

EFFECTIVE DATE: 06|01|2010

POLICY LAST UPDATED: 1|07|2014

OVERVIEW

Radiofrequency Ablation (RFA), is used for patients with Lung Tumors that are ineligible for surgery due to age, presence of co-morbidities or poor general health. RFA is a percutaneously performed procedure that utilizes a small needle electrode which is placed directly into a tumor using a computed tomography (CT), magnetic resonance imaging (MRI), or ultrasound guidance.

PRIOR AUTHORIZATION

Prior authorization is required for BlueCHiP for Medicare and recommended for Commercial Products

POLICY STATEMENT

Radiofrequency ablation of tumors located in the lung is covered for patients who meet the medical criteria listed below; all other indications are considered not medically necessary due to lack of peer-reviewed literature which supports improved health outcomes.

MEDICAL CRITERIA

Primary non-small-cell lung cancer lesion

Ablation of tumors for local control of primary non-small-cell lung cancer lesion that is no more than 3 cm in size when all of the following criteria is met:

- Surgical resection or radiation treatment with curative intent is considered appropriate based on stage of disease, and
- Medical comorbidity renders the individual unfit for those interventions including chemotherapy;

Non pulmonary tumor(s) metastatic to the lung

Radiofrequency ablation may be considered medically necessary to treat malignant nonpulmonary tumor(s) metastatic to the lung that are no more than 3 cm in size when all of the following criteria are met:

- In order to preserve lung function when surgical resection or radiation treatment is likely to substantially worsen pulmonary status OR the patient is not considered a surgical candidate; AND
- There is no evidence of extrapulmonary metastases; AND the tumor is located at least 1 cm from the trachea, main bronchi, esophagus, aorta, aortic arch branches, pulmonary artery and the heart.
- No more than 3 tumors per lung should be ablated;
- Tumors should be amenable to complete ablation; AND
- Twelve months should elapse before a repeat ablation is considered.

Palliative Care

Ablation of tumors located in the lung for **palliative care** when all of the criteria below is met:

- The member must have failed radiation and/or chemotherapy, AND
- Not a surgical candidate as deemed by a thoracic surgeon or radiation oncologist.

BACKGROUND

Pulmonary tumors. Surgery is the current treatment of choice in patients with stage 1 primary non-small-cell lung carcinoma (NSCLC). (Stage 1 includes 1a: T1N0M0 and 1b: T2N0M0). Only approximately 20% of patients present with stage 1 disease, although this number is expected to increase as a result of screening programs, advances in imaging modalities, and widespread use of CT scans for other indications. (5)

Postsurgical recurrence rates of stage 1 NSCLC have been reported as between 20% and 30%, with most occurring at distant sites; locoregional recurrences occur in approximately 12%. (5) Large differences in survival outcome are observed after surgery in stage 1 patients, with 5-year overall survival (OS) rates, ranging from 77% for small T1 tumors to 35% for large T2 tumors. (5) Untreated, stage 1 NSCLC has a 5-year OS rate of 6–14%. (5)

RFA is being investigated in patients who are medically inoperable, with small primary lung cancers or lung metastases.

Patients with early stage NSCLC who are not surgical candidates may be candidates for radiation treatment with curative intent. (6) In the 2 largest retrospective radiation therapy series, patients with inoperable disease treated with definitive radiation therapy achieved 5-year survival rates of 10% and 27%. In both studies, patients with T1N0 tumors had better 5-year survival rates of 60% and 32%, respectively. (6)

While available studies are limited by study design, accumulating evidence from case series suggests that RFA may be a treatment option in selected patients with primary, non-small-cell lung cancer and metastatic pulmonary tumors. Although complications have been reported with the use of RFA in the lung, evidence suggests RFA may have survival rates and have rates of procedure-related complications and mortality similar to surgery. Surgical resection remains the treatment of choice, but in patients unable to tolerate surgery due to medical comorbidities, RFA may be considered a treatment option.

COVERAGE

Benefits vary between groups/contracts. Please refer to the appropriate Evidence of Coverage or Subscriber Agreement for applicable surgery services and services not medically necessary coverage.

CODING

BlueCHiP for Medicare and Commercial

The following CPT Code is medically necessary when medical criteria above is met:
32998:

RELATED POLICIES

None

PUBLISHED

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REFERENCES

Akeboshi, Masao, et al, Percutaneous Radiofrequency Ablation of Lung Neoplasms: Initial Therapeutic Response, J Vasc Radiol 2004, 15:463-470

Dupuy, DE, Dipetrillo T, Sachin G, Ready N, Ng T, Thomas D, Mayo-Smith WW. Radiofrequency Ablation Followed by Conventional Radiotherapy for Medically Inoperable Stage I Non-small Cell Lung Cancer, Chest 2006 129: 738-745.

Dupuy, DE, Mayo-Smith, WW, et al. Clinical Applications of Radio-Frequency Tumor Ablation in the Thorax. Radiographics, 2002, 22:s259-s269

Dupuy, DE, Zagoria, RJ, Wallace, A, Mayo-Smith, WW, Kavanagh, PV, & Safran, H. (2000). Percutaneous radiofrequency ablation of malignancies in the lung. *Am J Roentgenology*. 174 (1), 57-59.

Percutaneous Radiofrequency Ablation of Malignancies in the Lung
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<http://www.ajronline.org/doi/full/10.2214/ajr.174.1.1740057>

Herrera LJ, et al. Radiofrequency ablation of pulmonary malignant tumors in nonsurgical candidates. *J Thorac Cardiovasc Surg* 2003 Apr;125(4):929-37.

Haasbeek CJ, Senan S, Smit EF et al. Critical review of nonsurgical treatment options for stage I non-small cell lung cancer. *Oncologist* 2008; 13(3):309-19.

Nishida T, et al. percutaneous radiofrequency ablation of lung neoplasms: a minimally invasive strategy for inoperable patients. *J Am Coll Surg* 2002 Sep;195(3):426-30.

Schlijper RC, Grutters JP, Houben R et al. What to choose as radical local treatment for lung metastases from colo-rectal cancer: Surgery or radiofrequency ablation? *Cancer Treat Rev* 2013.

Chan VO, McDermott S, Malone DE et al. Percutaneous radiofrequency ablation of lung tumors: evaluation of the literature using evidence-based techniques. *J Thorac Imaging* 2011; 26(1):18-26.

Zemlyak A, Moore WH, Bilfinger TV. Comparison of survival after sublobar resections and ablative therapies for stage I non-small cell lung cancer. *J Am Coll Surg* 2010; 211(1):68-

Zhu JC, Yan TD, Morris DL. A systematic review of radiofrequency ablation for lung tumors. *Ann Surg Oncol* 2008; 15(6):1765 -74.

Zhu JC, Yan TD, Glenn D et al. Radiofrequency ablation of lung tumors: feasibility and safety. *Ann Thorac Surg* 2009; 87 (4):1023-8.

Pennathur A, Abbas G, Gooding WE et al. Image-guided radiofrequency ablation of lung neoplasm in 100 consecutive patients by a thoracic surgical service. *Ann Thorac Surg* 2009; 88(5):1601-6; discussion 07-8.

Beland MD, Wasser EJ, Mayo-Smith WW et al. Primary non-small cell lung cancer: review of frequency, location, and time of recurrence after radiofrequency ablation. *Radiology* 2010; 254(1):301-7.

Simon, CJ, Dupuy DE, DiPetrillo TA, Safran C, Grieco A, Ng T, Mayo-Smith WW. Pulmonary Radiofrequency Ablation: Long-term Safety and Efficacy in 153 Patients, *Radiology* 2007 243: 268-275.

¹World Health Organization (WHO). WHO Definition of Palliative Care. Retrieved from <http://www.who.int/cancer/palliative/definition/en/>, Jan 25 2010.

Zhu JC, Yan TD, Ng K, Glenn D, Morris DL. Percutaneous Radiofrequency Ablation of Lung Tumours: Results in First 100 Consecutive Patients, *J Clin Oncol (Meeting Abstracts)* 2007 25: 7714.

Zhu, JC, Yan TD, Black D, Morris DL. Radiofrequency Ablation of Lung Tumours: A Systematic Review, *ANZ J Surgery*, Vol 77, Sup 1, May 2007, A11-A12

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