

tients had 81 instances of neuromodulation unit insertion. All patients received the TYRX antibiotic envelope. There were no incidences of infection involving antibiotic envelope-containing implants over an average follow-up period of 11 months. In 77 consecutive cases of neuromodulation unit implantation prior to usage of the antibiotic pouch, there were 4 instances of infection (5.2%). *Conclusions:* Our single center experience demonstrates a significant drop in the rate of infections with the use of an antibiotic envelope for neuromodulation unit implantation. We consider the routine use of the envelope to be a cost-effective method of infection avoidance.

## P.085

### Spinal cord stimulator for chronic pain syndromes: a national awareness survey

AA Al Jishi (Hamilton)\* H Suresh (Hamilton)\* F Farrokhlyar (Hamilton)

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*Background:* The expansion of neuromodulation intervention for complex pain syndromes has been significant in the last few decades. Considering the increased load of patients, we thought about evaluating the level of awareness among different medical experts to help assessing their familiarity with spinal cord stimulator (SCS). *Methods:* Survey has been sent to general practitioners, family physicians, pain specialists and spine surgeons. The main outlets of the survey aims to assess the followings:

1. The main source of their knowledge about SC
2. Familiarity with candidates who may benefit from SC
3. Introducing the concept of SC to their patients as an adjunctive treatment
4. Frequency of patients' referral for SC
5. Main reason for referring their patients
6. Familiarity with centres providing SCS

*Results:* EResults will be provided upon analysing the data from the collected surveys. *Conclusions:* The expansion in neuromodulation is expected to help patients with intractable pain syndromes. Hence, the survey would potentially help to explore the deficiencies in health workers awareness about SCS and outline future directions toward proper patients counseling and optimising their referral to neuromodulation centres.

## SPINE AND PERIPHERAL NERVE SURGERY

## P.086

### Endoscopic assisted ulnar nerve decompression: a technical note

MB Alotaibi (Ancaster)\* B Yarascavitch (Hamilton) K Reddy (Hamilton)

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*Background:* Cubital tunnel syndrome is the second most frequent upper extremity entrapment neuropathy. Various surgical approaches have been described in the literature for Ulnar nerve decompression, ranging from open In-situ decompression to endoscopic Ulnar nerve release. In this technical note we describe a new endoscopic approach

for Ulnar nerve decompression. *Methods:* Four cadavers, a total of eight fresh arms were dissected using our new endoscopic technique. The technique involves a 2.5cm skin incision placed 2.5cm distal to the medial epicondyle, and perpendicular to the long nerve axis. Early identification of motor branches was achieved using this skin incision. Under endoscopic view using 30 degree rigid scope Ulnar nerves were decompressed. *Results:* Early identification of motor branches was achieved using distally placed skin incision in all eight arms. *Conclusions:* The safety of identifying Ulnar nerve motor branches in the early steps of the procedure, and the avoidance of scar formation over the elbow joint are the proposed advantages of this approach. More clinical studies needed to validate this outcome.

## P.087

### Association of pre-operative hyponatremia with morbidity and mortality in patients undergoing elective degenerative spine surgery

R Bokhari (Montreal)\* N Al-Garni (Montreal) A Nooh (Montreal) Y Marwan (Montreal) C Santaguida (Montreal) D Sciubba (Baltimore) M Weber (Montreal)

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*Background:* Hyponatremia has been found to be associated with increased complications in a variety of surgical populations. No study looked specifically at patients undergoing spine surgery. We also specifically address whether it has an effect on the typical low-risk patient admitted for degenerative spine disease, a population that forms the major bulk of clinical practice. *Methods:* Data was obtained from the American college of surgeons National Surgical Quality Improvement Program (ACS-NSQIP). All patients who underwent elective spinal surgery for degenerative disease from 2011 to 2013 were included. The two arms (normonatremic and hyponatremic) were then compared. *Results:* A total of 58049 patients were included, 3037 were hyponatremic. Hyponatremic patients were older and had more comorbidities. They also developed more minor and major complications. When all comorbidities were controlled for, hyponatremia was only associated with increased minor but not major complications. These patients were more likely to require a blood transfusion (OR=1.23, CI 1.10-1.43) and a prolonged hospital stay (OR=1.52, CI 1.33-1.75). *Conclusions:* This study finds an association between hyponatremia and postoperative adverse events in a low risk population that forms the major bulk of clinical practice. This addresses a potential target for quality improvement strategies with significant cost saving implications.

## P.088

### Spinal computer-assisted intra-operative three-dimensional navigation in Canada: a population-based time trend study

D Guha (Toronto)\* A Moghaddamjou (Toronto)\* NM Alotaibi (Toronto) A Yee (Toronto) VX Yang (Toronto)

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*Background:* Spinal computer-assisted navigation (CAN) is proven to increase instrumentation accuracy. Adoption remains limited by workflow restrictions, learning curves and costs. Here, we assess spinal CAN usage among Ontario surgeons to identify gaps