

## HALF A DOZEN THINGS TO KNOW ABOUT SEDATION IN CHILDREN AND YOUNG PEOPLE

### CEM SUMMARY OF NICE GUIDANCE CG112 (2010) <http://guidance.nice.org.uk/CG112>

#### 1. Levels of sedation [page 5]

The definitions of minimal, moderate, conscious and deep sedation used in the guideline are based on those of the American Society of Anesthesiologists (ASA).

#### 2. Preparing for sedation

Two trained healthcare professionals should be available during sedation. For deep sedation, at least one member of the sedation team should have advanced life support skills [1.4.3].

Fasting is not needed for:

- minimal sedation
- sedation with nitrous oxide (in oxygen)
- moderate sedation during which the child or young person will maintain verbal contact with the healthcare professional [1.2.2].

For an emergency procedure in a child or young person who has not fasted, base the decision to proceed with sedation on the urgency of the procedure and the target depth of sedation [1.2.4].

#### 3. Choosing sedation technique

Do not routinely use ketamine or opioids for painless imaging procedures.

If unable to tolerate painless procedure (for example, during diagnostic imaging), consider one of the drugs with a wide margin of safety (like chloral hydrate for children under 15 kg, or midazolam).

If unable to tolerate painless procedure with the above drugs, consider specialist sedation with propofol or sevoflurane [1.7.3].

For children and young people undergoing a painful procedure (for example, suture laceration or orthopaedic manipulation), when the target level of sedation is minimal or moderate, consider nitrous oxide (in oxygen) and/or midazolam (oral or intranasal) [1.8.1].

For children and young people undergoing a painful procedure, in whom nitrous oxide (in oxygen) and/or midazolam (oral or intranasal) are unsuitable consider ketamine or intravenous midazolam with or without fentanyl (to achieve moderate sedation) [1.8.3].

For children and young people undergoing a painful procedure, in whom ketamine (intravenous or intramuscular) or intravenous midazolam with or without fentanyl are unsuitable, consider a specialist sedation technique such as propofol with or without fentanyl [1.8.4].

#### 4. During sedation

For moderate sedation, continuously monitor depth of sedation, respiration, oxygen saturation, heart rate, pain, coping and distress.

For deep sedation, in addition to above, continuously monitor the following; {1.5.2}

- three-lead electrocardiogram (ECG)
- end tidal CO<sub>2</sub> (capnography)
- blood pressure (monitor every 5 minutes).

#### 5. After sedation

Ensure that all of the following criteria are met before the child or young person is discharged: {1.6.1}

- vital signs have returned to normal levels
- the child or young person is awake and there is no risk of further reduced level of consciousness
- nausea, vomiting and pain have been adequately managed.

#### 6. Cautions for recommended drugs.

At the time of publication (December 2010):

- **Chloral hydrate** did not have UK marketing authorisation for sedation in children and young people.
- **Midazolam** did not have UK marketing authorisation for oral or buccal administration, or for children younger than 6 months.
- **Propofol and Sevoflurane** did not have UK marketing authorisation for sedation in children and young people.

Prescribers should refer to the 'British National Formulary for Children' (BNFc) for each drug for full and up-to date details of licensing. Informed consent should be obtained and documented for the use of any drug outside the licensed indications.