

# Sedation for dental and other procedures

Ruth L Mawhinney

Alan Hope

## Abstract

Conscious sedation is an anaesthetic technique which helps patients tolerate dental and other procedures. Safe sedation requires attention to patient selection, the clinical environment, appropriate intraoperative and recovery monitoring, sedation technique, and postoperative management.

Various drugs can be used either singly or in combination. Low doses of short-acting anaesthetic agents allow fine control of sedation and a greater chance of success. Where anaesthetic agents are used, inadvertent overdosage is a risk, and these drugs must be administered by an anaesthetist. Entonox and oral and intravenous benzodiazepines can be safely administered by appropriately trained practitioners.

Key definitions include 'sedation' and 'conscious sedation'.

**Keywords** Conscious sedation; dental

**Royal College of Anaesthetists CPD Matrix:** 1A02, 2A10, 2D06, 3A02, 3A06, 3A07

## Why offer sedation for dentistry?

Dental anxiety and phobia are very common in the UK with 36% of adults reporting moderate dental anxiety and 12% reporting extreme dental anxiety.<sup>1</sup> Young adults and those from poorer socioeconomic backgrounds are more at risk and often the consequence is avoidance of dental services and subsequent morbidity.

Intravenous conscious sedation is an effective technique for managing anxious patients and can be helpful in managing patients who cannot tolerate procedures for reasons other than anxiety. It is safe if performed by an appropriately trained practitioner in a monitored environment.

## Sedation for other procedures

Anxiety is associated with many other medical procedures for which sedation is considered advantageous. The environmental and safety issues related to delivering conscious sedation safely are the same as those discussed in this article.

Where sedation must be delivered outwith the theatre environment consideration must be given to the choice of drug and the experience of the team.

**Ruth L Mawhinney MBChB, FRCA** is a Specialty Trainee in Anaesthesia at Queen Elizabeth University Hospital, Glasgow, UK. Conflict of interest: none declared.

**Alan Hope MBChB, FRCA** is a Consultant in Anaesthesia at Queen Elizabeth University Hospital, Glasgow, UK. Conflict of interest: none declared.

## Learning objectives

After reading this article you should be able to:

- define conscious sedation and understand its role in dentistry
- be aware of the principles of selecting adults and children for sedation
- demonstrate the delivery of safe sedation including the management of common complications

## Definitions (Table 1)

- *Sedation*: the deliberate drug-induced depression of consciousness used to reduce anxiety and awareness associated with unpleasant medical procedures.
- *Conscious sedation*: a technique in which the use of a drug or drugs produces a state of depression of the central nervous system, enabling treatment to be carried out, but during which verbal contact with the patient is maintained throughout.<sup>2</sup>

Intravenous conscious sedation is achieved by titration of appropriate drugs in a clinically monitored environment. Patients will experience drowsiness and reduced anxiety but remain aware of their surroundings and able to respond to verbal commands. This level of sedation preserves protective airway reflexes. Post-procedure amnesia is common, particularly with deeper sedation.

Key components of a service providing sedation for dentistry include: patient selection and workup, establishing intravenous access, monitoring and managing sedation and recovery including supervision for the subsequent 24 hours. All of these must be provided to a consistently high standard to avoid patient harm including injury or death.

## Patient selection

Pre-assessment information gathering requires a standardized checklist similar to those used for day-surgery. A medical and social history is taken including details of any negative dental experiences. The need for physical examination is guided by a thorough systemic enquiry and should include an airway examination. Medications and allergies along with any relevant anaesthetic history are recorded. Any ongoing medical conditions should be quantified and relevant investigations requested. Patients should be weighed.

American Society of Anesthesiology (ASA) 1–2 and stable ASA 3 patients are usually suitable candidates for conscious

## Sedation score

Sedation score	Clinical depth of sedation	
1	Awake	
2	Drowsy and relaxed, responds to speech.	Conscious sedation
3	No response to speech, responds to stimulation (shaking).	Deep sedation
4	Unresponsive to stimulation.	

Table 1

sedation. ASA 3–4 patients with severe or unstable cardiorespiratory disease are not precluded from having procedures under conscious sedation but must be managed by an anaesthetist in an appropriately monitored environment with specialized medical intervention immediately available.

Fasting is not required for uneventful conscious sedation and can often heighten anxiety particularly in children. However it is recognized that some complications may introduce a risk of regurgitation and aspiration. Patients can be told that it is normal to fast before sedation, but that they may have a light breakfast if they think it would help them cope. Patients should avoid alcohol the night before their procedure.

A written information sheet is given to all patients, where practicable, prior to their procedure. This advice includes the importance of wearing comfortable clothing, avoiding contact lenses, and instructions relating to topical local anaesthetic cream. For day-case procedures a responsible adult must accompany the patient to and from hospital and an adult must remain at home with the patient until the following morning.

Informed consent should be obtained by someone familiar with the sedation technique and who can answer questions while ensuring patient expectations are realistic.

### Anxiety and dental phobia

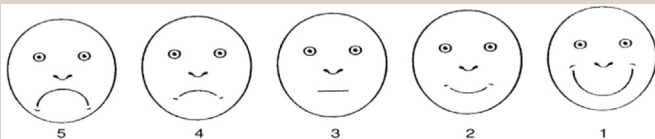
Intravenous conscious sedation is particularly successful in anxious patients. Time should be taken to build rapport and to accurately explain the experience.

The Modified Child Dental Anxiety Scale is a validated score assessing anxiety in children with dental phobia.<sup>3</sup> The patient is asked to choose the answer that best describes the way they feel relating to nine questions. The total score range is 5–45 with an increasing score indicating increasing anxiety (Box 1).

#### Modified Child Dental Anxiety Scale

##### How do you feel about

- 1 Going to the dentist generally?
- 2 Having your teeth looked at (check-up)?
- 3 Having teeth scraped and polished?
- 4 Having an injection in the gum to freeze a tooth?
- 5 Having a tooth drilled?
- 6 Having a tooth taken out?
- 7 Being put to sleep to have treatment?
- 8 Having a mixture of gas and air to help you relax but which will not put you to sleep?



5 = extremely worried, 4 = worried a lot, 3 = fairly worried,

2 = worried a little, 1 = relaxed / not worried

Score \_\_\_ /45

#### Box 1

### Autism spectrum disorders (ASD) and learning difficulties

Patients with ASD, children, and adults with learning difficulties often have a reduced ability to cope with dental procedures and may be referred for intravenous conscious sedation. Successful sedation can be difficult to achieve. While sedation will effectively remove any anxiety component, it may not improve the patient's ability to cooperate, and it is particularly important to have an alternative plan of management prepared prior to the procedure.

In this group of patients it is essential to take time to develop a rapport and as far as possible gain their trust. Some anaesthetists have reported success with low doses of ketamine as a component of the sedation regime for these patients.

### Guidelines for safe sedation

The history of anaesthesia and sedation for dental treatment is infamous for its poor safety record. From the early 1800s with dentist Morton extracting teeth at the 'Ether Dome' in Massachusetts until the report led by Professor Poswillo in 1990, there were a small but regular number of deaths in healthy people having dental treatment under general anaesthesia. Dentists were urged to avoid general anaesthesia and consider sedation.

In 2000, the Department of Health produced the report 'A conscious decision,' pointing out that standards aimed at protecting patients from serious complications were still not being rigorously applied. Between 1996 and 1999 eight deaths took place in dental surgeries (five children) and by 2002 the long history of general anaesthesia in UK dental surgeries came to an end.

More recently 'Standards for Conscious Sedation in the Provision of Dental Care' was published in April 2015 by the Intercollegiate Advisory Committee for Sedation in Dentistry.

This report creates a new national standard for conscious sedation in dentistry and focuses on patient safety and optimal patient care. Recommendations are made about information for patients, robust continuing education and training for the entire dental team, sedation techniques and the appropriate environment for sedation delivery.

There are some significant changes to previous guidance. The report defines the age of a child (<12 years) and the requirements of the clinical team and facilities required for the dental treatment of younger patients under conscious sedation.

'Sedation services must demonstrate a high level of safety and a continuing improvement in quality. The use of appropriate audit tools to review clinical outcomes is an essential component of good clinical practice. Careful and reflective use of such data will enhance patient safety and improve the quality of care. It is recommended that a system for reporting adverse events in the delivery of conscious sedation in dentistry be developed.'<sup>2</sup>

### Techniques and drug administration (Table 2)

Inhalational, oral and intravenous routes of administration are commonly used. The level of sedation that results from a given drug dose is unpredictable, therefore sedation should be established with a minimal initial dose, followed by further drug administration titrated to clinical effect.

Using short-acting drugs such as propofol or remifentanyl allows the level of sedation to be adjusted during the procedure – allowing deeper sedation for more unpleasant stages of treatment

Download English Version:

<https://daneshyari.com/en/article/5580238>

Download Persian Version:

<https://daneshyari.com/article/5580238>

[Daneshyari.com](https://daneshyari.com)