

Pain Diagnostics and
Interventional Care

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In this issue we discuss
osteoarthritis of the knee
and various forms of
treatment.



Dr. Provenzano (far right)
presented at the Georgia
Society of Interventional Pain
Physicians Annual Pain
Summit.

Mission Statement

To professionally and
passionately provide
evidence-based medical
care for patients with
various pain states and to
advance the science of
pain medicine through
research and education.

Vision Statement

To be recognized and
celebrated as the gold
standard for pain medicine
in the greater Pittsburgh
region.



Pain Diagnostics
& Interventional Care

Osteoarthritis of the Knee

What is osteoarthritis?

Osteoarthritis is a non-inflammatory degenerative joint disease. It is the most common joint disorder in the United States affecting over 30 million Americans.¹ Normally, cartilage covers the end of each bone, providing a smooth surface for motion between bones as well as a cushion. Unfortunately, the cartilage breaks down in people who suffer from osteoarthritis, resulting in symptoms such as swelling, pain, stiffness, and decreased range of motion.

Osteoarthritis is the most common type of arthritis in the knee. The prevalence of symptomatic knee osteoarthritis in patients aged 45 and older has been estimated between: 5.9 and 13.5 percent in men and 7.2 and 18.7 percent in women.¹ People who overuse their joints, including athletes, military members, and people with physically demanding jobs may be more susceptible to developing osteoarthritis as they age. There is currently no known cure for

osteoarthritis. Knee osteoarthritis is often accompanied by comorbidities such as obesity (90%), hypertension (40%), depression (30%), and diabetes (15%).¹ As the world's population continues to age, it is estimated that degeneration joint disease disorders such as osteoarthritis will impact at least 130 million individuals around the globe by the year 2050.¹



Healthy knee



Knee with OA



Medial joint line
narrowing.

"Bone on bone"

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References:

1. Arthritis Foundation. Arthritis By the Numbers / Book of Trusted Facts & Figures. 2018. Arthritis.org.
2. Davis T, Loudermilk E, DePalma M, et al. Prospective, Multicenter, Randomized, Crossover Clinical Trial Comparing the Safety and Effectiveness of Cooled Radiofrequency Ablation With Corticosteroid Injection in the Management of Knee Pain From Osteoarthritis. *Reg Anesth Pain Med.* 2018;43(1):84-91.

*Pain Diagnostics and Interventional Care is dedicated to providing the highest quality care to all patients through evidence-based medicine. To learn more, please visit our website at **DavidProvenzanoMD.com** or call our office at **412-221-7640.***

Treatment Options

Knee OA causes a significant burden in terms of pain, stiffness and disability most severe cases. Initial treatments include activity modifications and limited courses of non-opioid medications to ensure pain reduction and inflammation control.

Nonpharmacological management includes physical therapy, exercise and self-management (e.g. weight loss) interventions. Infrequent corticosteroid and visco-supplementation

injections may be considered for short to medium term relief.

Joint replacement surgery may be considered in individuals who are refractory to conservative treatment. Although joint replacement surgery is associated with a high level of clinical success, approximately 20% of patients experience chronic pain after surgery.¹

Recent anatomical studies have revealed that genicular nerve radiofrequency ablation has produced favorable outcomes for patients with osteoarthritis of the knee.²

Genicular Nerve Radiofrequency Ablation

Genicular nerve radiofrequency ablation is an effective, minimally invasive management strategy for knee osteoarthritis. This innovative treatment can help individuals prior to joint replacement surgery and may be considered for individuals not candidates for joint replacement surgery based on age and health status.

A diagnostic test is conducted before ablation occurs. During this test, the genicular nerves are targeted with a local anesthetic to numb the nerves. These nerves supply pain sensations to the knee. If the patient receives significant pain relief from the diagnostic test, then it suggests the patient is a candidate for genicular nerve

radiofrequency ablation. During genicular nerve radiofrequency treatment procedure, the nerves are heated with a radiofrequency probe to disrupt the transmission and sensation of knee pain.

High-level research has shown that the effects of genicular nerve radiofrequency ablation are clinically significant and provide lasting pain relief and improvement in function for as long as a year.² In addition, genicular nerve radiofrequency ablation does not jeopardize the ability to perform a joint replacement surgery in the future if needed.



Interested in Clinical Research?

Pain Diagnostics and Interventional Care's Clinical Research Department is driven to further the science of Pain Medicine to bring our patient the most up to date and effective treatment options. We are currently enrolling patients for a study which encompasses genicular nerve radiofrequency ablation. If you are interested in enrolling in the study let us know!