

# Magnesium Sulfate vs Fentanyl: The Future of Spinal Analgesics

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***A new study found that intrathecal fentanyl and magnesium sulfate can effectively enhance spinal anesthesia, offering prolonged pain relief and sensory blockade***

While fentanyl led to a faster onset, both provided similar durations of **analgesia** <sup>[3]</sup>. This highlights the potential of utilizing natural, safe compounds like magnesium for effective pain management while avoiding risky substances like opioids.<sup>1</sup>

A new randomized controlled trial published in the *Asian Journal of Anesthesiology* uncovered important implications for utilizing natural mineral compounds as adjunct medications alongside anesthesia for improved healing outcomes.<sup>2</sup> Their findings highlight the feasibility of incorporating holistic and integrative approaches within conventional medical settings.

## The Dangers of Opioids

While the opioid fentanyl is commonly used to intensify and extend spinal blocks, its use risks life-threatening side effects and tremendous addiction potential. Overdose deaths linked to prescribed and illicit fentanyl have risen over 1,600% in recent years as the drug epidemics continue to intensify across North America.<sup>3</sup> Even minor exposure can lead to risky dependencies given

fentanyl's potency level thousands times higher than morphine.<sup>4</sup> There is an urgent need for safer alternatives capable of meeting patient analgesic needs without fueling the ongoing crisis.

## Putting Magnesium to the Test

The study, led by Richa Richa and colleagues at the Department of Anesthesiology in India, aimed to analyze the efficacy of intrathecal **magnesium sulfate** [4] versus fentanyl as an additive to spinal bupivacaine anesthesia.<sup>5</sup> They measured impacts on the onset and duration of sensory and motor nerve blocks, along with effects on circulatory vital signs.

100 patients scheduled for elective infraumbilical surgical procedures were randomly divided into two equal groups. Under strict aseptic precautions, Group 1 received hyperbaric bupivacaine combined with 25µg fentanyl, while Group 2 was administered bupivacaine with 100mg magnesium sulfate instead.<sup>6</sup>

The results proved illuminating. While fentanyl led to more rapid nerve blockade, magnesium matched its capacities for prolonging spinal anesthesia without concerning side effects.<sup>7</sup> As the authors conclude, non-opioid magnesium shows promise as an alternative adjuvant for improving pain relief after surgery.<sup>8</sup>

## An Affordable and Sustainable Solution

Not only could this simple mineral salt transform patient outcomes through effective analgesia, but alleviating reliance on habit-forming opioids offers immense societal benefits in tackling addiction epidemics. And unlike costly medications still under patent protection, magnesium is an affordable, readily available compound whose production can be sustainably scaled.<sup>9</sup>

Integrating such natural healing modalities aligns clinical practice with principles of environmental sustainability, social responsibility, and global health equity. It highlights the vast overlooked potential around traditionally used supplements for improving wellbeing across all populations.<sup>10</sup>

**Learn more about magnesium's wide range of therapeutic properties [here](#) [5].**

**Magnesium** ←

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7. Richa et al. "Comparative Analysis."
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[9]

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