MEDICAL POLICY STATEMENT
Marketplace

Policy Name & Number	Date Effective
Radiofrequency and Microwave Ablation of Tumors-MP-MM-1351	05/01/2026
Policy Type	
MEDICAL	

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This policy applies to the following Marketplace(s):			
☒ **Georgia**	☒ **Indiana**	☒ **Ohio**	☒ **West Virginia**

Table of Contents

A. Subject

Radiofrequency and Microwave Ablation of Tumors

B. Background

Radiofrequency and microwave ablation, both types of thermo-ablation, may be appropriate modalities to treat certain types of tumors. Radiofrequency ablation of a tumor involves the delivery of high frequency alternating current to induce thermal injury of targeted tissue. Microwave ablation utilizes microwave energy to cause thermal coagulation and tissue necrosis at the targeted site. Evidence for the use of ablative techniques is constantly evolving based on tumor type, size, and location.

Hepatocellular carcinoma is the most common type of primary liver cancer. Treatment options include surgical excision, hepatic artery infusion chemotherapy, trans-arterial bland or chemoembolization, selective interstitial radiotherapy (Yttrium 90 microspheres), percutaneous ethanol injection, cryoablation, and thermo-ablation. Radiofrequency ablation and microwave ablation demonstrated comparable results to other treatment options for smaller tumors.

Liver metastases are a common manifestation of many primary cancers. The number, location, size, and patient's general health determine the choice of treatment for liver metastases. While surgical resection with curative intent is ideal, this may not be possible in all patients. Non-surgical ablative techniques may be used for both curative and palliative intent; this includes systemic chemotherapy, targeted therapy, immunotherapy, external beam radiotherapy, cryoablation, thermo-ablation, arterial embolization techniques, and selective internal radiation therapy.

Lung cancer is one of the most common types of cancer as well as a common site of metastases. Since symptoms often do not appear until advanced disease, prognosis can be poor. Common treatments for primary or metastatic cancer in the lung include surgery, chemotherapy, radiotherapy, photodynamic therapy, thermal ablation, immunotherapy, and biological therapy. Treatment selection is based on type, size, position and stage of cancer, and the patient's overall health.

Small renal masses (SRM), less than 4cm is size suspicious for clinical state T1a renal cell carcinoma, are the most common type of kidney tumor encountered. SRMs are often found incidentally with imaging for unrelated indications. Thermo-ablative techniques like RFA and MWA are gaining greater acceptance in clinical practice due to favorable outcomes observed in initial studies, low incidence of complications, low cost and ability to treat patients in the outpatient setting.

C. Definitions

- **Tumor Ablation** – Direct application of energy to eradicate or destroy focal tumors. The method of ablation is dependent on the characteristics of the lesion and risk mitigation.

- **Microwave Ablation (MWA)** – Delivery of high-frequency microwave energy to rapidly agitate water molecules in the target tissue; the energy is converted to heat, which causes tissue necrosis.
- **Radiofrequency Ablation (RFA)** – Delivery of radio waves to generate heat and induce tissue destruction in the targeted area.

D. Policy

I. Microwave ablation for tumor treatment using an FDA-approved device is considered medically necessary when **ONE** of the following indications are met:

A. Member has primary or metastatic hepatic (liver) tumor and **ALL** the following:

1. The tumor is unresectable due to location of lesion(s) OR the member has comorbid condition(s) that are contraindicative to surgery.
2. The tumor is ≤ 5cm in size OR there are no more than 3 nodules, all of which are ≤ 3cm in size.
3. Microwave ablation may be used alone or in conjunction with open or minimally invasive resection of other liver tumors. Curative resection of all disease must be the stated goal of therapy.

B. Member has primary or metastatic lung tumor and **ALL** the following:

1. The tumor is unresectable due to location of lesion(s) OR the member has comorbid condition(s) that are contraindicative to surgery.
2. Single tumor is ≤ 3cm in size.

C. Member has T1 renal cell carcinoma and **ONE** of the following:

1. Renal mass is ≤ 4cm in size and the member is not eligible for surgery or declines surgery.
2. Renal mass is > 4cm but ≤ 7cm and the member is not eligible for surgery.

II. Microwave ablation is not covered for any other indication, including (but not limited to), the following:

A. Microwave ablation for any other tumor type is considered experimental and investigational due to a lack of clinical evidence on its efficacy.

B. Microwave ablation for tumors larger than the above indications is considered experimental and investigational due to a lack of clinical evidence on its efficacy compared to other treatment modalities.

III. Radiofrequency ablation for tumor treatment is considered medically necessary for **ANY** of the following indications (NOTE: updates to MCG take precedence to the below criteria):

A. Barrett esophagus with dysplasia

B. bone metastases

C. hepatocellular carcinoma with **ALL** the following:

1. Child-Pugh class A or B liver function (score of 9 or less)
2. surgical evaluation indicates at least one of the following:
   a. patient is a candidate for surgical resection following radiofrequency ablation

b. patient is a candidate for transplant following bridge therapy by radiofrequency ablation
c. patient is not a surgical candidate (or elects against surgery)
d. patient is not a transplant candidate

3. tumor has all the following:
   a. location amenable to percutaneous, minimally invasive or open surgical ablation
   b. margins accessible to ablation
   c. not in close proximity to critical structures (eg, major vessels, major bile ducts, diaphragm, other intra-abdominal organs)
   d. single tumor 5cm or smaller in diameter OR no more than 3 tumors, each of which is 3cm or smaller in diameter
4. no portal hypertension

D. kidney tumor with **ALL** the following:
   1. clinical stage T1 renal lesion
   2. patient is not candidate for or elects against active surveillance
   3. patient is not a surgical candidate (or elects against surgery)
   4. tumor is not a renal angiomyolipoma
E. liver metastases from colorectal carcinoma with **ALL** the following:
   1. patient is not an ideal surgical candidate (or elects against surgery)
   2. tumor has all the following:
      a. location amenable to percutaneous or surgical ablation
      b. margins accessible to ablation
      c. not in close proximity to critical structures (eg, major vessels, major bile ducts, diaphragm, other intra-abdominal organs)
      d. single tumor 5cm or smaller in diameter OR no more than 3 tumors, each of which is 3cm or smaller in diameter
   3. no extrahepatic disease
F. lung cancer (non-small cell [NSCLC]) with **ALL** the following:
   1. patient is not a surgical candidate (or elects against surgery)
   2. tumor with **ALL** the following:
      a. less than 3cm in diameter
      b. node negative (stage I)
      c. not in close proximity to major pulmonary vessels or esophagus
G. osteoid osteoma
H. soft tissue sarcoma with **at least ONE** of the following:
   1. gastrointestinal stromal tumor with limited progressive disease (ie, appearance of new lesion, increase in tumor size)
   2. soft tissue sarcoma of extremity, superficial trunk, or head/neck, as indicated by both:
      a. synchronous stage IV disease
      b. need for treatment of tumor bulk limited to single organ that is amenable to local therapy, or palliation of disseminated metastases
I. thyroid cancer with **at least ONE** of the following:
   1. differentiated thyroid carcinoma (eg, follicular, papillary) with **at least ONE** of the following:

a. distant metastasis or persistent disease not amenable to treatment with radioactive iodine
b. recurrent disease following treatment of locoregional disease

2. medullary carcinoma with **at least ONE** of the following:
a. palliative treatment of symptomatic metastases or progressive disease needed
b. Patient asymptomatic, with **at least ONE** of the following:
01. disease metastasis
02. persistent disease following treatment of locoregional disease
03. recurrent disease following treatment of locoregional disease

J. thyroid nodules, with **ALL** the following:
1. compressive symptoms from nodules (eg, cough, dysphagia, foreign body sensation, pain, voice changes)
2. patient not a surgical candidate (or elects against surgery)

K. uterine leiomyomas with **ALL** the following:
1. laparoscopic ultrasound-guided procedure planned
2. leiomyomas documented by imaging study (eg, ultrasound or hysteroscopy)
3. patient desires uterine conservation or is not a surgical candidate
4. patient is premenopausal
5. persistent symptoms (3 months or greater in duration) directly attributed to presence of leiomyomas, as indicated by **at least ONE** of the following:
a. abnormal uterine bleeding unresponsive to conservative management (eg, hormonal therapy)
b. bowel dysfunction
c. dyspareunia
d. infertility
e. iron deficiency anemia
f. pelvic pain or pressure
g. urinary dysfunction
6. testing has ruled out other potential causes of symptoms

E. State-Specific Information
NA

F. Conditions of Coverage
NA

G. Related Policies/Rules
NA

H. Review/Revision History

	DATE	ACTION
Date Issued	10/12/2022	
Date Revised	09/27/2023 08/28/2024	Annual review: updated references, approved at Committee Review: updated references, approved at Committee.

	06/18/2025 02/11/2026	Review: added indications for Barrett and thyroid nodules, updated references, approved at Committee. Review: expanded background, added renal MWA indications, approved at Committee.
Date Effective	05/01/2026	
Date Archived		

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Independent medical review – September 2022