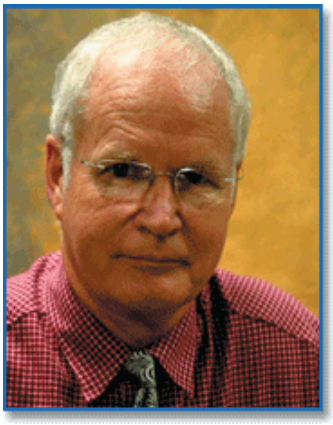
Paedodontic Society of South Africa
Special Group of SADA

Articles

Pediatric Sedation

by Professor James Roelofse (Head: Anaesthesiology and Sedation - University of the Western Cape
Visiting Professor in Anaesthesiology - University College London, London, UK)



There are few areas in anaesthesia and sedation as controversial as the pharmacologic management of anxious/uncooperative children outside of the operating room. In children, it is argued that conscious sedation is a myth and that a deeper level of sedation is required. The purpose of this communication is not to debate whether conscious sedation is possible in children – the author is of the opinion that this is possible, but not in all cases. This is especially true of children who have had previous traumatic experiences – this is the duty of the dentist/medical practitioner to ask about this during preoperative assessment.

It is safe to say that paediatric sedation over the past years has become safer because of guidelines, advances in technology, newer, safer drugs, a better understanding of pharmacokinetics / dynamics, research, publications and a focus on training.

This leads to an important question – why would paediatric sedation be unsafe – our foremost goal is then to optimize safety. There are reports in literature of serious, potentially life-threatening, adverse events, even with oral administration of sedative drugs, that we have to take note of.

However, there are also numerous studies that show that adherence to guidelines/training for paediatric sedation reduces the incidence of serious adverse events. Unfortunately there are also sedationists that do not follow guidelines.

We have to accept that there are various paediatric conscious sedation techniques. The technique chosen will depend on the skills and knowledge of the practitioner. Nitrous oxide/oxygen, some believe, should be the first choice for paediatric dental patients who are unable to tolerate treatment with local anaesthesia alone. This is indeed a very good option in anxious children. A new exciting development is to add a small concentration of the inhalational anaesthetic agent sevoflurane to the mixture if nitrous oxide/oxygen. There is an ongoing debate whether conscious sedation is in actual fact achieved – we probably need more research here.

Other possible techniques include oral/intranasal/transmucosal sedation. Intravenous techniques are being used but should only be done by experienced practitioners in a safe environment with back-up systems. All practitioners involved in paediatric sedation must have the necessary airway skills to rescue if a child slips unintentionally into a deeper level of sedation.

The question remains – how can we safely do this outside the traditional operating theatres and convince others that it is safe. Paediatric sedation can be safely done if we take into account and follow the established guidelines, and realize that children have

...continue

unique characteristics that appear to increase the risk of adverse events (drug responsiveness, anatomy / physiology, psychological make-up).

We have to develop structured programs that include presedation risk assessment. This is probably the most important aspect of preparing for paediatric sedation – all children do not qualify for sedation! The assessment is especially important where sedation is done by those with diverse practice specialities. Included in the structured programs must be training, monitoring standards, time-based recordings of levels of consciousness, vital signs, and an assessment of fitness for discharge.

A more difficult question to answer is, in whose hands would it be safe. By definition anaesthesiologists are the airway experts. As the experts they must become involved in credentialing processes, training and establishing guidelines. Some would argue that paediatric anaesthesiologists provide the most appropriate group to do paediatric sedation. However, because of insufficient manpower they cannot always meet the increasing demand for paediatric sedation. We as a profession have a very important role to play in providing training to meet the demands for paediatric sedation.

The demand for sedation services is among the most rapidly growing fields in anaesthesia care. We have to accept this and meet the challenge to make paediatric sedation safe.