



COOLiEF  
Cooled Radiofrequency Treatment

IF IT'S VISIBLY PAINFUL,

**IT'S TIME FOR  
COOLIEF\* COOLED  
RADIOFREQUENCY**



# IF YOU LIVE WITH OSTEOARTHRITIS (OA), YOU ARE NOT ALONE

## HOW BAD IS YOUR PAIN?

30 million Americans have OA—the most common form of arthritis. It is sometimes called degenerative joint disease or “wear and tear” arthritis.<sup>1</sup>

OA can cause pain, stiffness, and swelling, and can result in disability. These changes usually develop slowly and get worse over time.

You may not be ready for surgery yet, and opioids can have risks and unwanted side effects.

**That's why minimally  
invasive, non-opioid  
COOLIEF<sup>®</sup> may bring  
nonsurgical relief to those  
suffering from OA knee pain  
without the use of opioids.<sup>2-5</sup>**

COOLIEF<sup>®</sup> can help relieve moderate to severe OA knee pain for up to 1 year.



Whether you've been living with OA knee pain for months or years, your treatment options may change. You may have started with conservative therapies (such as physical therapy or NSAIDs), but only found temporary relief. When your pain is severe enough that your physician begins talking about more serious treatments such as opioids, or invasive options like steroid injections or knee surgery, discuss with your physician if COOLIEF<sup>®</sup> might be right for you.

## COOLIEF® IS A MINIMALLY INVASIVE TREATMENT OPTION TARGETING NERVES THAT ARE CAUSING PAIN

COOLIEF® cooled radiofrequency can bring nonsurgical relief to those suffering from OA knee pain, without the use of opioids.<sup>2-5</sup> Radiofrequency ablation is becoming more popular in treating OA knee pain because this minimally invasive, non-narcotic procedure directly targets the nerves responsible for sending pain signals to the brain.

COOLIEF® is the first and only radiofrequency treatment cleared by the FDA, offering relief from moderate to severe OA knee pain for up to 1 year.

### HOW COOLIEF® WORKS

1

This RF energy creates a treatment area that safely deactivates the pain-causing sensory nerves, while leaving motor nerves intact to preserve function.<sup>6-9</sup>

2

The COOLIEF® radiofrequency generator transmits a small current of thermal energy through a water-cooled electrode placed within the knee's tissue. COOLIEF® is the only currently known thermal RF system using water-cooled technology to safely ablate difficult-to-reach nerves.

## WHY CURRENT OA KNEE PAIN MANAGEMENT OPTIONS MIGHT NOT WORK



### NOT READY FOR SURGERY?

Surgery can be beneficial in properly selected patients. However, due to BMI, age, other comorbidities, or invasiveness, surgery may not be an option for everyone.<sup>9-11</sup> In fact, many patients wait an average of 9 years before having surgery.<sup>12</sup>



### MEDICATION: TEMPORARY PAIN RELIEF WITH RISKS

Relief from OA knee pain has long relied on a daily regimen of prescription opioid medication and other over-the-counter pharmaceutical treatments, yet these don't effectively target nerves that cause pain, and may be associated with unwanted side effects.<sup>13</sup>

#### Possible opioid side effects



NAUSEA OR VOMITING



WORSENING PAIN & FUNCTIONALITY



POTENTIAL SLOWER RECOVERY



POTENTIAL ADDICTION OR DEPENDENCY

Opioid prescriptions are often given to patients as a first-line treatment for both acute and chronic pain, although long-term effectiveness has not been proven. In fact, several studies have shown that use of opioids for chronic pain may actually worsen pain and functionality.

## THE TOP 7 WAYS COOLIEF® CAN HELP WITH OA KNEE PAIN

## COMMON QUESTIONS ABOUT COOLIEF®



### 1. DRAMATIC PAIN REDUCTION

There was a 93% reduction of patients reporting severe OA knee pain 6 months after receiving COOLIEF.<sup>10</sup>



### 2. PAIN RELIEF FOR UP TO 12 MONTHS

In clinical studies, most patients receiving COOLIEF® reported that their OA knee pain was significantly reduced for at least 1 year.<sup>10</sup>



### 3. IMPROVED MOBILITY

COOLIEF® has been proven to significantly improve long-term physical function and quality of life.



### 4. QUICK RECOVERY TIME

Because the procedure is minimally invasive, most patients can expect to feel pain relief within 1-2 weeks, much sooner than with surgery.



### 5. NO OPIOID RECOVERY MEDICATION

There may be some discomfort for a short period, but this discomfort can be treated with common over-the-counter medication.



### 6. NO OVERNIGHT HOSPITAL STAY

Since this outpatient treatment requires no general anesthesia, you can return home shortly after treatment.



### 7. NO INCISION

Unlike surgery, COOLIEF® involves no incision.



### WHAT SHOULD I EXPECT AFTER THE COOLIEF® PROCEDURE?

A short procedure can help you return to normal activities within a week or 2. Follow your physician's discharge instructions after the COOLIEF® procedure.

Using ice packs at the procedure site and taking analgesic medication (medication that temporarily alleviates pain) can decrease your discomfort.<sup>14</sup>

**Consult your physician to understand the risks and potential contraindications for this procedure.**

Potential complications associated with the use of this device include but are not limited to: infection, nerve damage, increased pain, visceral injury, failure of technique, paralysis, and death.



### IS COOLIEF® COVERED BY MY INSURANCE AND/OR MEDICARE?

COOLIEF® may be covered by Medicare and by certain private payers. However, your doctor will need to confirm with your insurance provider if they cover the COOLIEF® procedure. For more information, visit [myCOOLIEF.com](http://myCOOLIEF.com).



## NEED MORE INFORMATION? HERE ARE SOME OTHER RESOURCES

Talk to your doctor today and start feeling relief from OA knee pain with COOLIEF!



**myCOOLIEF.com**

Our website offers comprehensive information about:

- OA knee pain and the benefits of COOLIEF®
- Success stories from other COOLIEF® patients
- Paying for COOLIEF®
- Locating a COOLIEF®-trained specialist near you

**References:** 1. Centers for Disease Control and Prevention. Osteoarthritis fact sheet. <https://www.cdc.gov/arthritis/basics/osteoarthritis.htm>. Accessed May 3, 2017. 2. Malik A, Simopolous T, Elkersh M, et al. Percutaneous radiofrequency lesioning of sensory branches of the obturator and femoral nerves for the treatment of non-operable hip pain. *Pain Physician*. 2003;6:499-502. 3. Kawaguchi M, Hashizume K, Iwata T, et al. Percutaneous radiofrequency lesioning of sensory branches of the obturator and femoral nerves for the treatment of hip joint pain. *Reg Anesth Pain Med*. 2001;26:576-581. 4. Stelzer W, Aiglesberger M, Stelzer D, Stelzer V. Use of radiofrequency lateral branch neotomy for the treatment of sacroiliac joint-mediated low back pain; a case series. *Pain Med*. 2013;14:29-35. 5. Rivera F, Mariconda C, Annaratone G. Percutaneous radiofrequency denervation in patients with contraindications for total hip arthroplasty. *Orthopedics*. 2012;35:e302-e305. 6. Pauza K. Cadaveric intervertebral disc temperature mapping during disc biacuplasty. *Pain Physician*. 2008;11:669-676. 7. Kapural L, Hicks D, Mekhail N, et al. Histological changes and temperature distribution studies of a novel bipolar radiofrequency heating system in degenerate and nondegenerate human cadaver lumbar discs. *Pain Med*. 2008;9:68-75. 8. Petersohn JD, Conquergood LR, Leung M. Acute histologic effects and thermal distribution profile of disc biacuplasty using a novel water-cooled bipolar electrode system in an in vivo porcine model. *Pain Med*. 2008;9:26-32. 9. Kapural L, Nageeb F, Kapural M, et al. Cooled radiofrequency (RF) system for the treatment of chronic pain from sacroiliitis: The first case-series. *Pain Pract*. 2008;8:348-354. 10. Choi WJ, Hwang SJ, Song JG, et al. Radiofrequency treatment relieves chronic knee osteoarthritis pain: A double-blind randomized controlled trial. *Pain*. 2011;152:481-487. 11. Ikeuchi M, Ushida T, Izumi M, Tani T. Percutaneous radiofrequency treatment for refractory anteromedial pain of osteoarthritic knees. *Pain Med*. 2011;12:546-551. 12. KS&R, Inc. Halyard-sponsored qualitative market research, OA Pain Landscape & Patient Journey. 2015. Data on file. 13. American Academy of Orthopaedic Surgeons. Information Statement 1045: Opioid Use, Misuse, and Abuse in Orthopaedic Practice. October 2015. 14. Bogduk N. *Practice guidelines for spinal diagnostic and treatment procedures*. 1st ed. San Francisco, CA: International Spine Intervention Society; 2004.



# IF IT'S VISIBLY PAINFUL, IT'S TIME FOR COOLIEF\* COOLED RADIOFREQUENCY



OA knee pain affects over  
30 million adults in the US<sup>1</sup>



You may not be ready for surgery yet, and opioids  
can have risks and unwanted side effects<sup>13</sup>



COOLIEF<sup>®</sup> can bring nonsurgical relief  
for up to 1 year to those suffering from  
OA knee pain without the use of opioids<sup>2-5,10</sup>

**TALK TO YOUR DOCTOR  
TODAY AND FIND OUT IF  
COOLIEF<sup>®</sup> IS RIGHT FOR YOU**

For more information,  
visit [myCOOLIEF.com](https://myCOOLIEF.com)