


# AVANOS

COOLIEF<sup>®</sup>  
Cooled Radiofrequency Treatment

## DISCOVER A NEW PAIN MANAGEMENT SOLUTION FOR OSTEOARTHRITIS KNEE PAIN

COOLIEF<sup>®</sup> Cooled Radiofrequency (RF) is the First and Only RF treatment cleared for relief from chronic osteoarthritis (OA) knee pain<sup>1</sup>

A photograph of a middle-aged male doctor with grey hair, wearing a white lab coat and a stethoscope, examining a patient's knee. The doctor is looking down at the knee with a focused expression. The patient's leg is visible in the foreground, and the doctor's hands are gently holding and palpating the knee joint. The background is a plain, light-colored wall.

*A minimally invasive, non-narcotic pain management procedure that targets the source of pain transmission.*

# WHY COOLIEF\* COOLED RADIOFREQUENCY?

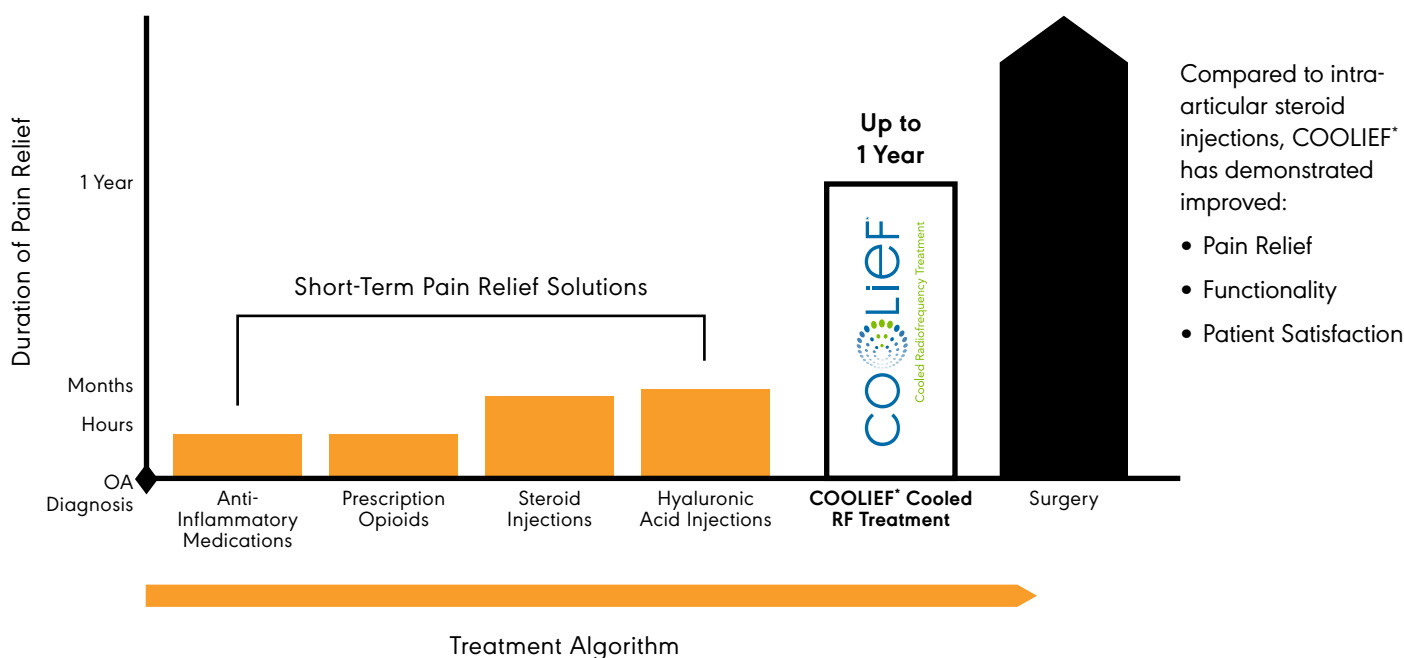


Patients with osteoarthritis (OA) typically **suffer from chronic pain for an extended period of time – up to 9 years<sup>2</sup>**



Total knee replacement isn't always an option for up to **60%** of patients with OA knee pain due to BMI, age, comorbidities, invasiveness, lack of support systems or other factors that can delay or even prevent surgery.

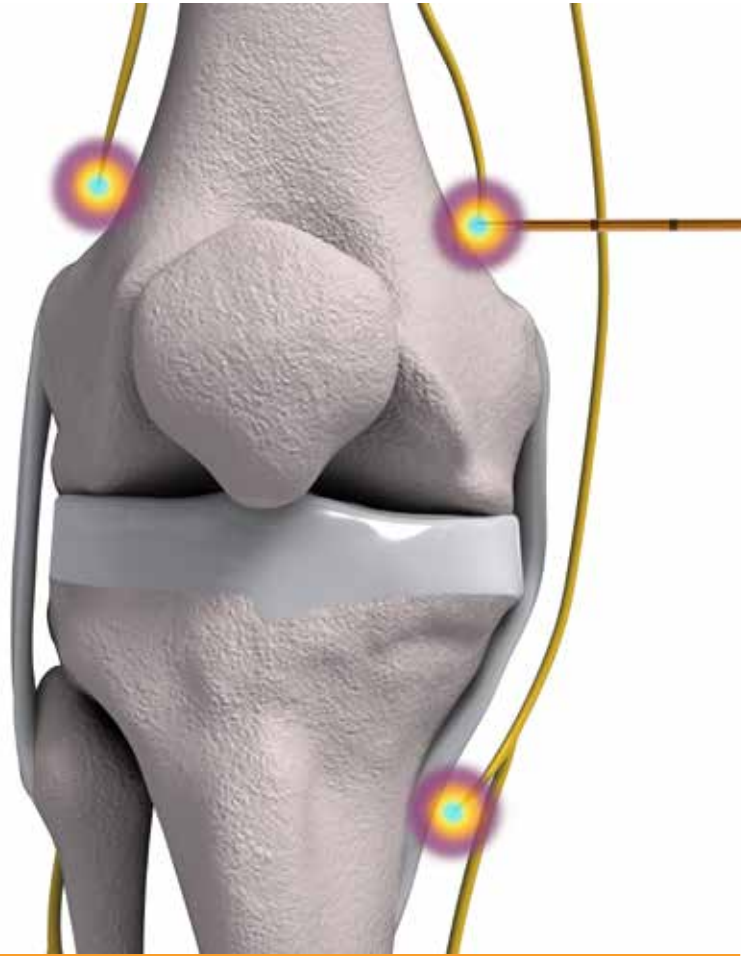
## A GAP IN TREATMENT OPTIONS CURRENTLY EXISTS BETWEEN SHORT-TERM PAIN RELIEF SOLUTIONS AND SURGERY



# COOLED RF TECHNOLOGY IS AN EVOLUTION IN RADIOFREQUENCY

It is a **minimally-invasive** treatment for safe and effective pain management<sup>3</sup>

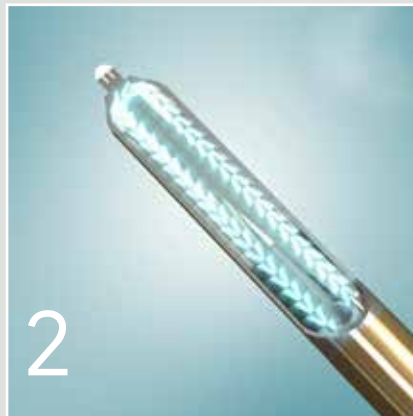
It is designed to **treat complex anatomy** through the creation of large volume, spherical lesions<sup>3,4</sup>



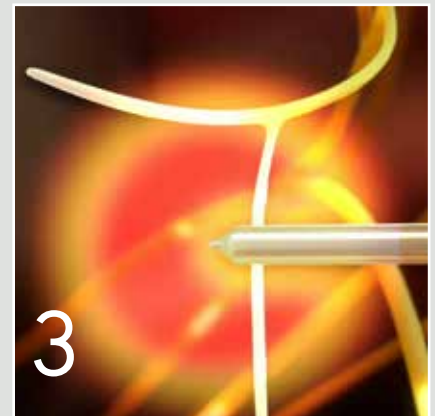
## HOW COOLIEF\* COOLED RF WORKS



1  
A radiofrequency generator transmits a small current of RF energy through an insulated electrode placed within the knee's tissue



2  
The electrode delivers water-cooled energy through RF electrodes

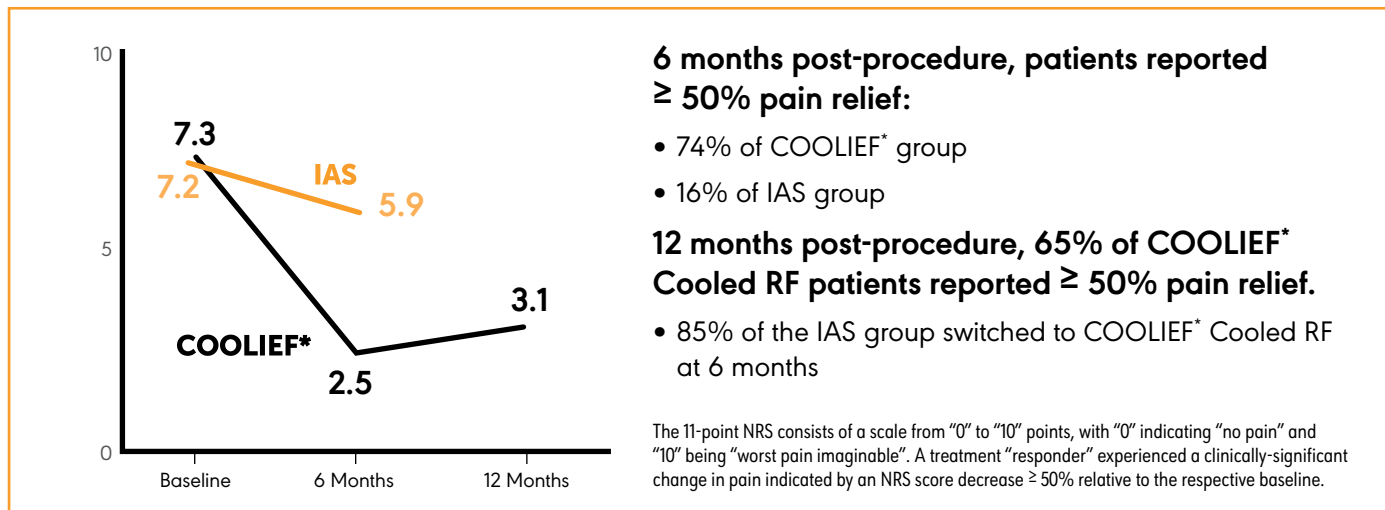


3  
This RF energy creates a targeted lesion that ablates and deactivates the sensory nerves responsible for sending pain signals to the brain, while leaving motor nerves intact to preserve function

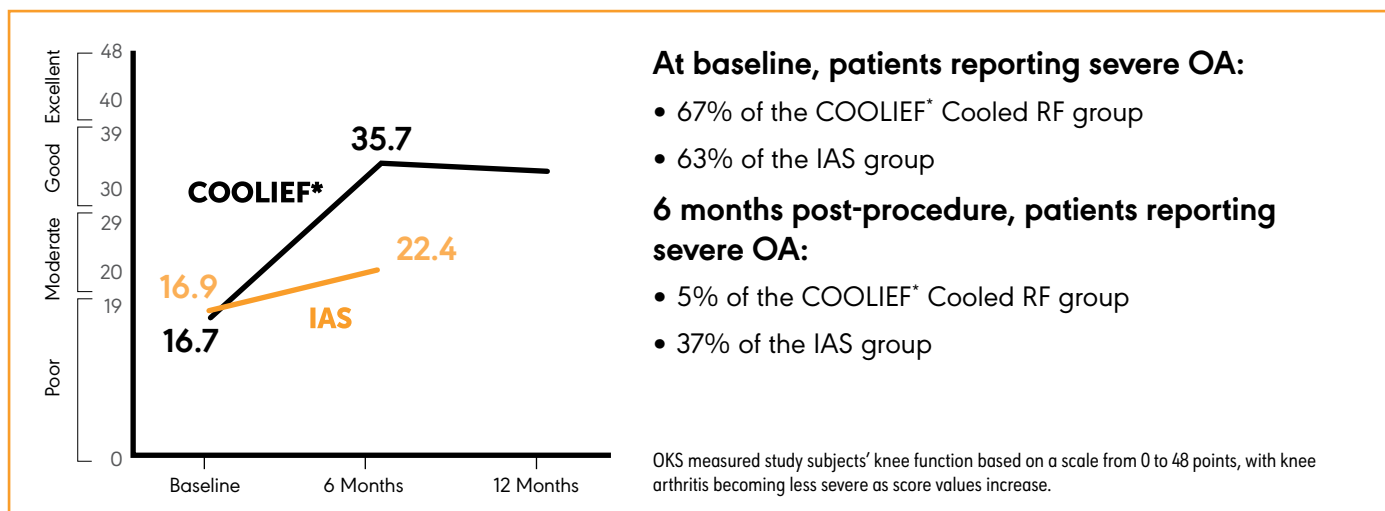
# INTRODUCING LONGER-LASTING RELIEF OF OSTEOARTHRITIS KNEE PAIN

**COOLIEF\* COOLED RADIOFREQUENCY: THE FIRST AND ONLY RADIOFREQUENCY TREATMENT FDA-CLEARED FOR THE RELIEF OF OSTEOARTHRITIS KNEE PAIN.**

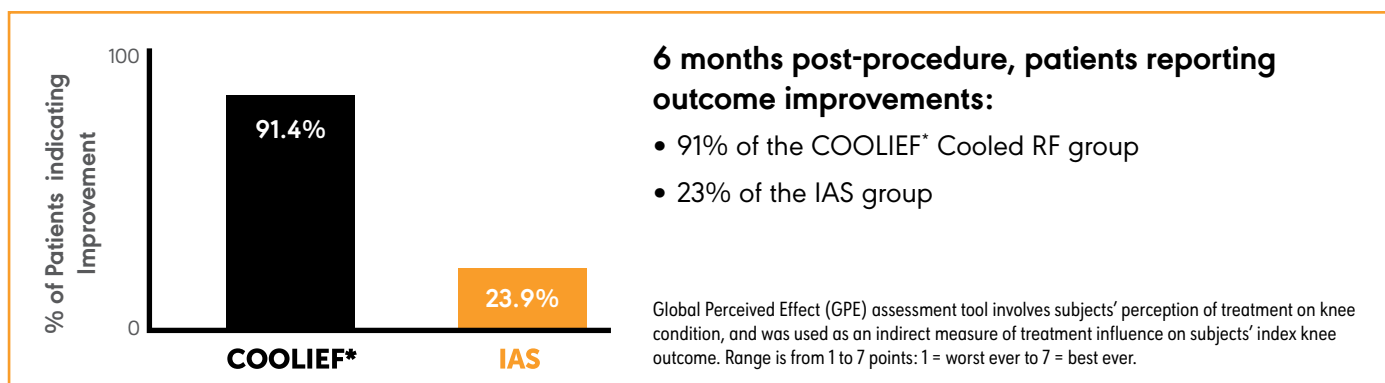
## NRS Pain Score<sup>1</sup>



## Oxford Knee Score<sup>1</sup>



## Global Perceived Effect Score<sup>1</sup>



COOLIEF\* was shown to be as safe as IAS. The number of adverse events (AE) in each group was similar (61 COOLIEF\*/65 IAS); most AEs were non-serious, mild-moderate in severity, and not related to study treatments. Pain related to the procedure itself was the most common AE reported (10 COOLIEF\*/3 IAS) and all falls reported were deemed unrelated to the procedures (2 COOLIEF\*/4 IAS).

# WHEN CHRONIC KNEE PAIN POSES A CHALLENGE FOR YOUR PATIENTS ONE TREATMENT OPTION STANDS OUT

## TKA OPTIMISATION PATIENTS



### Treatment Paradigm:

**Weight Loss/NSAID's - IA Steroid injection - HA - TKA**

Many patients choose not to have total knee replacement due to concerns about post-operative complications and recovery

## PAINFUL ARTHROPLASTY PATIENTS



### Treatment Paradigm:

**NSAID's/ Opioids - Rehab**

15% of total knee joint replacement patients SUFFER, and experience severe to extreme persistent pain three to four years post-operatively.

Safe, effective management of chronic post-operative pain in these patients can be challenging and often requires a multidisciplinary, multimodal approach.

Non-opioid solutions are necessary to combat post operative pain.



COOLIEF\* Cooled Radiofrequency Treatment is currently being studied to see if usage four to six weeks before surgery can help to improve post-operative pain control and reduce drug utilisation.

Please visit [ClinicalTrials.gov](https://clinicaltrials.gov) for additional information<sup>5,6</sup>

- Provide more effective pain control postoperatively (up to 12 months)
- Reduce analgesic drug utilisation in the immediate post-operative period
- Shorten hospital length of stay

# COOLIEF\* COOLED RF CAN ALLOW YOU TO TAKE CONTROL OF CHRONIC OA KNEE PAIN MANAGEMENT FOR YOUR PATIENTS<sup>1, 7</sup>

## BETTER PATIENT OUTCOMES



**Effective and long-lasting pain relief** for up to 12 months<sup>1,4</sup>

Facilitates return **to functional activities sooner** for improved quality of life<sup>8</sup>

## HIGHER PATIENT SATISFACTION



Cooled RF **can decrease chronic pain** and need for medication<sup>4,8</sup>

Delivers **a high degree of treatment satisfaction** in many patients with chronic knee pain<sup>4,8</sup>

## PROGRAM GROWTH



Reduced demand for appointments for patients who frequently return, **allowing new patients to be seen**<sup>7</sup>

Delivering effective and lasting therapy can **improve productivity**<sup>8</sup>

### References:

- 1 Avanos Medical Inc. sponsored study: A Prospective, Multi-Center, Randomized, Clinical Trial Evaluating the Safety and Effectiveness of Using COOLIEF™ Cooled Radiofrequency Probe to Create Lesions of the Genicular Nerves and Comparing Corticosteroid Injection in the Management of Knee Pain. Final results 03Apr2017. Study available upon request from Avanos.
- 2 Avanos sponsored study: Osteoarthritis Pain Landscape & Patient Journey. 2015. Data on file.
- 3 COOLIEF™ Instructions for use
- 4 Bellini M, Barbieri M. knee osteoarthritis pain: the first case-series. Anaesthesiology Intensive Therapy 2015;47(1):30-33. 12. COOLIEF™ Instructions for use.
- 5 Lyman Medical Research Foundation, Inc. Study: Genicular Radiofrequency Ablation for Unilateral Knee Arthroplasty Pain Management (RFA). Clinical Trials.gov Identifier: NCT02925442. Last Update Posted: Oct.16, 2017 <https://clinicaltrials.gov/ct2/show/NCT02925442?term=Cooled+Radiofrequency&cond=osteoarthritis+of+the+knee&rank=2>
- 6 Walega D, Study: Does Radiofrequency Ablation of the Articular Nerves of the Knee Prior to Total Knee Replacement Improve Pain Outcomes. ClinicalTrials.gov Identifier:NCT02746874. Last Update Posted: Jun 20, 2017. <https://clinicaltrials.gov/ct2/show/NCT02746874?term=Cooled+radiofrequency&draw=2&rank=11>.
- 7 Avanos sponsored study: Osteoarthritis Pain Landscape & Patient Journey. 2015. Data on file.
- 8 Menzies RD, Hawkins JK. Analgesia and Improved Performance in a Patient Treated by Cooled Radiofrequency for Pain and Dysfunction Postbilateral Total Knee Replacement. Pain Practice 2015Jul;15(6):E54-8.
- 9 Institute of Medicine of the National Academies. Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. The National Academies Press. 2011.

# AVANOS

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