



## World of Smiles, Pediatric Dentistry

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### Nitrous Oxide and Conscious Sedation Guide for Parents

Soft voice control, non-threatening movements and explanations are usually sufficient to reassure the child and reduce anxiety. Empathy, kindness, gentle persuasion, humor, distraction and understanding are our first and most important strategies with all children. For dental procedures, we often use nitrous oxide and oxygen to reduce anxiety and successfully complete the child's treatment.

**Nitrous oxide and oxygen** is an odorless blend of two gases. When inhaled, it is absorbed by the body and has a calming effect. Nitrous oxide is commonly referred to as laughing gas. The benefit of Nitrous is that it provides an overall good feeling of well being including: laughing and giggling, anxiety reduction, raising pain threshold, elimination of painful responses, extension of working time, and it is a functional distraction from the dental procedures. A clear airway and no current upper respiratory infection are necessary for us to use nitrous as well as no impending asthma attack, or allergies that may obstruct airflow. The patient should not have any food or drink for at least two hours prior (except water). While inhaling nitrous, the child's fingers and toes may begin to tingle or they may feel like they are floating on a cloud or their legs may feel heavy, or they may feel slightly dizzy. Laughing and giddiness are common, as is slowed speech. Occasionally, the patient may have an out of body sensation, dizziness, hallucinations and/or nausea. If fasting is not observed, there is a small possibility that the patient will vomit with concurrent aspiration into the airway; therefore aspiration pneumonia/hypoxia/asphyxiation may occur but are extremely rare and every precaution is taken to avoid this. The doctor and staff will guide the patient on proper breathing through a nasal hood or mask throughout the procedure. Once the nitrous is no longer needed, the patient will breathe oxygen for three to five minutes.

**Conscious Sedation Medication.** In addition to Nitrous oxide, sometimes mild anti-anxiety and sedative medications are useful to allow the child to experience a pleasant dental appointment. Though each child has a different reaction to the medications, the goal is relax the child enough to complete the dental treatment needed in a safe manner. Oftentimes, the medications used have an additional amnesic property – this means that your child is likely not to remember the dental experience.

Conscious sedation is defined as a medically controlled state of depressed consciousness in which the patient maintains their airway independently, retains their protective reflexes, and responds to verbal and physical stimulation. Conscious sedation lies in the middle of the sedation spectrum that ranges from anxiolysis and analgesia (light) to general anesthesia (deep). Conscious sedation characteristics include: rapid onset, titratability for each individual patient, depression of consciousness, relief of anxiety, analgesia, and oftentimes retrograde amnesia of any pain or procedures performed. If needed pharmacological antagonists are readily available to reverse the effects of the medications most commonly used for conscious sedation.

**Prior to conscious sedation** it is important that the child has received a health evaluation within the last year by a pediatrician. Several precautions are taken when giving a child sedation medication. Prior to giving your child medication, the dentist will conduct a physical exam to insure that your child is healthy by listening to their lungs and observing their tonsils and overall state of health. It is very important that your child is in good health for the sedation appointment. The medication can decrease the immune system and/or cause unnecessary health risks if the patient is not in optimal health. If your child has a cold, the flu, severe seasonal allergies, a cough, an earache or any other questionable health condition the doctor may reschedule the dental appointment in order to protect the well-being of your child.

**The day of treatment with conscious sedation** the following rules must be observed:

1. **No food or drink for the child for 6 hours prior** to the dental appointment. If your child is under 3 years of age, clear liquids are acceptable up to 4 hours prior to the procedure.
2. We ask that you **arrive on time** to your appointment and plan on staying at least two hours. The first hour the doctor will complete the physical exam and dispense the medications to your child accordingly and await the effects of the medications.
3. A **second adult** must be present for the appointment. This allows for safe transportation of the child home after the dental appointment, one adult must watch the child carefully while the first adult is driving.
4. We ask that you **do not bring other children** with you. This allows you to provide undivided attention to your sedated child.
5. The residual effects of sedation medications may last for several hours after the appointment. Therefore, you must **watch your child carefully** after the sedation appointment for the rest of the day. Do not allow your child to play unsupervised or with other children, run around or bicycle.
6. Local anesthetic is used for dental procedures along with the sedation medication. We will inform you of the area of which your **child is numb**. The local anesthetic numbness may last from 60-180 minutes. Therefore watch your child and do not allow them to chew or play with their numb lip or tongue as this can cause a self-inflicted injury.
7. Please dress your child in **loose-fitting clothing** and comfortable shoes. No wheelies, No tights and no footie pajamas.

**After the medication is administered**, the doctor and/or trained team members monitor the patient. All patients are monitored with a pulse oximeter for blood oxygen saturation level, heart rate and blood pressure. Supplemental oxygen is always available and frequently used in conjunction with nitrous oxide. While During the dental procedures the doctor is continuously monitoring the patient visually and accessing the patient's respiratory rate, level of consciousness and overall reaction to the sedation medication. The doctor clinically observes the child's responsiveness, skin color, pupil dilation, respiratory rate and rhythm while continually checking the pulse oximeter for the blood oxygen level. The reversal for the drug administered is available.

**After the dental treatment is completed**, you may be required to remain at the office until your child is fit for discharge. It is important that all the discharge criteria are met. This means that the child has normal protective airway reflexes and is breathing normally. Also, the child has an acceptable temperature and skin coloring; and the blood pressure is stable and appropriate. Furthermore, the child should have adequate analgesia following any difficult dental procedures. The patient is not vomiting and the level of consciousness is at or near the preoperative level.

**Once your child is discharged**, he/she will be drowsy and will need to be monitored very closely. Keep your child away from areas of potential harm. Do not allow your child to run around, play outside or play unattended. Throughout the day, make sure your child's chin is up so that he/she is able to breathe properly. If your child wants to sleep, place them laying flat on their side with their chin up. Wake your child every hour and encourage them to have something to drink in order to prevent dehydration. At first it is best to give your child sips of clear liquids to prevent nausea. The first meal should be light and easily digestible (i.e. toast and/or broth). If your child vomits, help them bend over and turn their head to the side to insure that they do not inhale the vomit. Due to the local anesthetic used during the procedure, your child's mouth will be numb for the next hour or more. Your child may have the tendency to bite or chew their lips, cheeks and/or tongue as well as possibly rub and scratch their face after treatment. Please carefully observe your child in order to prevent any self-inflicted injury to these areas. Oregon state law requires the use of an age/weight appropriate car seat when transporting a child to and from our office.

**Please call our office if you have any questions or concerns regarding this Informational Guide.**