- Children younger than 3 years of age.
- Children with a history of prematurity with residual pulmonary, cardiovascular, gastrointestinal or neurological problems, or significant anaemia.
- Children with congenital syndromes.
- Children with obesity (> 95th percentile body mass index (BMI) for their age).
  **The association between obesity and obstructive sleep apnoea (OSA) limits the use of sedatives and opioids and increases risk in light of early discharge requirements. Children with restrictive lung disease are prone to desaturation – they must be evaluated on a case-by-case basis.*
- Children with previous failed sedation.
- Children with any known adverse reactions (hyperactive or paradoxical response) or allergy to any of the sedation drugs.
- Children who display severe behavioural problems or hyperactivity, or who are mentally challenged.
- Children whose parents are reluctant.

6. Guidelines for fasting

Preoperative fasting for sedation is controversial. Some authorities, especially in dentistry and emergency medicine, consider it to be unnecessary. Airway reflexes are assumed to be maintained during minimal and moderate sedation, but may be lost during deep sedation. If basic or standard sedation techniques (Section 2.5.1) are planned, fasting is recommended, but not mandatory. If advanced techniques (Section 2.5.2), including dissociative and non-dissociative techniques, or deep sedation are planned, the following standard anaesthetic fasting guidelines are recommended:

- Clear fluids, apple juice: two hours. Some clinicians allow clear fluids even one hour before the procedure. A "clear fluid" is defined as fluid without particles.
- Breast milk: four hours.
- Formula feeds and solid food: six hours.

For a procedure to be completed safely, children often need deep sedation for which advanced sedation techniques may be required. When a basic or standard sedation technique is used in non-fasted children and fail, the technique should not be advanced. Rather, the procedure must be abandoned and rescheduled for a later time. In urgent cases, when a procedure cannot be postponed and simple sedation techniques are deemed unsuitable, a GA with rapid sequence induction should be considered.

Children should not have to fast for prolonged periods. Clear fluids should be administered up to two hours before the procedure. This may need some fine planning and good communication with parents/caregivers.

SPs must take note of the consensus statement on fasting before procedural sedation in adults and children by ICAPS.[12]

7. Standards of monitoring

The principles of monitoring are described by the Academy of Medical Royal Colleges in *Safe Sedation Practice for Healthcare Procedures*.[13] All members of the sedation team must have detailed knowledge of the monitoring equipment and interpretation of the information provided by the monitors.

Clinical monitoring alone may suffice in minimal sedation. For all other levels of sedation, both clinical monitoring and electronic monitoring must be used. The sedation technique used (i.e. either basic or standard sedation, or advanced sedation) will also affect the level of monitoring required. For basic or standard techniques where only a single agent is used, the respiratory and cardiovascular systems are usually unaffected. Intermittent assessment of vital signs is appropriate, including clinical monitoring such as level of sedation, anxiety, colour of mucosa/skin and breathing patterns. For prolonged procedures, the use of both a pulse oximeter and a non-invasive blood pressure (NIBP) monitor are mandatory. Should any advanced sedation technique be used, the level of sedation will determine the monitoring required, as set out below.

7.1 Anxiety levels and behaviour, such as confusion, restlessness and agitation

The SP should evaluate the child's cooperation, since this will impact the level of sedation needed for the procedure to be completed safely. An otherwise complacent child who becomes restless and agitated during the procedure, may indicate a possible adverse event (e.g. hypoxaemia, hypoglycaemia, under-sedation or even over-sedation). A full bladder can also cause restlessness, especially during longer cases.

7.2 Level of consciousness and depth of sedation

Children often need deep sedation for procedures to be completed safely. Therefore, monitoring the level of sedation is of utmost importance and should be part of every sedation technique. Since a standard dose or drug in children may have an unpredictable effect, children may end up in a deeper-than-intended level of sedation. Regular communication with the child will assist in monitoring the level of sedation.

Sedation scoring systems were developed to monitor the level of sedation (e.g. the Wilson sedation scale or the University of Michigan Sedation Scale [UMSS]) (Appendix 6). It is suggested that SPs use the UMSS since the scoring system follows the levels of sedation on the sedation continuum.