NEURO RESOURCE GROUP

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

# NON-INVASIVE INTERACTIVE NEUROSTIMULATION (INTERX®) AS AN ADJUNCT FOR PAIN CONTROL IN PATIENTS FOLLOWING TOTAL HIP REPLACEMENT: A RANDOMIZED, PLACEBO CONTROLLED TRIAL

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Post-operative pain is associated with increased hospital length of stay, delayed ambulation, and long-term functional impairment. Whereas appropriate caution is warranted in administering opioid analgesics to older adults, it has been demonstrated that improved pain control may decrease length of stay, enhance functional recovery, and improve long-term functional outcomes. Thus, the need for non-opioid pain control is apparent.

Transcutaneous electrical nerve stimulation (TENS) has been used to treat chronic pain syndromes but clinical trials have demonstrated limited effectiveness in the treatment of postsurgical pain. Recently a more powerful form of electrical stimulation, called Non-invasive Interactive Neurostimulation (InterX®) has demonstrated significant pain relief in patients following hip surgery and ankle fractures. A randomized, placebo controlled, blinded trial was designed to evaluate the utility of InterX after total hip arthroplasty.

37 patients needing primary hip replacements were recruited for this study. The patients were randomly allocated into active InterX® and placebo InterX® groups. The placebo group received treatment using a sham device which did not provide active electrical stimulation. The active group received two InterX® treatments per day (lasting 20 minutes each), once they were admitted to the rehabilitation center which was 72 - 96hrs following surgery. The study was designed to measure the impact on rehabilitation outcomes such as pain, pain medication intake and the number days to discharge. It can be expected that if a pain relief adjunct is used and is successful, the patients would experience reduced medication needs or reduced pain scores and possibly both. Medication was measured on a morphine equivalence scale.

Results: The effects varied slightly between male and female patients. Males took more medication than females in both the active and the sham groups. However, there was a reduction of medication in the active groups compared to sham. While still maintaining a low pain score comparable with sham patients taking more medication, male patients in the active group reduced their medication intake by 34% and female patients reduced their medication intake by 16%. Patients in the active group were discharged on average 1.2 days earlier than the sham group. We conclude that this technology warrants further investigation and there is use for InterX® in the management of pain after total hip arthroplasty. The financial implications of reduced rehabilitation time are of significant value as healthcare costs come under greater scrutiny and pressures.