MEDICAL POLICY

POLICY TITLE	CRYOABLATION OF TUMORS LOCATED IN THE KIDNEY, LUNG, BREAST, PANCREAS, OR BONE
POLICY NUMBER	MP 1.088

CLINICAL BENEFIT	☒ MINIMIZE SAFETY RISK OR CONCERN. ☐ MINIMIZE HARMFUL OR INEFFECTIVE INTERVENTIONS. ☐ ASSURE APPROPRIATE LEVEL OF CARE. ☐ ASSURE APPROPRIATE DURATION OF SERVICE FOR INTERVENTIONS. ☒ ASSURE THAT RECOMMENDED MEDICAL PREREQUISITES HAVE BEEN MET. ☐ ASSURE APPROPRIATE SITE OF TREATMENT OR SERVICE.
Effective Date:	**2/1/2026**

POLICY

Cryosurgical ablation may be considered **medically necessary** to treat localized renal cell carcinoma that is no more than four (4) cm in size when **EITHER** of the following criteria is met:

- Preservation of kidney function is necessary (i.e., the patient has one kidney or renal insufficiency defined by a glomerular filtration rate of <60 mL/min/m2) **AND** standard surgical approach (i.e., resection of renal tissue) is likely to worsen kidney function substantially; **OR**
- Patient is not considered a surgical candidate

Cryosurgical ablation may be considered **medically necessary** to treat lung cancer when **EITHER** of the following criteria is met:

- The patient has early-stage non-small cell lung cancer and is a poor surgical candidate; **OR**
- The patient requires palliation for a central airway-obstructing lesion

Cryosurgical ablation may be considered **medically necessary** to treat benign or malignant tumors of the bone when **ALL** the following criteria are met:

- For pain control in individuals with metastatic bone disease confirmed with imaging (e.g., CT, MRI); **AND**
- Individuals who have failed or are poor candidates for standard treatments such as radiation or opioids; **AND**
- Individuals for which surgery is not an option

Cryosurgical ablation is considered **investigational** as a treatment of the following:

- Benign or malignant tumors of the breast
- Benign or malignant tumors of the lung that do not meet the medically necessary criteria above
- Benign or malignant tumors of the pancreas
- Renal cell carcinomas in patients who are surgical candidates,

There is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with these procedures.

MEDICAL POLICY

POLICY TITLE	CRYOABLATION OF TUMORS LOCATED IN THE KIDNEY, LUNG, BREAST, PANCREAS, OR BONE
POLICY NUMBER	MP 1.088

POLICY GUIDELINES

This policy is limited to treatment in adults (age 18 years and older) and does not address pediatric populations.

Individuals receiving cryosurgical ablation for benign or malignant tumors of the bone should have an estimated life expectancy sufficient to achieve benefit of the procedure.

Cross-References:

MP 1.055 Radiofrequency Ablation of Primary or Metastatic Liver Tumors.
MP 1.084 Radiofrequency Ablation of Miscellaneous Solid Tumors Excluding Liver Tumors
MP 1.121 Cryosurgical Ablation of Primary or Metastatic Liver Tumors

PRODUCT VARIATIONS

This policy is only applicable to certain programs and products administered by Capital Blue Cross and subject to benefit variations. Please see additional information below.

FEP PPO - Refer to FEP Medical Policy Manual. The FEP Medical Policy manual can be found at: https://www.fepblue.org/benefit-plans/medical-policies-and-utilization-management-guidelines/medical-policies.

DESCRIPTION/BACKGROUND

Cryosurgical ablation (hereafter referred to as cryosurgery or cryoablation) involves freezing of target tissues; this is most often performed by inserting a coolant-carrying probe into the tumor. Cryosurgery may be performed as an open surgical technique or as a closed procedure under laparoscopic or ultrasound guidance.

Renal Tumors

Localized kidney cancer is treated with radical nephrectomy or nephron-sparing surgery. Prognosis drops precipitously if the tumor extends outside the kidney capsule because chemotherapy is relatively ineffective against metastatic renal cell carcinoma.

Lung Tumors and Lung Metastases

Early-stage lung tumors are typically treated surgically. Patients with early-stage lung cancer who are not surgical candidates may be candidates for radiotherapy with curative intent. Cryoablation is being investigated in patients who are medically inoperable, with small primary lung cancers or lung metastases from extrapulmonary primaries. Patients with more advanced local disease or metastatic disease may undergo chemotherapy with radiation following resection. Treatment is rarely curative; rather, it seeks to retard tumor growth or palliate symptoms.

Breast Tumors
Early-stage primary breast cancers are treated surgically. The selection of lumpectomy, modified radical mastectomy, or another approach is balanced against the patient's desire for breast conservation, the need for tumor-free margins in resected tissue, and the patient's age, hormone receptor status, and other factors. Adjuvant radiotherapy decreases local recurrences, particularly for those who select lumpectomy. Adjuvant hormonal therapy and/or chemotherapy are added, depending on presence and number of involved nodes, hormone receptor status, and other factors. Treatment of metastatic disease includes surgery to remove the lesion and combination chemotherapy.

Fibroadenomas are common benign tumors of the breast that can present as a palpable mass or a mammographic abnormality. These benign tumors are frequently surgically excised to rule out a malignancy.

Pancreatic Cancer
Pancreatic cancer is a relatively rare solid tumor that occurs almost exclusively in adults, and it is largely considered incurable. Surgical resection of tumors contained entirely within the pancreas is currently the only potentially curative treatment. However, the nature of the cancer is such that few tumors are found at such an early and potentially curable stage. Patients with more advanced local disease or metastatic disease may undergo chemotherapy with radiation following resection. Treatment is focused on slowing tumor growth and palliation of symptoms.

Bone Cancer and Bone Metastases
Primary bone cancers are extremely rare, accounting for less than 0.2% of all cancers. Bone metastases are more common, with clinical complications including debilitating bone pain. Treatment for bone metastases is performed to relieve local bone pain, provide stabilization, and prevent impending fracture or spinal cord compression.

Regulatory Status
Several cryoablation devices have been cleared for marketing by the U.S. Food and Drug Administration (FDA) through the 510(k) process for use in open, minimally invasive, or endoscopic surgical procedures in the areas of general surgery, urology, gynecology, oncology, neurology, dermatology, proctology, thoracic surgery, and ear, nose, and throat. Examples include:

- Cryocare® Surgical System (Endocare);
- CryoGen Cryosurgical System (Cryosurgical);
- CryoHit® (Galil Medical) for the treatment of breast fibroadenoma;
- IceSense3™, ProSense™, and MultiSense Systems (IceCure Medical);
- SeedNet™ System (Galil Medical); and
- Visica® System (Sanarus Medical)

Food and Drug Administration product code: GEH.

RATIONALE

Summary of Evidence

For individuals with early-stage kidney cancer who are surgical candidates treated with cryoablation, the evidence includes comparative observational studies and systematic reviews. Relevant outcomes are overall survival (OS), disease-specific survival, quality of life, and treatment-related morbidity. Multiple comparative observational studies and systematic reviews of these studies have compared cryoablation to partial nephrectomy for early-stage renal cancer. These studies have consistently found that partial nephrectomy is associated with better oncological outcomes than cryosurgery, but cryosurgery was associated with better perioperative outcomes, lower incidence of complications, and less decline in kidney function. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with early-stage kidney cancer who are not surgical candidates and who are treated with cryoablation, the evidence includes comparative observational studies of cryoablation compared to partial nephrectomy or other ablative techniques, systematic reviews of these studies, and case series. Relevant outcomes are OS, disease-specific survival, quality of life, and treatment-related morbidity. Although oncological outcomes were better with surgery, in comparative observational studies, cryoablation was associated with less decline in kidney function. Recent case series totaling more than 400 patients showed cryoablation was associated with good oncological outcomes and preservation of renal function. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with non-small cell lung cancer (NSCLC) who are not surgical candidates, the evidence includes uncontrolled observational studies and case series. Relevant outcomes are OS, disease-specific survival, quality of life, and treatment-related morbidity. Medically inoperable patients with early-stage primary lung tumors were treated with cryoablation in a consecutive series of 45 patients. Five-year survival was 68%; the main complications were hemoptysis in 40% of patients and pneumothorax in 51%. A prospective single arm Phase 2 study of 128 patients reported on cryoablation for treatment of metastases to the lung. Cryoablation for metastatic lung cancer was studied in a single arm trial in 40 patients. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with NSCLC who require palliation for a central airway obstructing lesion who are treated with cryoablation, the evidence includes case series. Relevant outcomes are OS, disease-specific survival, quality of life, and treatment-related morbidity. There are no comparative studies. A series of 521 consecutive patients reported improvement in symptoms in 86% of patients, but multiple study design, conduct, and relevance limitations preclude drawing conclusions about efficacy or safety of cryoablation in this population. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with NSCLC who are either poor surgical candidates or who required palliation for a lesion obstructing the central airway who receive cryoablation, clinical input supports this use provides a clinically meaningful improvement in net health outcome and indicates this use is consistent with generally accepted medical practice.

For individuals with benign or malignant tumors of the bone who are treated with cryoablation, the evidence includes uncontrolled observational studies and case series. Relevant outcomes are OS, disease-specific survival, quality of life, and treatment-related morbidity. There is a small amount of literature on cryoablation for bone cancer and bone metastases. For bone metastases, the evidence base consists of 2 single arm nonrandomized studies (N = 61 and 66) and is inadequate to determine efficacy. Studies were limited by a lack of a comparator, potential for selection bias, and lack of blinding combined with subjective outcome measures. NCCN (Version 2.2025) states that ablation techniques should be considered for local bone pain, although specific therapies are outside the scope of the guideline.

For individuals with solid tumors located in the breast or pancreas who are treated with cryoablation, the evidence includes uncontrolled observational studies and case series. Relevant outcomes are OS, disease-specific survival, quality of life, and treatment-related morbidity. Due to the lack of prospective controlled trials, it is not possible to conclude that cryoablation improves outcomes for any indication better than alternative treatments. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

DEFINITIONS

NA

DISCLAIMER

Capital Blue Cross' medical policies are used to determine coverage for specific medical technologies, procedures, equipment, and services. These medical policies do not constitute medical advice and are subject to change as required by law or applicable clinical evidence from independent treatment guidelines. Treating providers are solely responsible for medical advice and treatment of members. These polices are not a guarantee of coverage or payment. Payment of claims is subject to a determination regarding the member's benefit program and eligibility on the date of service, and a determination that the services are medically necessary and appropriate. Final processing of a claim is based upon the terms of contract that applies to the members' benefit program, including benefit limitations and exclusions. If a provider or a member has a question concerning this medical policy, please contact Capital Blue Cross' Provider Services or Member Services.

POLICY TITLE	CRYOABLATION OF TUMORS LOCATED IN THE KIDNEY, LUNG, BREAST, PANCREAS, OR BONE
POLICY NUMBER	MP 1.088

CODING INFORMATION

Note: This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

Cryosurgical ablation is considered investigational for treatment of benign or malignant tumors of the breast, lung (other than defined above as medically necessary), pancreas, and to treat renal cell carcinomas in patients who are surgical candidates.

Procedure Codes								
0581T	0970T	0971T	19105					

Cryosurgical ablation is considered medically necessary to treat localized renal cell carcinoma, lung and bone cancer when criteria is met:

Procedure Codes								
C2618	20983	32994	50250	50542	50593			

ICD-10-CM Diagnosis Codes	Description
C34.10	Malignant neoplasm of upper lobe, unspecified bronchus or lung
C34.11	Malignant neoplasm of upper lobe, right bronchus or lung
C34.12	Malignant neoplasm of upper lobe, left bronchus or lung
C34.2	Malignant neoplasm of middle lobe, bronchus or lung
C34.30	Malignant neoplasm of lower lobe, unspecified bronchus or lung
C34.31	Malignant neoplasm of lower lobe, right bronchus or lung
C34.32	Malignant neoplasm of lower lobe, left bronchus or lung
C34.80	Malignant neoplasm of overlapping sites of unspecified bronchus and lung
C34.81	Malignant neoplasm of overlapping sites of right bronchus and lung
C34.82	Malignant neoplasm of overlapping sites of left bronchus and lung
C34.90	Malignant neoplasm of unspecified part of unspecified bronchus or lung
C34.91	Malignant neoplasm of unspecified part of right bronchus or lung
C34.92	Malignant neoplasm of unspecified part of left bronchus or lung
C40.00	Malignant neoplasm of scapula and long bones of unspecified upper limb
C40.01	Malignant neoplasm of scapula and long bones of right upper limb
C40.02	Malignant neoplasm of scapula and long bones of left upper limb
C40.10	Malignant neoplasm of short bones of unspecified upper limb
C40.11	Malignant neoplasm of short bones of right upper limb
C40.12	Malignant neoplasm of short bones of left upper limb

POLICY TITLE	CRYOABLATION OF TUMORS LOCATED IN THE KIDNEY, LUNG, BREAST, PANCREAS, OR BONE
POLICY NUMBER	MP 1.088

ICD-10-CM Diagnosis Codes	Description
C40.20	Malignant neoplasm of long bones of unspecified lower limb
C40.21	Malignant neoplasm of long bones of right lower limb
C40.22	Malignant neoplasm of long bones of left lower limb
C40.30	Malignant neoplasm of short bones of unspecified lower limb
C40.31	Malignant neoplasm of short bones of right lower limb
C40.32	Malignant neoplasm of short bones of left lower limb
C40.80	Malignant neoplasm of overlapping sites of bone and articular cartilage of unspecified limb
C40.81	Malignant neoplasm of overlapping sites of bone and articular cartilage of right limb
C40.82	Malignant neoplasm of overlapping sites of bone and articular cartilage of left limb
C40.90	Malignant neoplasm of unspecified bones and articular cartilage of unspecified limb
C40.91	Malignant neoplasm of unspecified bones and articular cartilage of right limb
C40.92	Malignant neoplasm of unspecified bones and articular cartilage of left limb
C41.0	Malignant neoplasm of bones of skull and face
C41.1	Malignant neoplasm of mandible
C41.2	Malignant neoplasm of vertebral column
C41.3	Malignant neoplasm of ribs, sternum and clavicle
C41.4	Malignant neoplasm of pelvic bones, sacrum and coccyx
C41.9	Malignant neoplasm of bone and articular cartilage, unspecified
C64.1	Malignant neoplasm of right kidney, except renal pelvis
C64.2	Malignant neoplasm of left kidney, except renal pelvis
C64.9	Malignant neoplasm of unspecified kidney, except renal pelvis
C65.1	Malignant neoplasm of right renal pelvis
C65.2	Malignant neoplasm of left renal pelvis
C65.9	Malignant neoplasm of unspecified renal pelvis
C76.3	Malignant neoplasm of pelvis
C79.51	Secondary malignant neoplasm of bone
C79.52	Secondary malignant neoplasm of bone marrow
D16.00	Benign neoplasm of scapula and long bones of unspecified upper limb
D16.01	Benign neoplasm of scapula and long bones of right upper limb
D16.02	Benign neoplasm of scapula and long bones of left upper limb
D16.10	Benign neoplasm of short bones of unspecified upper limb
D16.11	Benign neoplasm of short bones of right upper limb
D16.12	Benign neoplasm of short bones of left upper limb
D16.20	Benign neoplasm of long bones of unspecified lower limb

POLICY TITLE	CRYOABLATION OF TUMORS LOCATED IN THE KIDNEY, LUNG, BREAST, PANCREAS, OR BONE
POLICY NUMBER	MP 1.088

ICD-10-CM Diagnosis Codes	Description
D16.21	Benign neoplasm of long bones of right lower limb
D16.22	Benign neoplasm of long bones of left lower limb
D16.30	Benign neoplasm of short bones of unspecified lower limb
D16.31	Benign neoplasm of short bones of right lower limb
D16.32	Benign neoplasm of short bones of left lower limb
D16.4	Benign neoplasm of bones of skull and face
D16.5	Benign neoplasm of lower jawbone
D16.6	Benign neoplasm of vertebral column
D16.7	Benign neoplasm of ribs, sternum, and clavicle
D16.8	Benign neoplasm of pelvic bones, sacrum and coccyx
D16.9	Benign neoplasm of bone and articular cartilage, unspecified

REFERENCES

1. *Gao H, Zhou L, Zhang J, et al. Comparative efficacy of cryoablation versus robot-assisted partial nephrectomy in the treatment of cT1 renal tumors: a systematic review and meta-analysis. BMC Cancer. Sep 16 2024; 24(1): 1150. PMID 39285347*
2. *Yanagisawa T, Mori K, Kawada T, et al. Differential efficacy of ablation therapy versus partial nephrectomy between clinical T1a and T1b renal tumors: A systematic review and meta-analysis. Urol Oncol. Jul 2022; 40(7): 315-330. PMID 35562311*
3. *Uhlig J, Strauss A, Rucker G, et al. Partial nephrectomy versus ablative techniques for small renal masses: a systematic review and network meta-analysis. Eur Radiol. Mar 2019; 29(3): 1293-1307. PMID 30255245*
4. *Klatte T, Shariat SF, Remzi M. Systematic review and meta-analysis of perioperative and oncologic outcomes of laparoscopic cryoablation versus laparoscopic partial nephrectomy for the treatment of small renal tumors. J Urol. May 2014; 191(5): 1209-17. PMID 24231845*
5. *Tang K, Yao W, Li H, et al. Laparoscopic renal cryoablation versus laparoscopic partial nephrectomy for the treatment of small renal masses: a systematic review and meta-analysis of comparative studies. J Laparoendosc Adv Surg Tech A. Jun 2014; 24(6): 403-10. PMID 24914926*
6. *Andrews JR, Atwell T, Schmit G, et al. Oncologic Outcomes Following Partial Nephrectomy and Percutaneous Ablation for cT1 Renal Masses. Eur Urol. Aug 2019; 76(2): 244-251. PMID 31060824*
7. *Rembeyo G, Correas JM, Jantzen R, et al. Percutaneous Ablation Versus Robotic Partial Nephrectomy in the Treatment of cT1b Renal Tumors: Oncologic and Functional Outcomes of a Propensity Score-weighted Analysis. Clin Genitourin Cancer. Apr 2020; 18(2): 138-147. PMID 31982346*
8. *Yan S, Yang W, Zhu CM, et al. Comparison among cryoablation, radiofrequency ablation, and partial nephrectomy for renal cell carcinomas sized smaller than 2 cm or sized 2-4 cm:*

A population-based study. Medicine (Baltimore). May 2019; 98(21): e15610. PMID 31124938

9. *Pecoraro A, Palumbo C, Knipper S, et al. Cryoablation Predisposes to Higher Cancer Specific Mortality Relative to Partial Nephrectomy in Patients with Nonmetastatic pT1b Kidney Cancer. J Urol. Dec 2019; 202(6): 1120-1126. PMID 31347950*
10. *Cronan J, Dariushnia S, Bercu Z, et al. Systematic Review of Contemporary Evidence for the Management of T1 Renal Cell Carcinoma: What IRs Need to Know for Kidney Cancer Tumor Boards. Semin Intervent Radiol. Aug 2019; 36(3): 194-202. PMID 31435127*
11. *Morkos J, Porosnicu Rodriguez KA, Zhou A, et al. Percutaneous Cryoablation for Stage 1 Renal Cell Carcinoma: Outcomes from a 10-year Prospective Study and Comparison with Matched Cohorts from the National Cancer Database. Radiology. Aug 2020; 296(2): 452-459. PMID 32515677*
12. *Stacul F, Sachs C, Giudici F, et al. Cryoablation of renal tumors: long-term follow-up from a multicenter experience. Abdom Radiol (NY). Sep 2021; 46(9): 4476-4488. PMID 33912986*
13. *Lee SH, Choi WJ, Sung SW, et al. Endoscopic cryotherapy of lung and bronchial tumors: a systematic review. Korean J Intern Med. Jun 2011; 26(2): 137-44. PMID 21716589*
14. *Niu L, Xu K, Mu F. Cryosurgery for lung cancer. J Thorac Dis. Aug 2012; 4(4): 408-19. PMID 22934144*
15. *Callstrom MR, Woodrum DA, Nichols FC, et al. Multicenter Study of Metastatic Lung Tumors Targeted by Interventional Cryoablation Evaluation (SOLSTICE). J Thorac Oncol. Jul 2020; 15(7): 1200-1209. PMID 32151777*
16. *de Baere T, Tselikas L, Woodrum D, et al. Evaluating Cryoablation of Metastatic Lung Tumors in Patients--Safety and Efficacy: The ECLIPSE Trial--Interim Analysis at 1 Year. J Thorac Oncol. Oct 2015; 10(10): 1468-74. PMID 26230972*
17. *de Baère T, Woodrum D, Tselikas L, et al. The ECLIPSE Study: Efficacy of Cryoablation on Metastatic Lung Tumors With a 5-Year Follow-Up. J Thorac Oncol. Nov 2021; 16(11): 1840-1849. PMID 34384914*
18. *Moore W, Talati R, Bhattacharji P, et al. Five-year survival after cryoablation of stage I non-small cell lung cancer in medically inoperable patients. J Vasc Interv Radiol. Mar 2015; 26(3): 312-9. PMID 25735518*
19. *Ratko TA, Vats V, Brock J, et al. Local Nonsurgical Therapies for Stage I and Symptomatic Obstructive Non- Small-Cell Lung Cancer (AHRQ Comparative Effectiveness Review No. 112). Rockville, MD: Agency for Healthcare Research and Quality; 2013.*
20. *Maiwand MO, Asimakopoulos G. Cryosurgery for lung cancer: clinical results and technical aspects. Technol Cancer Res Treat. Apr 2004; 3(2): 143-50. PMID 15059020*
21. *Zhao Z, Wu F. Minimally-invasive thermal ablation of early-stage breast cancer: a systemic review. Eur J Surg Oncol. Dec 2010; 36(12): 1149-55. PMID 20889281*
22. *Simmons RM, Ballman KV, Cox C, et al. A Phase II Trial Exploring the Success of Cryoablation Therapy in the Treatment of Invasive Breast Carcinoma: Results from ACOSOG (Alliance) Z1072. Ann Surg Oncol. Aug 2016; 23(8): 2438-45. PMID 27221361*
23. *Niu L, Mu F, Zhang C, et al. Cryotherapy protocols for metastatic breast cancer after failure of radical surgery. Cryobiology. Aug 2013; 67(1): 17-22. PMID 23619024*

24. *Manenti G, Perretta T, Gaspari E, et al. Percutaneous local ablation of unifocal subclinical breast cancer: clinical experience and preliminary results of cryotherapy. Eur Radiol. Nov 2011; 21(11): 2344-53. PMID 21681574*
25. *Pusztaszeri M, Vlastos G, Kinkel K, et al. Histopathological study of breast cancer and normal breast tissue after magnetic resonance-guided cryotherapy ablation. Cryobiology. Aug 2007; 55(1): 44-51. PMID 17604016*
26. *Sabel MS, Kaufman CS, Whitworth P, et al. Cryoablation of early-stage breast cancer: work-in-progress report of a multi-institutional trial. Ann Surg Oncol. May 2004; 11(5): 542-9. PMID 15123465*
27. *Tanaka S. Cryosurgical treatment of advanced breast cancer. Skin Cancer. Jan 1995;10:9-18.*
28. *Pfleiderer SO, Freesmeyer MG, Marx C, et al. Cryotherapy of breast cancer under ultrasound guidance: initial results and limitations. Eur Radiol. Dec 2002; 12(12): 3009-14. PMID 12439583*
29. *Suzuki Y. Cryosurgical treatment of advanced breast cancer and cryoimmunological responses. Skin Cancer. 1995;10:19-26.*
30. *Morin J, Traore A, Dionne G, et al. Magnetic resonance-guided percutaneous cryosurgery of breast carcinoma: technique and early clinical results. Can J Surg. Oct 2004; 47(5): 347-51. PMID 15540687*
31. *Kaufman CS, Bachman B, Littrup PJ, et al. Office-based ultrasound-guided cryoablation of breast fibroadenomas. Am J Surg. Nov 2002; 184(5): 394-400. PMID 12433600*
32. *Kaufman CS, Littrup PJ, Freman-Gibb LA, et al. Office-based cryoablation of breast fibroadenomas: 12-month followup. J Am Coll Surg. Jun 2004; 198(6): 914-23. PMID 15194073*
33. *Kaufman CS, Bachman B, Littrup PJ, et al. Cryoablation treatment of benign breast lesions with 12-month follow-up. Am J Surg. Oct 2004; 188(4): 340-8. PMID 15474424*
34. *Littrup PJ, Freeman-Gibb L, Andea A, et al. Cryotherapy for breast fibroadenomas. Radiology. Jan 2005; 234(1): 63-72. PMID 15550369*
35. *Kaufman CS, Littrup PJ, Freeman-Gibb LA, et al. Office-based cryoablation of breast fibroadenomas with long-term follow-up. Breast J. Sep-Oct 2005; 11(5): 344-50. PMID 16174156*
36. *Nurko J, Mabry CD, Whitworth P, et al. Interim results from the FibroAdenoma Cryoablation Treatment Registry. Am J Surg. Oct 2005; 190(4): 647-51; discussion 651-2. PMID 16164941*
37. *Tao Z, Tang Y, Li B, et al. Safety and effectiveness of cryosurgery on advanced pancreatic cancer: a systematic review. Pancreas. Jul 2012; 41(5): 809-11. PMID 22695092*
38. *Keane MG, Bramis K, Pereira SP, et al. Systematic review of novel ablative methods in locally advanced pancreatic cancer. World J Gastroenterol. Mar 07 2014; 20(9): 2267-78. PMID 24605026*
39. *Xue K, Liu X, Xu X, et al. Perioperative outcomes and long-term survival of cryosurgery on unresectable pancreatic cancer: a systematic review and meta-analysis. Int J Surg. Jul 01 2024; 110(7): 4356-4369. PMID 38537056*

40. *Li J, Chen X, Yang H, et al. Tumour cryoablation combined with palliative bypass surgery in the treatment of unresectable pancreatic cancer: a retrospective study of 142 patients. Postgrad Med J. Feb 2011; 87(1024): 89-95. PMID 21131612*
41. *Xu KC, Niu LZ, Hu YZ, et al. A pilot study on combination of cryosurgery and (125)iodine seed implantation for treatment of locally advanced pancreatic cancer. World J Gastroenterol. Mar 14 2008; 14(10): 1603-11. PMID 18330956*
42. *Kovach SJ, Hendrickson RJ, Cappadona CR, et al. Cryoablation of unresectable pancreatic cancer. Surgery. Apr 2002; 131(4): 463-4. PMID 11935137*
43. *Meller I, Weinbroum A, Bickels J, et al. Fifteen years of bone tumor cryosurgery: a single-center experience of 440 procedures and long-term follow-up. Eur J Surg Oncol. Aug 2008; 34(8): 921-927. PMID 18158228*
44. *Callstrom MR, Dupuy DE, Solomon SB, et al. Percutaneous image-guided cryoablation of painful metastases involving bone: multicenter trial. Cancer. Mar 01 2013; 119(5): 1033-41. PMID 23065947*
45. *Jennings JW, Prologo JD, Garnon J, et al. Cryoablation for Palliation of Painful Bone Metastases: The MOTION Multicenter Study. Radiol Imaging Cancer. Mar 2021; 3(2): e200101. PMID 33817650*
46. *Purysko AS, Nikolaidis P, Dogra VS, et al. ACR Appropriateness Criteria(R) Post-Treatment Follow-up and Active Surveillance of Clinically Localized Renal Cell Cancer. J Am Coll Radiol. Nov 2019; 16(11S): S399-S416. PMID 31685108*
47. *American College of Radiology (ACR). ACR Appropriateness Criteria: Post-treatment follow-up and active surveillance of clinically localized renal cell carcinoma. Updated 2021.*
48. *Campbell S, Uzzo RG, Allaf ME, et al. Renal Mass and Localized Renal Cancer: AUA Guideline. J Urol. Sep 2017; 198(3): 520-529. PMID 28479239*
49. *National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Kidney Cancer. Version 3.2025*
50. *National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Non-Small Cell Lung Cancer. Version 4.2025*
51. *National Comprehensive Cancer Network (NCCN). Adult Cancer Pain. Version 2. 2025*
52. *National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Bone Cancer. Version 2.2025*
53. *Kurup A, Calistrom M. Image-guided ablation of skeletal metastases. In: UpToDate Online Journal [serial online]. Waltham, MA: UpToDate; updated May 2025*

POLICY HISTORY

MP 1.088	**01/01/2020 Administrative Update.** Added new code 0581T.
	08/19/2020 Consensus Review. No change to policy statement; Coding reviewed with no changes; References reviewed and updated. Product Variation Statement updated.
	11/19/2021 Minor Review. Title changed to Cryoablation of Tumors Located in the Kidney, Lung, Breast, Pancreas, or Bone to match BCBSA's change. Removed "Other solid tumors or metastasis outside the liver and prostate"

	criteria from investigational section. Added statement that policy not applicable to pediatric population. FEP language updated. NCCN language added. Background, Rationale and References updated.
	11/10/2022 Consensus Review. No change to policy statement. Product variation language updated. Background and References updated**.**
	09/27/2023 Minor Review. Cryoablation for benign and malignant tumors of the bone changed from investigational to medically necessary with criteria. Policy Guidelines section added. Added ICD10 codes C40.00, C40.01, C40.02, C40.10, C40.11, C40.12, C40.20, C40.21, C40.22, C40.30, C40.31, C40.32, C40.80, C40.81, C40.82, C40.90, C40.91, C40.92, C41.0, C41.1, C41.2, C41.3, C41.4, C41.9, C76.3, C79.51,C79.52, D16.00, D16.01, D16.02, D16.10, D16.11, D16.12, D16.20, D16.21, D16.22, D16.30, D16.31, D16.32, D16.4, D16.5, D16.6, D16.7, D16.8, D16.9. Rationale updated. References added.
	09/19/2024 Consensus Review. No change to policy statement. Rationale updated. Reference added.
	01/24/2025 Administrative Update. Removed NCCN statement.
	06/10/2025 Administrative Update. Added New codes 0970T & 0971T
	06/12/2025 Administrative Update. Removed Benefit Variations Section and updated Disclaimer.
	08/13/2025 Consensus Review. No change to policy statement. Rationale and References updated.