

A Clinical Practice Guideline for the Management of Patients with Acute Spinal Cord Injury and Central Cord Syndrome: Recommendations on the Timing (24 hours versus >24 hours) of Decompressive Surgery

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Introduction

Preclinical evidence suggests that persistent compression of the spinal cord after a primary injury represents a reversible form of secondary injury which, if ameliorated in an expeditious fashion, may lead to reduced neural tissue injury and improved outcomes. This guideline aims to discuss the timing of surgical decompression in patients with traumatic spinal cord injury (SCI) and central cord syndrome.

Methods

A systematic review of the literature was conducted to address the following key questions: (1) what is the efficacy and effectiveness of early decompression (= 24 hours) compared with late decompression (>24 hours) or conservative therapy based on clinically important change in neurological status?; (2) does timing of decompression influence functional or administrative outcomes?; (3) what is the safety profile of early decompression compared with late decompression or conservative therapy?; (4) what is the evidence that early decompression has differential efficacy or safety in subpopulations?; and (5) what is the comparative cost-effectiveness of early versus late decompression? A multidisciplinary guideline development group used this information, in combination with clinical expertise, to develop recommendations for the timing of surgical decompression in patients with SCI and central cord syndrome. The benefits and harms, financial impact, acceptability, feasibility and patient preferences of each recommendation were carefully considered.

Results

Our recommendations were: “We suggest that early surgery be considered as a treatment option in adult patients with traumatic central cord syndrome” and “We suggest that early surgery be offered as an option for adult acute SCI patients regardless of level.” Quality of evidence for both recommendations was considered low.

Conclusions

These guidelines should be implemented into clinical practice to improve outcomes and reduce morbidity in patients with acute SCI and central cord syndrome by promoting standardization of care, decreasing the heterogeneity of management strategies and encouraging clinicians to make evidence-informed decisions.

Learning Objectives

This guideline aims to discuss the timing of surgical decompression in patients with traumatic spinal cord injury (SCI) and central cord syndrome.

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