5(3):190-7(Jun)

Katz AJ, Kang J. Stereotactic body radiotherapy as treatment for organ confined low- and intermediate-risk prostate carcinoma, a 7-year study. *Front Oncol*. 2014; 4:240.

Yu JB, Cramer LD, Herrin J, et al. Stereotactic body radiation therapy versus intensity-modulated radiation therapy for prostate cancer: comparison of toxicity. *J Clin Oncol.* 2014; 32(12):1195-1201

King CR, Freeman D, Kaplan I, et al. Stereotactic body radiotherapy for localized prostate cancer: pooled analysis from a multi-institutional consortium of prospective phase II trials. *Radiother Oncol.* 2013; 109(2):217-221(Nov)

Chen LN, et al. Stereotactic body radiation therapy (SBRT) for clinically localized prostate cancer: the Georgetown University experience. *2013 Radiat Oncol*;8:58(Mar)

Zeng M, Han LF. Stereotactic radiosurgery: a "targeted " therapy for cancer management. *Chin J Cancer* 2012 Jul 26. doi: 10.5732/cjc.012.10011. [Epub ahead of print]

Kim W, Clelland C, Yang I, Pouratian N. Comprehensive review of stereotactic radiosurgery for medically and surgically refractory pituitary adenomas. *Surg Neurol Int* 2012;3(suppl2):S79-S89(Apr)

Wang HC, Chang RJ, Xiao F. Hypofractionated stereotactic radiotherapy for large arteriovenous malformations. *Surg Neurol Int.* 2012;3(Suppl 2):S105-S110(Apr)

Patel SH, Robbins JR, Gore EM, Bradley JD, et al. ACR Appropriateness Criteria® follow –up and re-treatment of brain metastases. *Am J Clin Oncol.* 2012;35(3):302-6(Jun)

Tsao MN, Rades D, Wirth A, Lo SS, et al. Radiotherapeutic and surgical management for newly diagnosed brain metastasis(es): An American Society for Radiation Oncology evidence-based guidelines. *Pract Rad Onc* 2012;210-225(Jul-Sep)

Palma D, Lagerwaard F, Rodrigues G, Haasbeek C, Senan S. Curative treatment of Stage I non-small-cell lung cancer in patients with severe COPD: stereotactic radiotherapy outcomes and systematic review. *Int J Radiat Oncol Biol Phys.* 2012;82(3):1149-56(Mar)

Arcangelli S, Scorsetti M, Alongi F. Will SBRT replace conventional radiotherapy in patients with low-intermediate risk prostate cancer? A review. *Crit Rev Oncol Hematol.* 2012 Jan 16[Epub ahead of print]

McBride SM, Wong DS, Dombrowski JJ, Harkins B, et al. Hypofractionated stereotactic body radiotherapy in low-risk prostate adenocarcinoma: Preliminary results of a multi-institutional phase I feasibility trial. *Cancer.* 2012; 118(15): 3681-909(Aug)

King C. Stereotactic body radiotherapy for prostate cancer: current results of a phase II trial. *Front Radiat Ther Oncology* 2011;43:428-37 (May)

Patil, CG, Pricola, K, Garg, SK, Bryant, A, Black, KL. Whole brain radiation therapy (WBRT) alone versus WBRT and radiosurgery for the treatment of brain metastases. *Cochrane Database Syst Rev.* 2010(6):CD006121.

Fernando HC, Timmerman R. American college of surgeons oncology group Z4099/radiation therapy oncology group 1021: a randomized study of sublobar resection compared with stereotactic body radiotherapy for high-risk stage 1 non-small cell lung cancer. *J Thoracic Cardiovasc Surg* 2012 Jul 11 [epub ahead of print]

Champ CE, Mishra MV, Shi W, Siglin J, et al. Stereotactic Radiotherapy for trigeminal schwannomas. *Neurosurgery* 2012; 71(2):270-7(Aug)

Higginson DS, Morris DE, Jones EL, Clarke –Pearson D, Varia MA Stereotactic body radiotherapy (SBRT): Technological innovation and application in gynecologic oncology. *Gynecol Oncol*. 2011;120(3):404-12(mar)

Hayes Medical Technology Directory . Stereotactic Radiosurgery for Arteriovenous Malformations and Intracranial Tumors. Published January 8, 2009, Updated February 13,2012. accessed online 8/01/12 at Hayesinc.com

Hayes Medical Technology Directory. Robotically Assisted Stereotactic Radiosurgery for Thoracic and Abdominal Indications. Published Aug 26, 2011. Accessed online 8/02/12 at Hayesinc.com

Powell, JW, Chung, CT, Shah, HR, et al. Gamma Knife surgery in the management of radioresistant brain metastases in high-risk patients with melanoma, renal cell carcinoma, and sarcoma. *J Neurosurg*. 2008 Dec;109 Suppl:122-8.

Chang BK, Timmerman RD. Stereotactic body radiation therapy: a comprehensive review. *Am J Clin Oncol* 2007;30(6):637-44

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*Consistent with Summary Plan Description (SPD). When there is discordance between this policy and the SPD, the provisions of the SPD prevail.