Position Summary

Relative Analgesia is a commonly used and safe technique used by dentists for treating anxious patients utilising nitrous oxide and oxygen. It must remain available as a treatment option for dentists only, for the relief of dental patients’ anxiety and pain.

1. Background

1.1. Relative Analgesia is one of the most common pharmacological behaviour management techniques used for dental patients.

1.2. Relative Analgesia in dentistry has been safely practised in Australia for many years under various levels of regulation dependent upon jurisdiction.

1.3. Until 2010, the ADA had recognised the ANZCA and RACDS document PS21 published in 2003. This was replaced by PS9 in 2009.

1.4. In 2010, the ADA Guidelines for Conscious Sedation in Dentistry which included the use of Relative Analgesia were adopted.

Definitions

1.5. ANXIOLYSIS includes the use of a single low dose oral medication or inhalation of gases for treating anxious patients, but not inducing a state of conscious sedation. Appropriate initial dosing of a single oral drug should be no more than the maximum recommended dose. Anxiolysis does not include polypharmacy.

1.6. BOARD is the Dental Board of Australia.

1.7. RELATIVE ANALGESIA is a technique in which the inhalation of nitrous oxide enables treatment to be carried out and in which;

(a) purposeful verbal contact with the patient can be maintained or the patient responds appropriately to light tactile stimulation throughout the administration of relative analgesia; and

(b) the drugs and techniques used have a margin of safety wide enough to render unintended loss of consciousness extremely unlikely.

1.8. GENERAL ANAESTHETIC is any drug or substance which when administered to a patient will induce a controlled state of unconsciousness accompanied by a partial or complete loss of protective reflexes, including the inability to maintain an airway independently and continuously, and respond to physical stimulation or verbal command.

2. Position

2.1. Patient safety should be the prime consideration in forming guidelines for relative analgesia for dental practice.

2.2. Regulation of relative analgesia in dental practice should be evidence-based.

2.3. Dentists practicing relative analgesia must comply with the standards set out in PS9 (ANZCA) as it relates to Relative Analgesia.

2.4. Only dentists who have adequate training and experience should administer relative analgesia.

2.5. Dentists are the only dental practitioner who should administer relative analgesia in a dental practice.

2.6. Dentists using relative analgesia should follow the ADA Guidelines for the Administration of Nitrous Oxide and Oxygen Inhalation Relative Analgesia in Dentistry (Appendix 1).
Policy Statement 6.33
Adopted by ADA Federal Council, April 11/12, 2019
Editorially amended by Constitution & Policy, July 4/5, 2019
Amended by ADA Federal Council, November 22, 2019.
Appendix 1 to Policy Statement 6.33 – Guidelines for The Administration Of Nitrous Oxide and Oxygen Relative Analgesia In Dentistry

Introduction
Nitrous oxide mixed with oxygen is used for relative analgesia in dentistry. When used alone, it is reliably incapable of producing general anaesthesia. When combined with other inhalation and/or intravenous and oral agents it can be a general anaesthetic. However, as a single agent, it has an impressive safety record and is excellent for providing relative analgesia for apprehensive dental patients.

1. Objectives

1.1. The objectives of these guidelines are to describe the standards for the provision of nitrous oxide and oxygen relative analgesia in dentistry by ensuring that:
- facilities and staff are appropriate;
- present protocols are safe; and
- dentists have undertaken the appropriate training to safely administer nitrous oxide and oxygen relative analgesia.

1.2. The techniques used for nitrous oxide and oxygen relative analgesia are not without risk because of:
- the potential for unintentional loss of consciousness;
- the depression of protective reflexes;
- individual variations in response to the drugs used, particularly in children, the elderly and persons with pre-existing medical disease; and
- differing standards of equipment and staffing at the locations where these procedures may be performed.

2. General Principles

2.1. The patient should be assessed before the procedure and this assessment must include:
- a complete medical history and examination, with special attention given to assessing the presence of nasal obstruction and tolerance to the nasal hood; and
- valid consent for relative analgesia as well as the procedure.

2.2. The practitioner administering relative analgesia requires sufficient knowledge and experience to be able to:
- understand the actions of the inhalation agent being administered; and
- detect and manage appropriately any complications arising from these actions.

2.3. Techniques intended to produce loss of consciousness must not be used unless an anaesthetist is present.

2.4. A written record of the percentage of nitrous oxide, flow rate and the duration of administration must be kept as a part of the patient's records.

3. Staffing

3.1 Dentists using nitrous oxide and oxygen relative analgesia must be trained in its use in accordance with these guidelines:
- if at any time spontaneous respiration and/or protective reflexes are lost, or the patient does not respond to verbal commands or stimulation, both the dentist and assistant must devote their entire attention to treating and monitoring the patient until recovery; and
4. **Facilities**

4.1 The procedure must be performed in a location which is adequate in size and staffed and equipped to deal with an emergency. This must include a supply of oxygen and suitable devices for the administration of oxygen to a spontaneously breathing patient.

5. **Monitoring**

5.1 Patient undergoing nitrous oxide and oxygen relative analgesia must be monitored continuously with pulse oximetry. This does not obviate the need for visual monitoring of the patient to ensure their level of consciousness is appropriate.

6. **Training in Relative Analgesia for Dental Procedures**

6.1 Training for use of nitrous oxide and oxygen relative analgesia should be a dedicated course. Most undergraduate exposure to nitrous oxide and oxygen techniques do not provide sufficient training or experience for this purpose; and

6.2 An example of an appropriate course is the one-day Australian Dental Association-Australian Society of Dental Anaesthesiology Nitrous Oxide and Oxygen Relative Analgesia Course.

7. **Specialised Equipment for Nitrous Oxide and Oxygen Relative Analgesia**

7.1 When nitrous oxide and oxygen is being used to provide relative analgesia, the following equipment requirements must be satisfied:

- installation and maintenance of any piped gas system must be according to appropriate standards (ANZCA PS54 Statement of safety requirements for anaesthetic machines and workstations for clinical practice);
- servicing of equipment and piped gases must occur on a regular basis and at least annually;
- there must be a minimum oxygen flow of 2.5 litres/minute or in machines so calibrated, a minimum of 30% oxygen. There must be the capacity for the administration of 100% oxygen;
- the machine must include an anti-hypoxic device which cuts off nitrous oxide flow in the event of an oxygen supply failure and allows the patient to breathe room air;
- in semi-continuous flow systems, there must be a non-return valve to prevent re-breathing and a reservoir bag. In the newer continuous-flow systems these components are not necessary;
- there must be a fail-safe that cuts off the flow of nitrous oxide when the flow of oxygen is interrupted or cut off;
- the patient breathing circuit must provide low resistance to normal gas flows and be of lightweight construction;
- an appropriate method for the scavenging of expired gases must be used to reduce the risk of chronic exposure to nitrous oxide; and
- the risk of nitrous oxide abuse should be considered.

8. **Discharge**

8.1 The patient should be discharged by the dentist only after an appropriate period of recovery and observation. The ability to access and administer oxygen is essential in any area used for patient recovery.

9. **Use with Other Drugs**

9.1 Nitrous oxide and oxygen relative analgesia is recognised as a very safe technique given that it has minimal effects on the cardiovascular system. However, its use in combination with other drugs may potentiate their effects. Therefore, nitrous oxide inhalation should not be used in combination with drugs where a patient may have other risk factors unless administered by a dentist endorsed to perform conscious sedation, a medical practitioner or an anaesthetist.