

CODE OF PRACTICE

SEDATION FOR DENTAL PROCEDURES

- *Approved by the Australian and New Zealand College of Anaesthetists and the Royal Australasian College of Dental Surgeons, February 1992.*
- *Approved by NZDA Council 6-7 March 1992 - This Code of Practice combines the previous NZDA Codes on intravenous, inhalational (N₂O) and Oral Sedation.*
- *Approved by Dental Council of New Zealand*

1 INTRODUCTION

Sedation for dental procedures includes the administration by any route or technique of all forms of drugs which result in depression of the central nervous system. The objective of these techniques is to produce a degree of sedation whereby rational verbal communication to and from the patient is continuously possible, so that uncomfortable diagnostic and minor surgical procedures may be facilitated. The drugs and techniques used should provide a margin of safety which is wide enough to render unintended loss of consciousness unlikely.

These techniques are not without risk because of:

- 1.1 The depression of protective reflexes
- 1.2 The wide variety of drugs and combinations of drugs which may be used.
- 1.3 The difficulty in predicting absorption, distribution and efficacy of drugs when administered orally or rectally.
- 1.4 The possibility of excessive amounts of these drugs being used to compensate for inadequate local analgesia.
- 1.5 The individual variations in response to the drugs used particularly in the elderly or infirm.
- 1.6 The wide variety of procedures performed.

- 1.7 The differing standards of equipment and staffing at the locations where these procedures are performed.

Thus it is important to understand the variability of effects which may occur with sedative drugs, however administered, and that over-sedation or airway obstruction may occur at any time. To ensure that standards of patient care are satisfactory, equipment and staffing of the area in which the patient is being managed should satisfy the requirements as laid down in this Policy Document.

2 GENERAL PRINCIPLES

- 2.1 The patient should be assessed before the procedure and this assessment should include:
 - 2.1.1 A concise medical history and relevant examination such as might be available from the patient's General Practitioner, and must include blood pressure measurement. See Explanatory Note (i)
 - 2.1.2 Informed consent for the procedure and sedation.
 - 2.1.3 Appropriate written instructions for preparation for the procedure, the recovery period, and discharge of the patient.
- 2.2 If the patient has any serious medical condition or danger of airway compromise then an anaesthetist should be present to monitor the patient during the procedure.
- 2.3 The practitioner administering these drugs requires sufficient basic knowledge to be able to:
 - 2.3.1 Understand and deal with the action of the drug or drugs being administered.
 - 2.3.2 Detect and manage appropriately any complications arising from these actions.
 - 2.3.3 Anticipate and manage appropriately the modification of these actions by any concurrent therapeutic regime or disease process which may be present.
- 2.4 A written record of the dosages of drugs and the timing of their administration must be kept as a part of the patient's records. Such entries should be made as near the time of administration of the drugs as possible. This record should also note the readings from the monitored variables, and should contain other information as indicated in the Faculty Policy Document P6 "Minimum Requirements for the Anaesthetic Record."
- 2.5 Pulse oximetry, when available, will assist in monitoring every sedated patient. See Explanatory Note (ii)

- 2.6 Techniques which compensate for excessive anxiety and/or for inadequate local analgesia by means of heavy sedation must not be used unless an anaesthetist is also present.

3 STAFFING

There must be an assistant present during the procedure appropriately trained in resuscitative measures who shall monitor the level of consciousness and cardio respiratory function of the patient. The need for a second assistant will depend on the complexity of the procedure.

- 3.1 Provided that rational, verbal communication to and from the patient is continuously possible during the diagnostic, minor surgical or dental procedure, the operator may provide the sedation and be responsible for care of the patient.
- 3.2 If at any time such rational, verbal communication is lost, then the operator must cease the procedure and devote his/her entire attention to monitoring and treating the patient until such time as the patient recovers consciousness or another practitioner becomes available to monitor the patient and take responsibility for any further sedation, analgesia or resuscitation.
- 3.3 If loss of consciousness or loss of rational, verbal communication is sought as part of the technique, then an anaesthetist must be present to care for the patient.

4 TRAINING

Dental practitioners who administer sedation must be able to demonstrate an appropriate level of training.

- 4.1 All dental practitioners should be capable of administering the correct oral medications for such conscious sedation.
- 4.2 Practitioners wishing to administer relative analgesia must attend a special course and demonstrate competence in the technique and such associated resuscitative measures which may be required.
- 4.3 Practitioners wishing to administer intravenous drugs for sedation must attend a further special course and demonstrate competence in these techniques and their associated resuscitative measure which must include management of artificial ventilation and external cardiac massage.

5 FACILITIES

The procedure must be performed in a location which is adequate in size and staffed and equipped to deal with a cardiopulmonary emergency. This should include:

- 5.1 A chair which can be tilted readily to the horizontal position.
- 5.2 Adequate uncluttered floor space to perform external cardiac massage on the patient should this prove necessary.
- 5.3 Equipment suitable for the measurement of a patient's blood pressure.
- 5.4 Adequate suction and room lighting.
- 5.5 A supply of oxygen and suitable devices for the administration of oxygen to spontaneously breathing patient.
- 5.6 A means of inflating the lungs with oxygen (eg a range of pharyngeal airways and self inflating bag suitable for artificial ventilation).
- 5.7 Appropriate drugs for cardiopulmonary resuscitation (see Appendix) and a range of intravenous equipment.
- 5.8 A pulse oximeter must be used to monitor the patient when intravenous sedation techniques are used.

6 SPECIALISED EQUIPMENT FOR NITROUS OXIDE SEDATION

A machine which may be a completely portable device with attached oxygen/nitrous oxide cylinders or be able to be connected to piped gases must be available which is capable of delivering nitrous oxide sedation in accordance with the following requirements:

- 6.1 A continuous gas flow
- 6.2 A minimum flow of two and a half (2.5) litres of oxygen per minute at any time that nitrous oxide is delivered, or in machines so calibrated of 30% oxygen in the gas mixture.
- 6.3 A maximum flow of 7-10 litres of nitrous oxide per minute
- 6.4 Easily read flow meters
- 6.5 A fail safe device - in the event of oxygen failure the nitrous oxide cuts off immediately and the air inlet valve opens and the patient breathes air.
- 6.6 A non-return valve to prevent rebreathing and a three litre bag which acts as a reservoir.

- 6.7 Wide tubing of approximately 2 cm internal diameter leading up to the nasal harness.
- 6.8 A light-weight nose piece incorporating an air dilution valve and a low tension expiratory valve.
- 6.9 Emergency oxygen button (oxygen flush).
- 6.10 Installation and maintenance of piped gases must be carried out by a registered professional using appropriately coded copper piping or reinforced nylon tubing for connection to the nitrous oxide sedation machine.
- 6.11 Servicing of equipment and piped gases by an appropriate organisation must be carried out on a regular basis, and at least annually.
- 6.12 For anything other than occasional use, a commercially supplied scavenging device must be used as an adjunct to nitrous oxide sedation. The accepted non-toxic level of circulating nitrous oxide is set at 25-50 parts per million. One half hour session of nitrous oxide sedation in a poorly ventilated area would produce a level well in excess of 100 parts per million for several hours.

7 SPECIALISED EQUIPMENT FOR INTRAVENOUS SEDATION

- 7.1 Patients undergoing intravenous sedation must be monitored continuously with pulse oximetry. This equipment must alarm when easily set limitations are exceeded. Digital readings of saturation must be easily visible from two metres. Alteration in pitch as the oxygen saturation changes is desirable.
- 7.2 Intravenous equipment must be available which will keep access to a vein patent throughout the procedure.
- 7.3 Suitable reversal agents must be available depending upon the drug used.

8 DISCHARGE

- 8.1 The patient should be discharged only after an appropriate period of recovery and observation in the procedure room or in an adjacent area which is adequately equipped and staffed.
- 8.2 Discharge of the patient should be authorized by the practitioner who administered the drugs, or another appropriately qualified practitioner. Where oral or other intravenous agents have been used, the patient should be discharged into the care of a responsible adult to whom written instructions should be given.

- 8.3 Adequate facilities should be available in the Recovery Area for managing patients who have become unconscious, who have lost rational verbal contact, or who have suffered some medical mishap. These facilities should be similar to those listed under 5 above.
- 8.4 Should the need arise the patient must be transferred to appropriate medical care.

9 ASSOCIATED POLICIES

A number of Policy Documents from the Faculty of Anaesthetists should be noted when appropriate in conjunction with this Policy Document on sedation for Dental Procedures. These Documents include the following:

- T5 Recommended Minimum Facilities for Safe Anaesthetic Practice in Dental Surgeries
- P4 Guidelines for the Care of Patients Recovering From Anaesthesia
- P5 A Statement of Principles for the Care of Patients who are given Drugs Specifically to produce Coma
- P6 Minimum Requirements for the Anaesthetic Record
- P7 The Pre-Anaesthetic Consultation
- P9 The Use of Sedation for Diagnostic and Minor Surgical Procedures
- P15 Guidelines for the Care of Patients Recovering from Anaesthesia Related to Day Surgery
- P18 Monitoring During Anaesthesia
- P19 Monitored Care by an Anaesthetist

APPENDIX

Emergency drugs should include at least the following:

adrenalin
atropine
dextrose 50%
lignocaine

EXPLANATORY NOTES

- i For **oral sedation and nitrous oxide sedation**, a medical history as would be normally obtained in dental practice is required. A blood pressure measurement is not a requirement.
- ii **Pulse oximetry** is a requirement for IV sedation. If a pulse oximeter is available, it is suggested that it be used for other sedated patients.