



## NEURO RESOURCE GROUP

**Abstract submitted to the International Association for the Study of Pain,  
13<sup>th</sup> World Congress on Pain, 2010  
Poster Presentation**

### **INTERACTIVE NEUROSTIMULATION (INTERX) AS AN ADJUNCT FOR PAIN CONTROL IN PATIENTS FOLLOWING TOTAL KNEE REPLACEMENT: A PILOT STUDY**

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Pain is usually the main presenting osteoarthritic problem for which patients seek relief. Primary elective Total Knee Replacement (TKR) is most commonly performed for knee joint failure caused by osteoarthritis and rheumatoid type of arthritis. TKR is a painful procedure that has seen the postoperative implementation of a number of strategies to advance patient comfort and early mobilization.

There are many ways to control post-operative pain, however existing pain relief measures have limitations due to associated side effects and often require additional treatment for them. Adequate pain relief is believed to be a very important issue in which there are very few options available that can provide a treatment that is non-invasive and without side effects. TENS is used for the reduction of pain to aid in the recovery from injury, trauma and chronic conditions. However, clinical trials have shown limited efficacy for the treatment of post-surgical pain using TENS and in most cases TENS presents risks for treatment over metal implants. Recently a more powerful form of electrical stimulation, called Interactive Neurostimulation (InterX®) has demonstrated significant pain relief in patients following hip surgery and ankle fractures. The InterX® is clinically proven to be consistently effective at getting patients back into active rehabilitation sooner, with less pain and more range of motion.

The goal of the study was to objectively evaluate the effectiveness of the InterX® to compliment a standard care in acute post-operative pain management using pain severity (VAS), knee flexion range of motion, usage of pain medication and impact on side effects from pain medication. 60 Patients were randomly enrolled into two groups; standard of care alone or standard of care plus InterX®. Eligible patients age between 40 to 85 years old were included in the study. Patients in the active group were treated with 20 minutes of InterX®, three times per day as an adjunct to their standard care.

Results: There was a significant reduction in pain and reduced requirement for patient-controlled analgesia when InterX® was delivered 3 times per day. This was especially noted when patients presented with significant levels of pain(VAS > 6) immediately following surgery. We conclude that there is utility for this new technology in the postoperative management of pain after knee replacement and this device warrants further investigation.