



## FULL TEXT LINKS



Review [Postgrad Med.](#) 2022 Apr;134(3):260-266. doi: 10.1080/00325481.2022.2035092.

Epub 2022 Feb 7.

## Management of pain using magnesium sulphate: a narrative review

[Hassan Soleimanpour](#)<sup>1</sup>, [Farnad Imani](#)<sup>2</sup>, [Sanam Dolati](#)<sup>3</sup>, [Maryam Soleimanpour](#)<sup>4</sup>,  
[Kavous Shahsavarinia](#)<sup>5</sup>

### Affiliations

PMID: 35086408 DOI: [10.1080/00325481.2022.2035092](#)

### Abstract

Pain is one of the most complex and unpleasant sensory and emotional human experiences. Pain relief continues to be a major medical challenge. The application of systemic opioid and regional analgesia techniques has facilitated a decrease in the occurrence and gravity of pain. Magnesium has an evolving role in pain management. Magnesium sulfate (MgSO<sub>4</sub>), the pharmacological form of magnesium, is a physiological voltage-dependent blocker of *N*-methyl-D-aspartate (NMDA)-coupled channels. In terms of its antinociceptive role, magnesium blocks calcium influx, which inhibits central sensitization and decreases preexisting pain hypersensitivity. These properties have encouraged the research of magnesium as an adjuvant agent for intra- and post-operative analgesia. Moreover, the mentioned magnesium impacts are also detected in patients with neuropathic pain. Intravenous magnesium sulfate, followed by a balanced analgesia, decreases opioid consumption. This review has focussed on the existing evidence concerning the role of magnesium sulfate in pain management in situations including neuropathic pain, postherpetic neuralgia, trigeminal neuralgia, migraine, and post-operative pain. Additional studies are required to improve the use of magnesium sulfate for pain to increase the quality of life of patients.

**Keywords:** Magnesium sulfate; NMDA receptor; analgesia; pain management.

[PubMed Disclaimer](#)

### Related information

[PubChem Compound \(MeSH Keyword\)](#)

### LinkOut - more resources

#### Full Text Sources

[Taylor & Francis](#)