



MEDICAL POLICY STATEMENT

Indiana Medicaid

Policy Name & Number	Date Effective
Microwave Ablation of Tumors-IN MCD-MM-1482	01/01/2025
Policy Type	
MEDICAL	

Medical Policy Statement prepared by CareSource and its affiliates are derived from literature based on and supported by clinical guidelines, nationally recognized utilization and technology assessment guidelines, other medical management industry standards, and published MCO clinical policy guidelines. Medically necessary services include, but are not limited to, those health care services or supplies that are proper and necessary for the diagnosis or treatment of disease, illness, or injury and without which the patient can be expected to suffer prolonged, increased or new morbidity, impairment of function, dysfunction of a body organ or part, or significant pain and discomfort. These services meet the standards of good medical practice in the local area, are the lowest cost alternative, and are not provided mainly for the convenience of the member or provider. Medically necessary services also include those services defined in any Evidence of Coverage documents, Medical Policy Statements, Provider Manuals, Member Handbooks, and/or other policies and procedures.

Medical Policy Statements prepared by CareSource and its affiliates do not ensure an authorization or payment of services. Please refer to the plan contract (often referred to as the Evidence of Coverage) for the service(s) referenced in the Medical Policy Statement. If there is a conflict between the Medical Policy Statement and the plan contract (i.e., Evidence of Coverage), then the plan contract (i.e., Evidence of Coverage) will be the controlling document used to make the determination. According to the rules of Mental Health Parity Addiction Equity Act (MHPAEA), coverage for the diagnosis and treatment of a behavioral health disorder will not be subject to any limitations that are less favorable than the limitations that apply to medical conditions as covered under this policy.

Table of Contents

A.	Subject	2
B.	Background	2
C.	Definitions	2
D.	Policy	3
E.	Conditions of Coverage	3
F.	Related Policies/Rules	3
G.	Review/Revision History	3
H.	References	3

A. Subject

Microwave Ablation of Tumors

B. Background

Hepatocellular carcinoma is the most common type of primary liver cancer. For most patients, treatment with curative intent is not possible. 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. Liver transplantation for curative intent may be appropriate for some patients. Microwave ablation, which is a type of thermo-ablation, has proven to be an effective local therapy technique with similar results to other treatment options for small tumors.

Liver metastases are a common manifestation of many primary cancers. The number, location, size, and patient's general health influence the choice of treatment for liver metastases. Surgical resection with curative intent is ideal, however this applies to a minority of patients. Non-surgical ablative techniques may be used for both curative and palliative intent, including 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 with symptoms often not appearing until advanced disease, causing poor prognosis. 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.

Microwave ablation (MWA) uses microwave energy to cause thermal coagulation and tissue necrosis at a specific location. When a tumor is not amenable to resection or a patient is ineligible for surgery, MWA may be an appropriate alternative definitive treatment. This procedure can be done percutaneously, using minimally invasive surgical techniques, or during open surgery, and involves placement of one or more probes directly into the tumor's location where microwave energy can be directly applied, causing destruction of the tumor and limited surrounding tissues. Microwave ablation does not spare vessels.

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.

D. Policy

- I. Microwave ablation for tumor treatment using an FDA-approved device is considered medically necessary when **ANY** (either A or B) 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. Tumor is at most 5cm in size, OR there are no more than 3 nodules, all of which are no more than 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.
 - or
 - 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 no more than 3cm in size.
- 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 5cm or more than 3 nodules larger than 3cm is considered experimental and investigational due to a lack of clinical evidence on its efficacy compared to other treatment modalities.

E. Conditions of Coverage

NA

F. Related Policies/Rules

NA

G. Review/Revision History

DATE		ACTION
Date Issued	02/15/2023	
Date Revised	09/27/2023 08/28/2024	Annual review: updated references. Approved at Committee. Review: updated references, approved at Committee.
Date Effective	01/01/2025	
Date Archived		

H. References

1. Cui R, Yu J, Kuang M, et al. Microwave ablation versus other interventions for hepatocellular carcinoma: a systematic review and meta-analysis. *J Cancer Res Ther.* 2020;16(2):379-386. doi:10.4103/jcrt.JCRT_403_19

The MEDICAL Policy Statement detailed above has received due consideration as defined in the MEDICAL Policy Statement Policy and is approved.

2. Genshaft SJ, Suh RD, Abtin F, et al. Society of Interventional Radiology quality improvement standards on percutaneous ablation of non-small cell lung cancer and metastatic disease to the lungs. *J Vasc Interv Radiol.* 2021; 32:1242.e1-1242.e10. doi:10.1016/j.jvir.2021.04.027
3. Glassberg MB, Ghosh S, Clymer JW, et al. Microwave ablation compared with hepatic resection for the treatment of hepatocellular carcinoma and liver metastases: a systematic review and meta-analysis. *World J Surg Oncol.* 2019;17(1):98. doi:10.1186/s12957-019-1632-6
4. Han Y, Yan X, Zhi W, et al. Long-term outcome following microwave ablation of lung metastases from colorectal cancer. *Front Oncol.* 2022 Jul;12:943715. doi:10/3389/fonc.2022.943715
5. Matsui Y, Tomita K, Uka M, et al. Up-to-date evidence on image-guided thermal ablation for metastatic lung tumors: a review. *Jpn J Radiol.* 2022;40(10):1024-1034. doi:10/1007/s11603-022-01302-0
6. National Comprehensive Cancer Network. Clinical Practice Guidelines in Oncology. Hepatocellular Carcinoma. Version 2.2024. Issued July 2, 2024. Accessed August 7, 2024. www.nccn.org
7. National Comprehensive Cancer Network. Clinical Practice Guidelines in Oncology. Non-Small Cell Lung Cancer. Version 7.2024. Issued June 26, 2024. Accessed August 7, 2024. www.nccn.org
8. National Institute for Health and Care Excellence. Microwave ablation for treating liver metastases [IPG553]. Published April 27, 2016. Accessed August 7, 2024. www.nice.org
9. National Institute for Health and Care Excellence. Microwave ablation of hepatocellular carcinoma [IPG214]. Published March 28, 2007. Accessed August 7, 2024. www.nice.org
10. National Institute for Health and Care Excellence. Microwave ablation for primary or metastatic cancer in the lung [IPG716]. Published February 2, 2022. Accessed August 7, 2024. www.nice.org
11. Nelson DB, Tam AL, Mitchell KG, et al. Local recurrence after microwave ablation of lung malignancies: a systematic review. *Ann Thorac Surg.* 2019;107(6):1876-1883. doi:10.1016-j.athoracsur.2018.10.049
12. Wang N, Xu J, Wang G, et al. Safety and efficacy of microwave ablation for lung cancer adjacent to the interlobar fissure. *Thorac Cancer.* 2022;13(18):2557-2565. doi:10.1111/1759-7714.14589
13. Wu X, Uhlig J, Blasberg JD, et al. Microwave ablation versus stereotactic body radiotherapy for stage I non-small cell lung cancer: a cost-effectiveness analysis. *J Vasc Interv Radiol.* 2022;33(8):964-971.e2. doi:10.1016/j.jvir.2022.04.019

Independent medical review – September 2022

IN-MED-P-3256901

Issue date 2/15/2023

Approved OMPP 10/24/2024

The MEDICAL Policy Statement detailed above has received due consideration as defined in the MEDICAL Policy Statement Policy and is approved.