

# The Undeniable Utility of Nitrous Oxide for Managing Patient Anxiety

By Kevin Wilson, Contributing Editor

Anxiety is rising in the U.S., according to a recent poll by the *American Psychiatric Association*, which revealed that 43% of American adults in 2024 reported feeling more anxious than the year before, up from 37% in 2023 and 32% in 2022.<sup>1</sup> On top of that undercurrent is the reality that anxiety is significant among those seeking medical and dental procedures. “For a variety of reasons, I believe the medical patient is more anxious than ever,” said facial plastic surgeon Kian Karimi, MD (Los Angeles, Calif.). “People have always had anxiety about medical and dental procedures, but these days we have information overload, which exacerbates this. Social media, for example, has been a great way to reach people and keep them informed, but it also feeds this overwhelming issue.”

Pro-Nox™ from CAREstream America (Sanford, Fla.) is an FDA-cleared, pneumatically driven gas system that delivers a fixed mixture of 50% oxygen (O<sub>2</sub>) and 50% nitrous oxide (N<sub>2</sub>O) for patient-controlled analgesia and anxiolysis in virtually any medical setting. It’s incredibly safe. Patients can inhale as needed, and because the onset and dissipation of neurologic effects is so rapid and predictable, they are even good to drive home within a short time after the procedure once cleared by clinical staff. A 2018 article in *Dermatologic Surgery* reviewed eight studies and revealed the potential utility of N<sub>2</sub>O for dermatologic procedures.<sup>2</sup> A 2021 physician survey in the same publication highlighted the efficacy, safety and utility of N<sub>2</sub>O.<sup>3</sup>

“The safety of Pro-Nox is well-established,” Dr. Karimi said, “to the point that the 50% O<sub>2</sub>/50% N<sub>2</sub>O mix is used for birthing mothers. There are very few contraindications, and

it’s legally classified as an analgesic (versus anesthesia), which opens a lot of doors for use in smaller clinics or med-spas.”

Obstetrician/gynecologist (OB/GYN) Felix Cohen, MD, is director of Cohen Medical Practice (CMP, New York, N.Y.) and a proponent of Pro-Nox, having first learned about the technology for pain control during labor and delivery. In addition to traditional and cutting-edge OB/GYN medicine, Dr. Cohen provides aesthetic services. “The device itself is easy to use and has a small profile, so it’s extremely convenient and we can move it around the office as needed without issues. We can use it for anxiolysis or analgesia for procedures, for general pelvic exams, or longer procedures like hysteroscopies. The patient holds the tube and can breathe in gas when they wish, or not. In our setting, there may be people with significant history of trauma that makes even a pelvic exam problematic, but Pro-Nox really helps them. I feel completely comfortable using it for any in-office procedure. We’ve had absolutely no negative reports from patients who’ve used it, and it’s raised the standard for management of pain and discomfort in our practice.”

Steven F. Weiner, MD, is founder and medical director of the Aesthetic Clinique in Santa Rosa Beach, Fla. “The device we originally purchased was so popular that we needed a second one,” he said. “There are patients where numbing creams aren’t enough, and they don’t want narcotics. Instead of going with deep injections for blocks, Pro-Nox does the job. We rely on it for radiofrequency (RF) microneedling and ablative lasers, as well as many other procedures, such as injections into the scalp, where topicals

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aren't practical. Patients dreaded these procedures until we got Pro-Nox. Another great use case for Pro-Nox is for neurotoxin injections to treat palmar hyperhidrosis, for which numbing creams don't work well. The device is one reason why patients fly from Chicago to Florida to undergo that procedure in our practice."

To Dr. Weiner, Pro-Nox has been a boon to patients whose fear and anxiety are prohibitive. "We may need only acetaminophen or ibuprofen prophylactically, but the anxious patient may need something more. The real benefit is the rapid and predictable onset and dissipation of effect. It's almost an on/off switch for pain and anxiety which hits them 30 to 60 seconds after they begin inhalation and ends just a few minutes after they stop using it. They can take it away from their face when they don't want it anymore and go back to it again if needed. When done, patients can legally drive home, and we feel comfortable letting them go after 15 minutes. Pro-Nox has eliminated oral narcotics or anxiolytics in our practice."

Dr. Karimi explained that while Pro-Nox isn't a profit center, it pays for itself by boosting the appeal of procedures that are and, in turn, the bottom line. "It's simple to integrate into any practice and doesn't really impact your overhead. We can easily offer it a la carte with a usage fee or with the cost rolled in for procedures in which it is standard," he said. "The price is affordable and it's so loved by patients that nobody has ever complained about the cost."

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"Pro-Nox allows us to manage not only procedural discomfort, but also one of the most overlooked aspects of treatment: patient anxiety. While social media may feed anxiety at times, it's also where people leave reviews and believe me, Pro-Nox helps us maintain that positive presence which generates referrals."

To Dr. Cohen, Pro-Nox bridges the gap between oral analgesia and sedation. "There are people who'll need sedation, but Pro-Nox provides flexibility in the office setting that reduces the need for topicals, lidocaine and the like. But we can also use those things with Pro-Nox, and keep the patient awake and aware but relaxed and calm. There's really nothing like it."

#### References:

1. American Adults Express Increasing Anxiousness in Annual Poll; Stress and Sleep are Key Factors Impacting Mental Health. American Psychiatric Association website, May 2024. Available at: [www.psychiatry.org/news-room/news-releases/annual-poll-adults-express-increasing-anxiousness](http://www.psychiatry.org/news-room/news-releases/annual-poll-adults-express-increasing-anxiousness). Accessed February 22, 2026.
2. Brotzman EA, Sandoval LF, Crane J. Use of nitrous oxide in dermatology: a systematic review. *Dermatol Surg* 2018 May;44(5):661-669.
3. Wang JV, Munavalli GS, Pozner J, Geronemus RG. Safety and utility of a novel nitrous oxide delivery system in cosmetic surgery: a national survey of physician practices. *Dermatol Surg*. 2021 Oct 1;47(10):1418-1419.