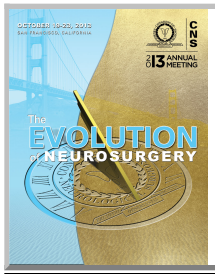

Revision of Non-Functioning Percutaneous Spinal Cord Stimulators Can Be Safely Performed with Mini-Open Placement of Laminectomy Paddle Lead Stimulators Secured with Bone Cement

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Learning Objectives

By the end of this session, participants should be able to appreciate the causes and management options of non-functioning percutaneous spinal cord stimulator leads.

Introduction

Spinal cord stimulation is a commonly used modality for treatment of medically and surgically refractory low-back and lower extremity pain. Percutaneous or laminectomy paddle leads can be placed. Percutaneous lead placement has a higher rate of lead migration requiring revision. Replacing percutaneous leads with new percutaneous leads can be difficult due to the presence of scar tissue. Our study evaluated the feasibility, efficacy, and complications associated with revising non-functioning percutaneous spinal cord stimulator (SCS) leads with mini-open laminectomy lead placement.

Methods

All patients who underwent revision of non-functioning percutaneous SCS leads with laminectomy lead placement from January, 2009 -September 2012 were included in the study. A prospectively kept database was retrospectively analyzed. Operative summaries, intra-operative and post-operative radiographs, and clinical pain outcomes were reviewed.

All percutaneous lead systems were replaced with laminectomy paddle leads placed using a mini-open laminectomy. Conscious sedation and epidural anesthesia were used in all patients to allow intraoperative testing to be performed. Once satisfied with intraoperative pain coverage, the paddle lead was secured using silk suture and bone cement. All cases were reviewed post-operatively for pain control, paddle lead migration, and complications