

943 • Nitrous Oxide Gas Sedation - General Information

What is Nitrous Oxide?

Nitrous oxide is a sedative and analgesic gas, commonly known as 'HAPPY GAS', that is used in dentistry to help reduce a child's pain and anxiety during dental treatment.

The gas is given through a small nosepiece, and the dental treatment is performed on your child while they are 'awake', meaning they can physically experience the entire process, including administering of the happy gas (if used), the needle(s) going into the mouth, noises from the dental equipment, as well as any sensations and discomfort.

Your child needs to cooperate with the dentist and dental nurse, and be relatively still throughout the procedure. Depending on the treatment required and the number of teeth needing work, several visits may be necessary to complete all treatment. Each visit usually lasts between 30-60 minutes.



How to prepare your child!

Every child is different, so it is difficult to give advice on the most suitable preparation for your child specifically. Some children prefer to know every single detail about the treatment, others prefer not to know anything and will quite happily sit through the procedures. However, we should not tell them that the treatment 'won't hurt'.

In fact, we suggest preparing your child by informing them that the treatment involves: funny sensations, strange noises from the dentist's tools, some discomfort, and sometimes some pain.

This prevents surprises when these things happen. It also helps to encourage your child to help the dentist and dental nurse by opening their mouth wide and trying not to move too much in the dental chair.

Fasting is not compulsory.

However, we don't recommend children to have dental treatment with a full stomach. Vomiting can occur if child is too worked up.

A light meal eg. soup, toast, jelly 1 to 2 hours before the treatment is recommended.

What happens during the procedure?

Nitrous oxide sedation is given with the child lying on the dental chair, and your child will breathe the gas through a nosepiece. Your child will still be aware of what is happening around them, but the gas makes them feel sleepy and relaxed. They may experience floaty, warm sensations and tingling in their hands and feet. Some children may be a little forgetful or have trouble remembering the procedure afterwards. Please note some children will not feel any difference (no relaxing effect) from the nitrous oxide, and some could become more worked up due to their underlying anxiety or fear about the treatment. Our staff will monitor your child's level of sedation to ensure that they are able to still cooperate and follow verbal instructions. Local anesthesia injections are still going to be administered for the dental treatment, so that your child does not feel pain during the procedure.



How do most children (and parents) cope with it?

From our experience, it can be quite unpredictable how each child will respond. Most children have good treatment outcomes, but nitrous oxide is not magic and does not work on every child. It is an aid that helps to suppress the gag reflex, but if the child is unable to breathe through their nose (mainly due to crying before/ during the treatment or nasal obstructions) then the gas may not work adequately.

Imagine yourselves (as adults) going to the dentist, with knowledge that the dental treatment may involve some discomfort or even pain. We may ourselves feel anxious about the visit.

Children's coping mechanisms are not as developed as adults, so when something doesn't feel right, they panic and may refuse to work with the dentist. 'Meltdowns' are common and can happen at any stage during the treatment process. When this occurs, we, as dentists and parents, have to listen to the child and cannot expect them to perform or comply with our instructions when they 'cannot' do so because they are not ready or too anxious/scared.

Of course, we all desire for the treatment to be performed smoothly and completed. Sometimes parents may feel let down by the child when they are unable to cooperate to complete the treatment.

However, a child's lack of cooperation at the dentist is generally not a behavioral issue; it is in fact due to true fear and lack of readiness for dental treatment. We need to respect and listen to the child.

What about care after the procedure?

Your child will recover from the effects of the nitrous oxide very quickly.

If local anesthetic was used, care should be taken to prevent the child from biting their lips and cheeks while it is numb.

Some children may feel a little sick or nauseous. If so, give your child clear liquids such as water, diluted fruit juice, icy poles, jelly, or clear soup to maintain hydration.

Children must be accompanied by a responsible adult throughout the appointment, and be taken home and supervised for the next 8 hours after the procedure.



Contraindications - when should nitrous oxide sedation NOT be used?

- Nasal obstruction/sinusitis - especially if both nostrils are blocked
- Middle ear infection/blockage/or previous surgery eg. grommets
- Crying before or during the procedure
- Claustrophobia
- Uncooperative behavior/cognitive impairment/psychiatric disorders that impede the child's ability to cooperate
- Bowel obstruction
- Recent eye surgery
- Vitamin B12/folate deficiency
- Patients undergoing chemotherapy (and history of having taken Bleomycin)
- Pulmonary hypertension
- Chronic obstructive pulmonary disease

Nitrous sedation does NOT work for every child.

Some children require deeper sedation methods to support them through their dental treatment - which will be general anesthesia in paediatric dentistry.