

Nitrous Oxide

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Nitrous oxide (N₂O), aka "laughing gas," is a gas that, combined with oxygen, is sometimes used during dental treatment to ease anxiety. It has no color or smell, and is non-irritating. The gas typically produces pleasant sensations that can help a patient relax. Because it is well tolerated, has a rapid onset, is reversible, can be adjusted in various concentrations, and is non-allergenic, nitrous oxide/oxygen is considered a safe sedative in dentistry. A patient sedated by nitrous oxide is still capable of responding to a question or request.

While most people do not experience any negative side effects of nitrous oxide, a small number of people do. This may occur when the level of nitrous is too high in the gas mixture or from a sudden change in the amount of nitrous oxide inhaled. Negative side effects may include nausea or vomiting, headache, increased sleepiness, and/or excessive sweating or shivering. Headaches can result if a patient does not receive oxygen for at least five minutes after the nitrous oxide has been turned off. The oxygen helps to flush any remaining gas from the lungs and return the patient to a fully awake and alert state. Patients who experience any discomfort while receiving nitrous oxide should inform the dentist immediately.

It is advised to keep meals light prior to dental appointments in which nitrous oxide will be used to reduce the risk of nausea and vomiting. Patients may also be advised to avoid heavy meals for three hours after the appointment. Additionally, some studies have shown that motor skills and attention may be affected for 15 minutes after the use of nitrous oxide. Patients should ask their dentist when it is safe to drive after receiving nitrous oxide.

To protect dental employees and patients who are not directly receiving nitrous oxide, the nitrous oxide delivery equipment includes a scavenger system. The scavenger system helps minimize the amount of gas that escapes the system and works as a control measure to help prevent indirect exposure to nitrous oxide.

In 1986, California voters passed Proposition 65, intended to protect California's residents and the State's drinking water sources from chemicals known to cause cancer, birth defects or other reproductive harm. Proposition 65 requires businesses to provide a clear and reasonable warning prior to exposing any person to a chemical identified by the State as carrying this risk. Nitrous oxide was added to the Proposition 65 list in 2008, triggering the requirement for businesses that use nitrous oxide, including dental offices, to post a warning sign. If you are pregnant or planning to become pregnant, talk to your medical and dental provider before receiving nitrous oxide.

For more information on Proposition 65 visit the [California Office of Environmental Health Hazard Assessment](#) and/or [CDAs Proposition 65 Patient FAQs](#).

Nitrous oxide is safe and effective at reducing anxiety during dental visits. Talk to your CDA member dentist to find out if nitrous oxide is a good option for you.