



# CASE STUDY: LUNG CYROABLATION

## Cryoablation of Small Pulmonary Metastasis

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### PRESENTATION

- 67-year-old female
  - Previous treatment for renal cell carcinoma (RCC)
- First occurrence of lung metastasis – 1 cm lung metastasis in right upper lobe **A**
  - Tumor was PET positive



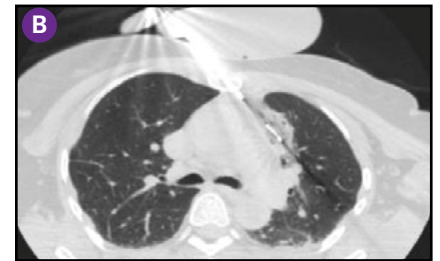
**Presentation:** CT (axial view) of right upper lobe shows 1 cm lung metastasis (arrow)

### TREATMENT PLAN

- Tumor board decided on thermal ablation

### TREATMENT

- A coaxial needle was used to achieve a trans-sternal access route parallelling the mediastinum
- A single IceSphere™ 1.5 needle was inserted into the target tumor under CT guidance
- Freeze and thaw cycles were completed per lung protocol (see below)
- The iceball was visible on CT as a 'ground glass' opacity covering the tumor with appropriate 'safety' margin beyond the tumor edge **B**

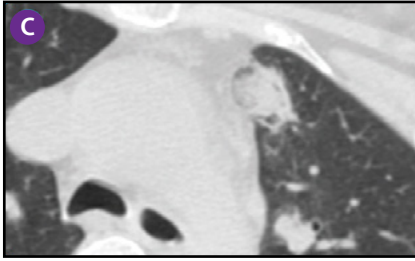


**Treatment:** CT obtained after completion of treatment shows a 'ground glass' opacity covering the tumor, including 'safety' margin area



# Cryoablation of Small Pulmonary Metastasis

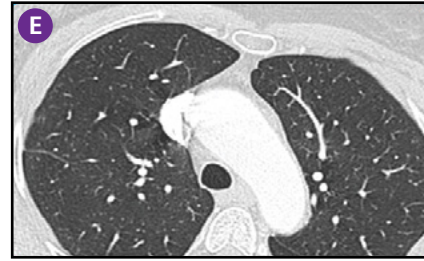
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**Outcome:** CT one month post treatment shows cryoablation zone with 'safety' margins. This image was used as reference image for follow-up



**Outcome:** CT four months post treatment shows major involution of the cryoablation zone (arrow)



**Outcome:** On the CT obtained nine months after treatment, the cryoablation zone is barely visible

## OUTCOME

- Comparison of CT scans one and four months after treatment show major involution of the cryoablation zone **C D**
- Nine months after treatment the cryoablation zone is barely visible on CT scan **E**

## CONCLUSION

- This case highlights the rapid scarring process of the ablation zone typically seen after cryoablation, rendering follow-up imaging easier than with other ablation techniques that demonstrate a slower resolution of the ablated tissue

**CRYOABLATION NEEDLES (IceSeed 1.5, IceSphere 1.5, IceSphere 1.5 CX, IceRod 1.5, IceRod 1.5 PLUS, IceRod 1.5 i-Thaw, IceRod 1.5 CX, IcePearl 2.1 CX and IceForce 2.1 CX) and ICEFX and VISUAL ICE CRYOABLATION SYSTEMS**

**INDICATIONS:** The Galil Medical Cryoablation Needles and Systems are intended for cryoablative destruction of tissue during surgical procedures. The Cryoablation Needles, used with a Galil Medical Cryoablation System, are indicated for use as a cryosurgical tool in the fields of general surgery, dermatology, neurology (including cryoanalgesia), thoracic surgery (with the exception of cardiac tissue), ENT, gynecology, oncology, proctology, and urology. Galil Medical Cryoablation Systems are designed to destroy tissue (including prostate and kidney tissue, liver metastases, tumors and skin lesions) by the application of extremely cold temperatures. A full list of specific indications can be found in the respective Galil Medical Cryoablation System User Manuals.

**CONTRAINDICATIONS:** There are no known contraindications specific to use of a Galil Medical Cryoablation Needle. **POTENTIAL ADVERSE EVENTS:** There are no known adverse events related to the specific use of the Cryoablation Needles. There are, however, potential adverse events associated with any surgical procedure. Potential adverse events which may be associated with the use of cryoablation may be organ specific or general and may include, but are not limited to abscess, adjacent organ injury, allergic/anaphylactoid reaction, angina/coronary ischemia, arrhythmia, atelectasis, bladder neck contracture, bladder spasms, bleeding/hemorrhage, creation of false urethral passage, creatinine elevation, cystitis, diarrhea, death, delayed/non healing, disseminated intravascular coagulation (DIC), deep vein thrombosis (DVT), ecchymosis, edema/swelling, ejaculatory dysfunction, erectile dysfunction (organic impotence), fever, fistula, genitourinary perforation, glomerular filtration rate elevation, hematoma, hematuria, hypertension, hypotension, hypothermia, idiosyncratic reaction, ileus, impotence, infection, injection site reaction, myocardial infarction, nausea, neuropathy, obstruction, organ failure, pain, pelvic pain, pelvic vein thrombosis, penile tingling/numbness, perirenal fluid collection, pleural effusion, pneumothorax, probe site paresthesia, prolonged chest tube drainage, prolonged intubation, pulmonary embolism, pulmonary insufficiency / failure, rectal pain, renal artery/renal vein injury, renal capsule fracture, renal failure, renal hemorrhage, renal infarct, renal obstruction, renal vein thrombosis, rectourethral fistula, scrotal edema, sepsis, skin burn/frostbite, stricture of the collection system or ureters, stroke, thrombosis/thrombus/embolism, transient ischemic attack, tumor seeding, UPJ obstruction/injury, urethral sloughing, urethral stricture, urinary fistula, urinary frequency/urgency, urinary incontinence, urinary leak, urinary renal leakage, urinary retention/oliguria, urinary tract infection, vagal reaction, voiding complication including irritative voiding symptoms, vomiting, wound complication, and wound infection. **PI-719210-AA**

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