

Study finds freezing nerves prior to knee replacement improves outcomes

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The first study of its kind has found that freezing nerves before knee replacement surgery combined with traditional pain management approaches significantly improves patient outcomes. The results of the preliminary retrospective study led by Vinod Dasa, MD, Associate Professor of Clinical Orthopaedics at LSU Health New Orleans School of Medicine, were published online Feb. 10, 2016, in the journal, *The Knee*, as an Article in Press available at www.thekneejournal.com/article/S0968-0160%2816%2900012-0/fulltext.

The study, a retrospective chart review, investigated the cases of 100 [patients](#) with advanced osteoarthritis requiring [total knee replacement](#) in Dr. Dasa's LSU Health New Orleans orthopaedic practice. Half of them were treated with standard multiple pain management options, before cryoneurolysis (nerve freezing) was introduced to the practice. The first 50 patients to undergo cryoneurolysis in addition to multimodal [pain management](#) comprised the treatment group, which was compared to the control group who had standard therapy alone. The treatment and control groups were similar in terms of gender, age and body mass index. The only difference is that the treatment group received cryoneurolysis via an FDA-approved handheld device five days prior to surgery. The KOOS (Knee Injury and Osteoarthritis Outcome Score), PROMS (Patient-reported Outcomes Measurement Information System), WOMAC (Western Ontario and McMaster Universities Arthritis Index) and Oxford Knee Score were used to measure outcomes.

"Patients in the treatment group had significantly shorter hospital stays, were prescribed significantly fewer opioids during the first 12 weeks post-operatively and had significantly fewer [knee](#) symptoms," notes Dr. Vinod Dasa, Associate Professor of Clinical Orthopaedics at LSU Health New Orleans School of Medicine.

The ability to decrease hospital length of stay following total [knee replacement](#) should substantially reduce costs for hospitals and payers. In the present study, only 6% of patients treated with cryoneurolysis prior to surgery stayed in the hospital for two or more days compared to 67% of patients who did not receive this treatment. Similarly, almost half of patients treated with cryoneurolysis were discharged on the same day of surgery compared with only 14% in the control group. The shorter length of stay of the patients in the treatment group may be due to better local control of pain and a reduced need for nerve blocks that can impair motor function, as well as reduced use of opioids for pain control, which allows patients to walk and function well enough to go home sooner.

Approximately 600,000 knee replacements are performed each year, and this number is expected to increase in coming years. Although knee replacements usually are very successful in the long term, patients often experience a significant amount of pain during the immediate post-operative period, which can be a major hindrance to effective rehabilitation and restoration of function following surgery.

More information: Vinod Dasa et al. Percutaneous freezing of sensory nerves prior to total knee arthroplasty, *The Knee* (2016). [DOI: 10.1016/j.knee.2016.01.011](https://doi.org/10.1016/j.knee.2016.01.011)

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