

# Study finds lower dose of ketamine equally effective in reducing pain

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A recent Loyola Medicine study found that reducing the standard dose of IV-administered ketamine in half is as effective as the larger, standard dose in reducing pain in adults.

Ketamine is known to provide [pain relief](#) comparable to opioid medications, which are highly addictive. In the recent study, appearing in the journal *Academic Emergency Medicine*, researchers studied 98 patients, ages 18 to 59, who presented to the [emergency department](#) with acute, moderate to [severe pain](#). The patients were randomized prospectively to receive either 0.15 mg/kg of ketamine (low dose) or 0.30 mg/kg (high dose). Patients and providers were blinded to dose, with the primary outcome of [pain](#) measured on the 11-point numerical rating scale (NRS) at 30 minutes. At 15 minutes, the high dose group had a greater decrease in pain on the NRS but more adverse events. At 30 minutes, adverse events and pain were similar.

Overall, patients generally reported that they would take ketamine again for pain—75.6% in the low-

dose group and 61.7% in the high-dose group.

"We challenged the conventional ketamine dose used to treat pain," said lead study author Shannon Lovett, MD, [emergency medicine](#) physician at Loyola University Medical Center (LUMC) and associate professor in the Department of Emergency Medicine at Loyola University Chicago Stritch School of Medicine. "Our study should help demonstrate that a lower dose is sufficient to treat pain."

The study did not find a significant reduction in side effects from the lower dose.

"As we continue with our research, we hope to find data that supports diminished side effects with the lower dose of ketamine with equal efficacy in treating pain," said senior study author Megan A. Rech, emergency medicine clinical pharmacist at LUMC and an adjunct assistant professor and research coordinator at Stritch.

**More information:** Shannon Lovett et al, A randomized, noninferiority, controlled trial of two doses of intravenous subdissociative ketamine for analgesia in the emergency department, *Academic Emergency Medicine* (2020). [DOI: 10.1111/acem.14200](#)

Provided by Loyola University Health System

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