Medical Policy
Radiofrequency Ablation of Miscellaneous Solid Tumors Excluding Liver Tumors

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- Policy: Commercial
- Policy: Medicare
- Authorization Information
- Coding Information
- Description
- Policy History
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Policy Number: 259
BCBSA Reference Number: 7.01.95

Related Policies
- Cryosurgical Ablation of Miscellaneous Solid Tumors Other Than Liver, Prostate or Dermatologic Tumors, #260
- Radiofrequency Ablation of Primary or Metastatic Liver Tumors, #286
- Stereotactic Radiosurgery and Stereotactic Body Radiation Therapy, #277

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

Radiofrequency ablation may be MEDICALLY NECESSARY to palliate pain in patients with osteolytic bone metastases who have failed or are poor candidates for standard treatments such as radiation or opioids.

Radiofrequency ablation may be MEDICALLY NECESSARY to treat osteoid osteomas that cannot be managed successfully with medical treatment.

Radiofrequency ablation may be MEDICALLY NECESSARY to treat localized renal cell carcinoma that is no more than 4 cm in size when either of the following criteria is met:
- In order to preserve kidney function in patients with significantly impaired renal function (i.e., the patient has one kidney or renal insufficiency defined by a glomerular filtration rate [GFR] of less than 60 mL/min per m²) when the standard surgical approach (i.e., resection of renal tissue) is likely to substantially worsen existing kidney function; OR
- The patient is not considered a surgical candidate.

Radiofrequency ablation may be MEDICALLY NECESSARY to treat an isolated peripheral non-small cell lung cancer lesion that is no more than 3 cm in size when the following criteria are met:
- Surgical resection or radiation treatment with curative intent is considered appropriate based on stage of disease, however, medical co-morbidity renders the individual unfit for those interventions; AND
• Tumor is located at least 1 cm from the trachea, main bronchi, esophagus, aorta, aortic arch branches, pulmonary artery and the heart.

Radiofrequency ablation may be **MEDICALLY NECESSARY** to treat malignant non-pulmonary tumor(s) metastatic to the lung when there are no more than 3 tumors per lung and twelve months have elapsed before a repeat ablation is considered:

• 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.

The tumors:

• Should no more than 3 cm in size AND

• Amenable to complete ablation.

Radiofrequency ablation is considered **INVESTIGATIONAL** in the following conditions:

• As a technique for ablation of tumors of the breast,

• Lung cancer not meeting the criteria above,

• Renal cell cancer not meeting the criteria above, and

• All other tumors outside the liver including, but not limited to, the head and neck, thyroid, adrenal gland, ovary, and pelvic/abdominal metastases of unspecified origin and for the treatment of osteoid osteomas that can be managed with medical treatment and for initial treatment of painful bony metastases.

**Prior Authorization Information**

Pre-service approval is required for all inpatient services for all products. See below for situations where prior authorization may be required or may not be required for outpatient services.

Yes indicates that prior authorization is required.

No indicates that prior authorization is not required.

N/A indicates that this service is primarily performed in an inpatient setting.

<table>
<thead>
<tr>
<th>Outpatient</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Managed Care (HMO and POS)</td>
<td>No</td>
</tr>
<tr>
<td>Commercial PPO and Indemnity</td>
<td>No</td>
</tr>
<tr>
<td>Medicare HMO Blue℠</td>
<td>No</td>
</tr>
<tr>
<td>Medicare PPO Blue℠</td>
<td>No</td>
</tr>
</tbody>
</table>

**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 **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

<table>
<thead>
<tr>
<th>CPT codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20982</td>
<td>Ablation, bone tumor(s) (e.g. osteoid osteoma, metastasis) radiofrequency, percutaneous, including computed tomographic guidance</td>
</tr>
</tbody>
</table>

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

ICD-9 Diagnosis Codes

<table>
<thead>
<tr>
<th>ICD-9-CM diagnosis codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>198.5</td>
<td>Secondary malignant neoplasm of bone and bone marrow</td>
</tr>
<tr>
<td>213.0</td>
<td>Benign neoplasm of bones of skull and face</td>
</tr>
<tr>
<td>213.1</td>
<td>Benign neoplasm of lower jaw bone</td>
</tr>
<tr>
<td>213.2</td>
<td>Benign neoplasm of vertebral column, excluding sacrum and coccyx</td>
</tr>
<tr>
<td>213.3</td>
<td>Benign neoplasm of ribs, sternum, and clavicle</td>
</tr>
<tr>
<td>213.4</td>
<td>Benign neoplasm of scapula and long bones of upper limb</td>
</tr>
<tr>
<td>213.5</td>
<td>Benign neoplasm of short bones of upper limb</td>
</tr>
<tr>
<td>213.6</td>
<td>Benign neoplasm of pelvic bones, sacrum, and coccyx</td>
</tr>
<tr>
<td>213.7</td>
<td>Benign neoplasm of long bones of lower limb</td>
</tr>
<tr>
<td>213.8</td>
<td>Benign neoplasm of short bones of lower limb</td>
</tr>
<tr>
<td>213.9</td>
<td>Benign neoplasm of bone and articular cartilage, site unspecified</td>
</tr>
</tbody>
</table>

ICD-10 Diagnosis Codes

<table>
<thead>
<tr>
<th>ICD-10-CM Diagnosis codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C79.51</td>
<td>Secondary malignant neoplasm of bone</td>
</tr>
<tr>
<td>C79.52</td>
<td>Secondary malignant neoplasm of bone marrow</td>
</tr>
<tr>
<td>D16.00</td>
<td>Benign neoplasm of scapula and long bones of unspecified upper limb</td>
</tr>
<tr>
<td>D16.01</td>
<td>Benign neoplasm of scapula and long bones of right upper limb</td>
</tr>
<tr>
<td>D16.02</td>
<td>Benign neoplasm of scapula and long bones of left upper limb</td>
</tr>
<tr>
<td>D16.10</td>
<td>Benign neoplasm of short bones of unspecified upper limb</td>
</tr>
<tr>
<td>D16.11</td>
<td>Benign neoplasm of short bones of right upper limb</td>
</tr>
<tr>
<td>D16.12</td>
<td>Benign neoplasm of short bones of left upper limb</td>
</tr>
<tr>
<td>D16.20</td>
<td>Benign neoplasm of long bones of unspecified lower limb</td>
</tr>
<tr>
<td>D16.21</td>
<td>Benign neoplasm of long bones of right lower limb</td>
</tr>
<tr>
<td>D16.22</td>
<td>Benign neoplasm of long bones of left lower limb</td>
</tr>
<tr>
<td>D16.30</td>
<td>Benign neoplasm of short bones of unspecified lower limb</td>
</tr>
<tr>
<td>D16.31</td>
<td>Benign neoplasm of short bones of right lower limb</td>
</tr>
<tr>
<td>D16.32</td>
<td>Benign neoplasm of short bones of left lower limb</td>
</tr>
<tr>
<td>D16.4</td>
<td>Benign neoplasm of bones of skull and face</td>
</tr>
<tr>
<td>D16.5</td>
<td>Benign neoplasm of lower jaw bone</td>
</tr>
<tr>
<td>D16.6</td>
<td>Benign neoplasm of vertebral column</td>
</tr>
<tr>
<td>D16.7</td>
<td>Benign neoplasm of ribs, sternum and clavicle</td>
</tr>
<tr>
<td>D16.8</td>
<td>Benign neoplasm of pelvic bones, sacrum and coccyx</td>
</tr>
<tr>
<td>D16.9</td>
<td>Benign neoplasm of bone and articular cartilage, unspecified</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>CPT codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>50592</td>
<td>Ablation, 1 or more renal tumor(s), percutaneous, unilateral, radiofrequency</td>
</tr>
</tbody>
</table>

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

**ICD-9 Diagnosis Codes**

<table>
<thead>
<tr>
<th>ICD-9-CM diagnosis codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>189.0</td>
<td>Malignant neoplasm of kidney, except pelvis</td>
</tr>
</tbody>
</table>

**ICD-10 Diagnosis Codes**

<table>
<thead>
<tr>
<th>ICD-10-CM Diagnosis codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C64.1</td>
<td>Malignant neoplasm of right kidney, except renal pelvis</td>
</tr>
<tr>
<td>C64.2</td>
<td>Malignant neoplasm of left kidney, except renal pelvis</td>
</tr>
<tr>
<td>C64.9</td>
<td>Malignant neoplasm of unspecified kidney, except renal pelvis</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>CPT codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>32998</td>
<td>Ablation therapy for reduction or eradication of one or more pulmonary tumor(s) including pleura or chest wall when involved by tumor extension, percutaneous, radiofrequency, unilateral</td>
</tr>
<tr>
<td>50542</td>
<td>Laparoscopy, surgical; ablation of renal mass lesion(s), including intraoperative ultrasound guidance and monitoring, when performed</td>
</tr>
</tbody>
</table>

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

**ICD-9 Diagnosis Codes**

<table>
<thead>
<tr>
<th>ICD-9-CM diagnosis codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>162.2</td>
<td>Malignant neoplasm of main bronchus</td>
</tr>
<tr>
<td>162.3</td>
<td>Malignant neoplasm of upper lobe, bronchus or lung</td>
</tr>
</tbody>
</table>
162.4 Malignant neoplasm of middle lobe, bronchus or lung
162.5 Malignant neoplasm of lower lobe, bronchus or lung
162.8 Malignant neoplasm of other parts of bronchus or lung
162.9 Malignant neoplasm of bronchus and lung, unspecified
163.0 Malignant neoplasm of parietal pleura
163.1 Malignant neoplasm of visceral pleura
163.8 Malignant neoplasm of other specified sites of pleura
163.9 Malignant neoplasm of pleura, unspecified
197.0 Secondary malignant neoplasm of lung
197.1 Secondary malignant neoplasm of mediastinum
197.2 Secondary malignant neoplasm of pleura

<table>
<thead>
<tr>
<th>ICD-10 Diagnosis Codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C34.00</td>
<td>Malignant neoplasm of unspecified main bronchus</td>
</tr>
<tr>
<td>C34.01</td>
<td>Malignant neoplasm of right main bronchus</td>
</tr>
<tr>
<td>C34.02</td>
<td>Malignant neoplasm of left main bronchus</td>
</tr>
<tr>
<td>C34.10</td>
<td>Malignant neoplasm of upper lobe, unspecified bronchus or lung</td>
</tr>
<tr>
<td>C34.11</td>
<td>Malignant neoplasm of upper lobe, right bronchus or lung</td>
</tr>
<tr>
<td>C34.12</td>
<td>Malignant neoplasm of upper lobe, left bronchus or lung</td>
</tr>
<tr>
<td>C34.2</td>
<td>Malignant neoplasm of middle lobe, bronchus or lung</td>
</tr>
<tr>
<td>C34.30</td>
<td>Malignant neoplasm of lower lobe, unspecified bronchus or lung</td>
</tr>
<tr>
<td>C34.31</td>
<td>Malignant neoplasm of lower lobe, right bronchus or lung</td>
</tr>
<tr>
<td>C34.32</td>
<td>Malignant neoplasm of lower lobe, left bronchus or lung</td>
</tr>
<tr>
<td>C34.80</td>
<td>Malignant neoplasm of overlapping sites of unspecified bronchus and lung</td>
</tr>
<tr>
<td>C34.81</td>
<td>Malignant neoplasm of overlapping sites of right bronchus and lung</td>
</tr>
<tr>
<td>C34.82</td>
<td>Malignant neoplasm of overlapping sites of left bronchus and lung</td>
</tr>
<tr>
<td>C34.90</td>
<td>Malignant neoplasm of unspecified part of unspecified bronchus or lung</td>
</tr>
<tr>
<td>C34.91</td>
<td>Malignant neoplasm of unspecified part of right bronchus or lung</td>
</tr>
<tr>
<td>C34.92</td>
<td>Malignant neoplasm of unspecified part of left bronchus or lung</td>
</tr>
<tr>
<td>C38.4</td>
<td>Malignant neoplasm of pleura</td>
</tr>
<tr>
<td>C78.00</td>
<td>Secondary malignant neoplasm of unspecified lung</td>
</tr>
<tr>
<td>C78.01</td>
<td>Secondary malignant neoplasm of right lung</td>
</tr>
<tr>
<td>C78.02</td>
<td>Secondary malignant neoplasm of left lung</td>
</tr>
<tr>
<td>C78.1</td>
<td>Secondary malignant neoplasm of mediastinum</td>
</tr>
<tr>
<td>C78.2</td>
<td>Secondary malignant neoplasm of pleura</td>
</tr>
</tbody>
</table>

**Description**

Radiofrequency ablation (RFA) involves a technique in which a probe is inserted into the center of a tumor and the non-insulated electrodes, which are shaped like prongs, are projected into the tumor. Heat is then generated locally by a high frequency, alternating current that flows from the electrodes, resulting in a 3 cm to 5.5 cm sphere of dead tissue adjacent to the probe. The cells killed by RFA are not removed, but are gradually replaced by fibrosis and scar tissue. If there is local recurrence, it occurs at the edge, and in some cases may be retreated. Radiofrequency ablation may be performed percutaneously, laparoscopically, or as an open procedure.

Potential complications associated with RFA include those caused by heat damage to normal tissue adjacent to the tumor (e.g., intestinal damage during RFA of kidney), structural damage along the probe track (e.g., pneumothorax as a consequence of procedures on the lung), or secondary tumors if cells seed during probe removal.
RFA was developed initially to treat inoperable tumors of the liver. RFA is often used and continues to be investigated as an alternative to surgery for inoperable tumors, or to treat patients ineligible for surgery due to age, presence of comorbidities, or poor general health. The hypothesized advantages of RFA for certain cancers include improved local control of the disease, fewer complications, and preservation of normal organ tissue due to the minimally invasiveness of this procedure. RFA is under consideration in the following cancers as an alternate treatment therapy:

- As a minimally invasive treatment for breast tumors; however, because nonsurgical ablative techniques pose difficulties (such as the inability to determine tumor size, complete tumor cell killing, and local recurrence), this treatment may not yield survival data equivalent or better than current practices.
- For patients who are medically inoperable, with small primary lung cancers or lung metastases, and
- As an option for palliative treatment in head and neck cancer with recurrent disease, and these recurrent tumors are often untreatable with standard salvage therapies,
- Small renal tumors when preservation of renal function is necessary (e.g., in patients with marginal renal function, a solitary kidney, bilateral tumors), and in patients with co-morbidities that would render them unfit for a radical nephrectomy.

RFA has also been investigated as another alternative for palliating pain from bone metastases and in the use of osteomas to control pain symptoms and reduce tumor size, and preserve function.

An example of a radio frequency ablation system for the use in cancer treatment and pain control is the StarBurst® Radiofrequency Ablation System from Angiodynamics. All radiofrequency ablation devices for the purposes of cancer treatment or pain control are considered investigational regardless of the commercial name, the manufacturer or FDA approval status except when used for the medically necessary indications that are consistent with the policy statement.

Summary
For bone metastases, these uncontrolled studies included only a limited number of cases. However, the patient populations comprised individuals with limited or no treatment options, for whom short-term pain relief is an appropriate outcome. Therefore, the use of RFA as palliative therapy in patients with painful metastatic bone lesions may be considered medically necessary. Because data were unavailable on use of RFA as initial therapy for pain from bone metastases, this indication remains investigational. Neither setting is addressed in the National Comprehensive Cancer Network (NCCN) guidelines for the treatment of bone cancers.

For osteoid tumors, these uncontrolled studies included only a limited number of cases. However, the studies have demonstrated RFA can provide adequate pain relief with minimal complications. Therefore, the use of RFA for the treatment of osteoid osteomas that cannot be successfully treated with medical treatment may be considered medically necessary.

For renal cancers, based on the scientific data (large numbers of patients treated with follow-up) and the clinical input received, radiofrequency ablation of small (i.e., 4 cm or less) renal cancers may be considered medically necessary in those patients who are not surgical candidates due to comorbid conditions or who have baseline renal insufficiency such that standard surgical procedures would impair their kidney function.

While the 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. 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.

The evidence for RFA in head and neck tumors is limited to small case series. While RFA may have a role in palliation, complications are common and severe. Therefore, RFA for the treatment of head and neck tumors is considered investigational.
For miscellaneous neoplasms, the reviewed case series do not allow comparison with available alternative treatments and are investigational in the policy statement.

**Policy History**

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/2016</td>
<td>New references added from BCBSA National medical policy.</td>
</tr>
<tr>
<td>1/2016</td>
<td>Clarified coding information.</td>
</tr>
<tr>
<td>11/2015</td>
<td>New references added from BCBSA National medical policy.</td>
</tr>
<tr>
<td>12/2014</td>
<td>New references added from BCBSA National medical policy.</td>
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<tr>
<td>5/2014</td>
<td>Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015.</td>
</tr>
<tr>
<td>1/2014</td>
<td>New references added from BCBSA National medical policy.</td>
</tr>
</tbody>
</table>

**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**


