



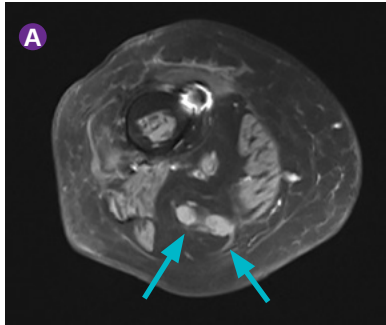
# CASE STUDY: PALLIATIVE PAIN MANAGEMENT

## Sciatic and Femoral Nerve Cryoablation

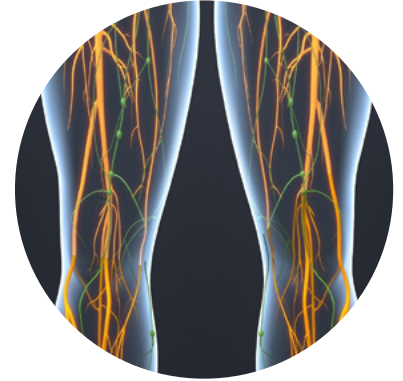
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### PRESENTATION OF PATIENT

- 83-year-old male
- Right lower extremity pain 20+ years after amputation

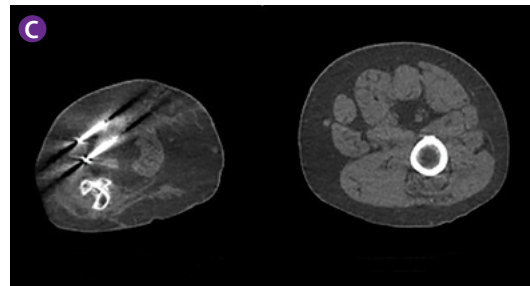
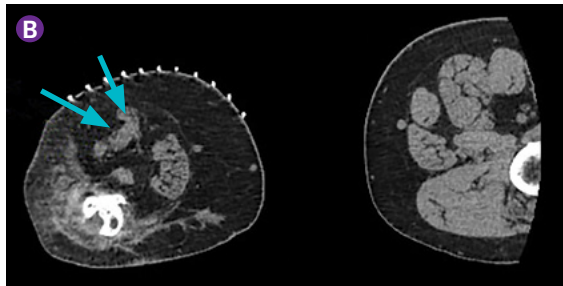


- Patient experienced residual limb pain (7-8/10 VAS) along the stump of his leg above the knee amputation. On MRI he had two neuromas that developed along the course of the distal sciatic nerve **A**
- Patient experienced daily pain both at rest and with movement, with difficulty transferring to and from his wheelchair due to pain. Patient treated with oral medications (gabapentin, tramadol, oxycodone)
- Referred by local VA pain management clinic for evaluation and treatment of the stump neuroma



### TREATMENT 1

- Two IceRod™ 1.5 CX Cryoablation Needles were used to bracket the neuromas. CT provided good visualization of the neuromas. **B** An initial freeze-thaw-freeze-thaw cycle was used with passive thawing **C**



### POST PROCEDURE

- The patient experienced minimal pain relief initially. Within 1-2 days the patient had worsening of the pain to 10/10 with no relief by medications. Pain was in both a femoral and sciatic nerve distribution
- The patient was seen in follow up clinic. Due to his residual limb pain, a sciatic and femoral nerve cryoneurolysis was planned with test nerve blocks to be performed first to attempt to predict the effectiveness of cryoneurolysis of the sciatic and femoral nerves

### TREATMENT 2

- Nerve blocks of the femoral and sciatic nerves were performed with lidocaine 2% without epinephrine and bupivacaine 0.25% (approximately 4 cc / 6 cc ratio, full volume instilled at each nerve). This resulted in immediate pain relief

### POST PROCEDURE

- Patient was seen in one week and reported having complete symptom relief for 3-4 days, but then 10/10 pain returned. Counseled to return for cryoablation

# PALLIATIVE PAIN MANAGEMENT | Sciatic and Femoral Nerve Cryoablation

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## TREATMENT 3

- One IceSphere™ 1.5 CX Cryoablation Needle was placed for the sciatic nerve and did not result in good pain relief after the freeze-thaw cycle was performed. The needle was repositioned more posteriorly, and a repeat freeze-thaw cycle was performed, which resulted in immediate relief **D**
- The key to this technique is giving patients deep sedation with propofol because freezing the nerve is extremely painful for some patients despite pre-freeze lidocaine injection. By using propofol, waking the patient up to evaluate immediate pain relief is possible
- In this case, the patient required another round of deep sedation to reposition the needle and do another freeze-thaw cycle. Upon reawakening, the patient had immediate and complete pain relief in the sciatic distribution of his pain
- Next, cryoneurolysis with one IceSphere™ 1.5 CX Cryoablation Needle was performed with the same freeze-thaw cycle. The patient reported immediate 0/10 pain relief and was discharged one hour later **E**



## POST PROCEDURE

- Patient was seen one week later. He had some mild residual pain (3/10); however, his quality of life was markedly improved. He felt this treatment was adequate to move on without further treatment and live his life comfortably. He was not on any pain medications at the time of follow-up
- The patient received counseling that his nerves will regenerate over time and if he experiences recurrent pain, he should return to the IR clinic for evaluation and possible repeat ablation

## CONCLUSION

- Cryoneurolysis can be a solution for recurrent limb pain

**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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