

# Regular cannabis users require up to 220 percent higher dosage for sedation in medical procedures

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Patients who regularly use cannabis may require more than two times the usual level of sedation when undergoing medical procedures, according to a study published in *The Journal of the American Osteopathic Association*.

Researchers in Colorado examined [medical records](#) of 250 [patients](#) who received endoscopic procedures after 2012, when the state legalized recreational [cannabis](#). They found patients who smoked or ingested cannabis on a daily or weekly basis required 14% more fentanyl, 20% more midazolam, and 220% more propofol to achieve optimum sedation for routine procedures, including colonoscopy.

"Some of the sedative medications have dose-dependent side effects, meaning the higher the dose, the greater likelihood for problems," says lead researcher Mark Twardowski, DO, an osteopathic internal medicine physician. "That becomes particularly dangerous when suppressed respiratory function is a known side effect."

A lack of research, due to cannabis's status as a schedule 1 drug, combined with its sudden widespread legalization, makes Dr. Twardowski concerned about other unforeseen issues.

"Cannabis has some metabolic effects we don't understand and patients need to know that their [cannabis use](#) might make other medications less

effective. We're seeing some problematic trends anecdotally, and there is virtually no formal data to provide a sense of scale or suggest any evidence-based protocols," says Dr. Twardowski.

He says colleagues in nearby emergency departments have noticed more patients reporting with complaints of chronic nausea, a symptom that can occur from regular cannabis use. He also says that colleagues in anesthesiology have noted patients requiring much higher dosages for [general anesthesia](#) and higher rates of post-op seizures.

These types of recurring stories prompted Dr. Twardowski and his colleagues to gather real data.

## **Potential for more insight**

Cannabis use in the United States increased 43% between 2007 and 2015. An estimated 13.5% of the adult population used cannabis during this period, with the greatest increase recorded among people 26 and older, according to the study.

As more states legalize medical and recreational cannabis, there is also greater potential for meaningful data collection. Not only are more patients using cannabis, but more are also now willing to admit cannabis use than in the past, which increases the likelihood that they will be forthcoming when questioned by a medical professional.

Adding specific questions regarding cannabis use to patient intake forms is the first step to acquiring useful information that influences [patient care](#), according to researchers.

"This study really marks a small first step," says Dr. Twardowski. "We still don't understand the mechanism behind the need for higher dosages, which is important to finding better care management solutions."

Dr. Twardowski's team is developing a follow-up study on differences in requirements for sedation and anesthesia as well as post-procedure pain management for regular cannabis users versus non users.

**More information:** Mark A. Twardowski et al, Effects of Cannabis Use on Sedation Requirements for Endoscopic Procedures, *The Journal of the American Osteopathic Association* (2019). [DOI: 10.7556/jaoa.2019.052](https://doi.org/10.7556/jaoa.2019.052)

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