

- Title** Use of spinal cord stimulators in the management of chronic non-cancer pain: efficacy, safety, clinical indications, organizational aspects and costs
- Agency** INESSS, Institut national d'excellence en santé et en services sociaux, 2535 boul. Laurier, 5<sup>ème</sup> étage, Québec, QC G1V 4M3; Tel: 418 643-1339, Fax: 418 646-8349, [inesss@inesss.qc.ca](mailto:inesss@inesss.qc.ca), [www.inesss.qc.ca](http://www.inesss.qc.ca)
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**Aim**

According to the most recent data, 18.9% of Canadians and 15.7% of Quebecers suffer from chronic pain. Chronic non-cancer pain (CNCP) includes neuropathic pain, known to be the most refractory to conventional medical management (CMM). The use of neuromodulation devices in the treatment of refractory CNCP is costly and requires the expertise of several professionals to implant them and follow-up patients. The need for these devices increases and health professionals ask for additional budgets to ensure the financing, which would then increase the number of implanted patients. In this context, the MSSS mandated INESSS to assess the current evidence on the use of spinal cord stimulators (SCS) in the management of CNCP.

**Conclusions and results**

In general, there was evidence of low to moderate quality on the efficacy and safety of SCS in the management of chronic non-cancer pain (CNCP). According to the available evidence, INESSS has concluded that SCS is effective for relieving pain in patients with chronic neuropathic pain, such as failed back surgery syndrome (FBSS) and complex regional pain syndrome (CRPS), when compared with CMM. However, its relative effectiveness for chronic ischemic pain has not yet been fully demonstrated. The optimal operation of spinal cord stimulation services is based on some conditions, which are included in this report.

Published economic analyses tend to show cost/effectiveness in favour of the procedure with long-term profitability despite the high costs of implanting spinal cord stimulators.

**Methods**

A review of all the health technology assessment reports on the topic was performed, and the report that was both the most recent and of good quality was selected as the reference for our analysis. This reference report was updated following a systematic review of the relevant literature. Meetings were held with Québec clinical specialists to clearly identify the current use of the different devices in Québec. To perform the cost analysis, institutions' annual financial reports (costs of hospital services) and others medical and administrative databases were consulted.

**Further research/reviews required**

Further research is required to both deeply explore effectiveness of SCS use for chronic ischemic pain and better identify the financial impacts of neuromodulation on Québec's health system.

**Written by**

Alvine Fansi and Christine Lobè, INESSS, Canada