

# The Need for Clinical Practice Guidelines in Assessing and Managing Perioperative Neurologic Deficit:

# Results from a Survey of the AOSpine International Community

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## Introduction

To date, there is no standardized approach to assess and manage perioperative neurologic deficits (PND) in patients undergoing spinal surgery. This survey aimed to:

- Evaluate the awareness and usage of clinical practice guidelines (CPGs) and investigate how spine surgeons
- Feel about and manage PND
- Perceive the value of developing a CPG in the management of PND and their likelihood of using this CPG in their clinical practice

## **Methods**

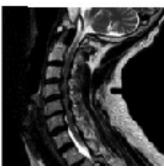
An invitation to participate to an online survey was sent to the AOSpine International community via email. Surgeons performing spine surgery were presented with two clinical scenarios describing PND. Results from the entire sample and differences between respondents were analyzed.

# Results

Of 770 respondents, 659 (85.6%) reported being aware of the existence of guideline(s), and among those, 578 (87.7%) acknowledged using guideline(s).

Among 485 staff surgeons with >50% of their practice dedicated to spine surgery (67.4% have completed a spine fellowship and 84.6% have >5 years of practice)

#### Clinical scenarios presented in the survey



Case #1

Immediately after an uneventful multilevel posterior cervical decompression with instrumented fusion (lateral mass fixation) for degenerative cervical myelopathy, once the patient is extubated and awake, you realize he is unable to move his arms and legs. A thorough neurological exam revealed that the patient is ASIA grade A.



Case #2

During a thoracic posterior instrumented fusion for the correction of a post-traumatic kyphosis, the intraoperative neuromonitoring suddenly shows a complete loss of lower extremities somatosensory evoked potentials (SSEPs) and motor evoked potentials (MEPs), with maintenance of upper extremities SSEPs and MEPs. The insertion of the pedicle screws T4 to T10 was uneventful and the deformity was corrected by closing a T7 pedicle subtraction osteotomy (PSO) a few minutes ago.

## Case 1

58.8% of surgeons reported not feeling comfortable managing a patient who wakes up quadriplegic after an uneventful multilevel posterior cervical decompression with instrumented fusion; 22.9% would consider an immediate return to the operating room while the remaining 77.1% would first obtain a MRI (85.9%), give high-dose steroids (50.2%) or increase the mean arterial pressure (44.7%).

## Case 2

61.2% of surgeons reported not feeling comfortable managing a patient who had a complete loss of lower extremities SSEPs and MEPs just after closing a PSO; 62.7% considered the release of the correction as the most important intervention to maximize recovery of this potential PND

Among these staff surgeons, 90.6% believed that a CPG in the management of PND would be useful and 94.4% would be either likely or extremely likely to use this CPG in their clinical practice.

## **Conclusions**

The majority of respondents are aware and routinely use CPGs in their practice. Most surgeons performing spine surgeries reported not feeling comfortable managing PND. However, they highly value the creation and are likely to use CPGs in its