

# Incidence & Recovery of Sexual Dysfunction in Cauda Equina Syndrome following Surgical Decompression: A Systematic Review

Hesham Tanbour BSME<sup>1</sup>, Sathish Muthu MD<sup>2</sup>, Vibhu K. Viswanathan MS, MD<sup>1</sup>, Sakthivel Rajan Rajaram Manoharan MD<sup>1</sup>

<sup>1</sup>Department of Orthopaedic Surgery, University of Alabama at Birmingham, Birmingham, AL, USA

<sup>2</sup>Department of Spine Surgery, Orthopedic Research Group, Cominbatore, India

Email of Presenting Author: [htanbo2@uic.edu](mailto:htanbo2@uic.edu)

**Disclosures:** All the authors do not have financial disclosures or conflicts of interest, except for Sakthivel Rajaram discloses that he has previously received grant funding from K2M and AOSpine North America, and previously received consulting fees from Cerapedics.

**INTRODUCTION:** At least 40% of individuals with cauda equina syndrome (CES) are reported to experience sexual dysfunction (SD); which may be diversely attributed to a combination of physical, psychological and social impacts of the condition. Unfortunately, it is well-recognized that the issue of SD is globally under-reported. The current systematic review was conducted to comprehensively evaluate the incidence and pathophysiology of sexual dysfunction; and outcome following surgical decompression in patients with CES.

**METHODS:** A thorough search of the literature was performed on October 15, 2024, using 5 different databases (Google Scholar, Embase, PubMed, Web of Science and Cochrane Library). Studies on sexual dysfunction in CES published until 2024 were scrutinized. Narrative or systematic reviews, opinions, letters to the editor, and manuscripts published in non-English languages were excluded.

**RESULTS SECTION:** Overall, the literature search yielded a total of 354 articles of which 18 articles with 808 patients were included in the analysis. Overall, studies reported on different domains of male (erectile function, orgasm, sexual desire, and intercourse or overall satisfaction) and female (orgasmic function, dyspareunia and sensation during sexual intercourse). The overall prevalence of sexual dysfunction in CES was found to be 77% (95% CI: 75%-79%). The erectile function was reported to improve substantially following decompressive surgery, with a mean recovery rate of 67%. The erectile dysfunction was also reported to progressively improve following the passage of time since decompressive surgery, with reported recovery rates of 46%, 71.5% and 84.6% at six weeks, one year and 10 years' postoperative time points, respectively. Most of the studies highlighted on the relative scarcity of data on sexual dysfunction (SD), especially in female population.

**DISCUSSION:** It has been well-established that in the context of acute spinal emergencies, the issue of sexual dysfunction is only sparingly discussed with the patients. In our meta-analysis, SD was reported in 456 (among 744 patients in 15 studies) patients. We observed a wide variation in the reporting of SD (ranging between 16 and 98%) across the reviewed studies, with a pooled mean incidence of 77%. Regarding decompression and recovery, in this study, the presence of chronic low back pain was associated with poor recovery of urinary and rectal function; while an initial presentation with rectal incontinence was associated with a compromised recovery of urinary function. Based on our meta-analysis, ED progressively improved with the passage of time since the decompressive surgery (46% at 6 weeks, 71.5% at one year; and 84.6% at 10 years). The pooled mean recovery rate for SD after CES from our meta-analysis was 67%. Limitations in our review include lack of prevalence in female sexual disturbances, as well as under-reporting of symptoms.

**SIGNIFICANCE/CLINICAL RELEVANCE:** (1-2 sentences): SD is a critical problem to be addressed in patients with CES. The overall prevalence of sexual dysfunction in CES is 77%. The recovery following CES is reported to progressively improve with the passage of time from surgical decompression, with a mean reported recovery rate of 67%. The presence of SD is a poor prognostic indicator for neurological recovery and overall outcome following CES.