Medical Policy
Radiofrequency Ablation of Primary or Metastatic Liver Tumors

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Policy Number: 286
BCBSA Reference Number: 7.01.91

Related Policies
- Radiofrequency Ablation of Miscellaneous Solid Tumors Excluding Liver Tumors, #259
- Radioembolization for Primary and Metastatic Tumors of the Liver, #292
- Cryosurgical Ablation of Primary or Metastatic Liver Tumors, #633
- Transcatheter Arterial Chemoembolization (TACE) to Treat Primary or Metastatic Liver Malignancies, #634

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

Radiofrequency ablation of primary hepatocellular carcinoma (HCC) may be MEDICALLY NECESSARY in the following conditions:
- Primary treatment of HCC for patients when there are no more than 3 nodules and all tumor foci can be adequately treated, or
- Primary treatment of hepatic metastases 5 cm or less in diameter from colorectal cancer in the absence of extrahepatic metastatic disease when all tumor foci can be adequately treated, or
- Bridge to transplant, where the intent is to prevent further tumor growth and to maintain a patient’s candidacy for liver transplant, or
- Treatment of hepatic metastases from neuroendocrine tumors in patients with symptomatic disease when systemic therapy has failed to control symptoms.

Radiofrequency ablation of primary hepatocellular carcinoma is INVESTIGATIONAL in the following conditions:
- Presence of more than 3 nodules or when not all sites of tumor foci can be adequately treated, or
- Downstage (downsize) hepatocellular carcinoma (HCC) in patients being considered for liver transplant, or
- Treatment of hepatic metastasis for the indications noted below:
  o Hepatic metastases from colorectal cancer or neuroendocrine tumors that do not meet the criteria above, and
  o Hepatic metastases from other types of cancer with the exception of colorectal cancer or neuroendocrine tumors.
**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>
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<tbody>
<tr>
<td>Commercial Managed Care (HMO and POS)</td>
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<td>Commercial PPO and Indemnity</td>
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<td>Medicare HMO BlueSM</td>
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<td>Medicare PPO BlueSM</td>
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**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.

**CPT Codes**
<table>
<thead>
<tr>
<th>CPT codes:</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>47370</td>
<td>Laparoscopy, surgical, ablation of one or more liver tumor(s); radiofrequency</td>
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<tr>
<td>47380</td>
<td>Ablation, open, of one or more liver tumor(s); radiofrequency</td>
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<tr>
<td>47382</td>
<td>Ablation, 1 or more liver tumor(s), percutaneous, radiofrequency</td>
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**ICD-9 Diagnosis Codes**
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<thead>
<tr>
<th>ICD-9-CM diagnosis codes:</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>155.0</td>
<td>Malignant neoplasm of liver, primary</td>
</tr>
<tr>
<td>197.7</td>
<td>Secondary malignant neoplasm of liver</td>
</tr>
<tr>
<td>209.72</td>
<td>Secondary neuroendocrine tumor of liver</td>
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**ICD-10 Diagnosis Codes**
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<tr>
<th>ICD-10 diagnosis codes:</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>C22.0</td>
<td>Liver cell carcinoma</td>
</tr>
<tr>
<td>C78.7</td>
<td>Secondary malignant neoplasm of liver and intrahepatic bile duct</td>
</tr>
<tr>
<td>C7B.02</td>
<td>Secondary carcinoid tumors of liver</td>
</tr>
<tr>
<td>C22.9</td>
<td>Malignant neoplasm of liver, not specified as primary or secondary</td>
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**Description**
Hepatic tumors can arise either as primary liver cancer (hepatocellular cancer) or by metastasis to the liver from other tissues. At present, surgical resection of tumors with clear margins or liver transplantation constitute the only curative treatments available. The majority of hepatic tumors are unresectable at diagnosis due either to their anatomic location, size, number of lesions, or underlying liver reserve. Surgical outcome is usually poor, as only 10 - 20% of hepatocellular carcinomas can be completely removed with surgery. Local therapy for hepatic metastasis may be indicated when there is no extrahepatic disease for patients with primary cancers other than colorectal carcinoma or certain neuroendocrine malignancies.
Radiofrequency ablation (RFA) has been investigated as a treatment for unresectable hepatic tumors, both as primary treatment and as a bridge to liver transplant. In the latter setting, it is hoped that RFA will reduce the incidence of tumor progression while awaiting transplantation, and thus maintain a patient's candidacy for liver transplant during the wait time for a donor organ.

In RFA, a probe is inserted into the center of a tumor and the noninsulated prong like shaped electrodes, generate heat that affect the tissue adjacent to the probe, resulting in a 3 to 5cm sphere of dead tissue. 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.

Summary
For treating patients with unresectable HCC, numerous studies including randomized trials demonstrate that in patients with small foci of HCC (no more than 3 lesions), RFA appears to be better than ethanol injection in achieving complete ablation and preventing local recurrence. Three-year survival rates of 80% have been reported. Thus, the policy statement notes that this indication for RFA in patients with HCC who are not candidates for resection or transplant may be considered medically necessary.

A substantial body of literature has been published on the use of RFA to treat colorectal cancer metastases in the liver. Two prospective studies comprise good evidence that overall survival following RFA is at least equivalent and likely better than that obtained with currently accepted systemic chemotherapy in well-matched patients. Additional evidence from 1 comparative study suggests RFA has a lesser deleterious effect on quality of life than chemotherapy and that RFA patients recover quality of life significantly faster than chemotherapy recipients. Quicker recovery of quality of life may be viewed as a net health benefit when viewed in the context of expected survival durations of patients with metastatic cancer. In addition, results from a number of uncontrolled case series also suggest RFA of hepatic colorectal cancer metastases produces long-term survival that is at minimal equivalent and likely superior to historical outcomes achieved with systemic chemotherapy. Although indirect comparisons of series results are difficult, the body of data shows consistent change in direction and magnitude of effect that suggests an RFA benefit. It should be recognized, however, that patients treated with RFA in different series may have better prognosis than those who undergo chemotherapy, suggesting patient selection bias may at least partially explain the apparent better outcomes observed following RFA. Given the caveats outlined above, the available body of clinical evidence is sufficient to conclude that RFA of unresectable colorectal cancer metastases to the liver, absent extrahepatic metastatic disease, may be considered medically necessary.

Evidence shows that durable tumor and symptom control of neuroendocrine liver metastases can be achieved by radiofrequency ablation. This evidence is based on case series; neuroendocrine tumors are uncommon. Thus, radiofrequency ablation of hepatic metastases of neuroendocrine tumors may be considered medically necessary in patients whose symptoms are not controlled by systemic therapy. Transplant clinicians find the evidence compelling that use of locoregional therapy reduces the dropout rate of patients with HCC awaiting a liver transplant. After listing for transplant, the United Network for Organ Sharing (UNOS) does not reassign status based on tumor shrinkage from locoregional therapy. Small case series conclude that patients managed on the transplant list with locoregional therapy have outcomes comparable to patients who do not receive pretransplant treatment. Given the strong clinical support, UNOS position, and clinical studies, the policy statement indicates that radiofrequency ablation may be considered medically necessary as a bridge to liver transplant.

Currently, there is less evidence available for patients treated with RFA to specifically downsize (downstage) tumors (tumors of stage greater than T2) to meet priority transplant criteria, and its use for this application is considered investigational.

The published evidence for demonstrating improved health outcomes with RFA of other hepatic metastatic tumors (e.g., breast cancer and sarcoma) is lacking. Comparative trials are needed for these malignancies that may have associated systemic disease. Use of RFA in these tumors is considered investigational under this policy.
Policy History

<table>
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<tr>
<th>Date</th>
<th>Action</th>
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<tbody>
<tr>
<td>10/2016</td>
<td>New references added from BCBSA National medical policy.</td>
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<tr>
<td>11/2015</td>
<td>New references added from BCBSA National medical policy.</td>
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<tr>
<td>9/2014</td>
<td>New references added from BCBSA National medical policy.</td>
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<tr>
<td>6/2014</td>
<td>Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015.</td>
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<tr>
<td>11/2013</td>
<td>Removed ICD-9 diagnosis code 155.2 as it does not meet the intent of the policy.</td>
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<tr>
<td>10/2013</td>
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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