

CORRESPONDENCE

Analgesia and Sedation for Painful Interventions in Children and Adolescents

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A Clear Position Would Be Desirable

Who should be allowed to administer analgesia and sedation in children? Pediatric anesthetists or pediatric intensivists (even without considering safety aspects applying to general anesthesia?) or non-anesthesiologists (considering these safety aspects?).

I would prefer a clear position statement on this topic and not a comment that can be interpreted at one's convenience.

I would also be grateful if you could tell me how a non-anesthesiologist would have acquired comparable competencies to anesthesiologists (or pediatric anesthesiologists or intensivists) in terms of managing the special side effects and complications.

Finally, a comment on the legal consequences would be of great interest.

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No Advantage

In these times of staff shortages we do not really see any advantage in having a team administering analgesia and sedation.

As per the guidelines, a doctor is not allowed to perform surgery while simultaneously administering the sedation. The presence of a second physician is therefore necessary for medicolegal reasons.

So far, no curriculum exists for the training of analgesia-sedation teams. The sedation guidelines stipulate the need for specialized sedation training for doctors and non-medical assisting staff in the context of quality assurance (1). At the same time, specialized training regulations for premedication and emergency management exists only in individual settings.

If this applies to the sedation of adults, how much more difficult will it be to introduce similar training for

the sedation of children? And where would such training take place outside the settings of pediatric anesthesiology or pediatric intensive care medicine? These specialties are already beset by bottlenecks in training. Also, a certain number of cases per year would have to be guaranteed for the purposes of quality assurance.

To provide emergency management without problems, an experienced doctor has to be available within the shortest possible amount of time, especially for very small children. Resuscitation teams, however, are often not sufficiently trained to deal with children.

The selection of drugs seems difficult. Especially the choice of analgesics seems arbitrary. Fentanyl has a pronounced respiratory depressant effect and is therefore not the first choice for sedation (2).

Instead of introducing a new qualification, it would be sufficient for analgesia-sedation to be administered outside intensive care wards only by specialists in anesthesiology and pediatricians with further qualifications in intensive care medicine or neonatology, whose everyday clinical practice includes airway management and handling medical drugs that have a depressant effect on the central nervous system.

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Dental Trauma

The article by Neuhäuser et al focuses on recommendations for administering analgesia-sedation in painful procedures in children and adolescents. One serious and common item needs to be added to the list of indications (*Box 2 in the article*): dental treatment in

anxious patients—in particular, in uncooperative children.

Most dental and dental-surgical procedures (for example, tooth extractions) can be performed without any problems under local anesthesia. However, this is usually insufficient in patients with exaggerated phobias of dental treatment (dental phobia, oral phobia) or children. Anxiety is usually caused by several coinciding factors—such as particularly traumatic childhood experiences at the dentist’s (“dental trauma”). Further, mere reports of dentist’s visits may trigger phobias (1). The more experienced the dentist and the practice team are in dealing with (young) anxious patients, the better the patient will feel (2). Analgesia-sedation provides an additional, gentle instrument for administering diagnostic measures or necessary dental treatment in a calm and relaxed state (3). However, in some children, or in patients with extreme phobias, a general anesthetic will be required so as not to endanger the treatment result by overly strong phobic reactions or having to interrupt the treatment session. The indication for general anesthesia and how it should be administered will need to be discussed with the parents, the pediatrician or primary care physician, and the anesthesiologist. Whereas analgesia-sedation or general anesthesia should be given in order to enable successful local treatment in dental procedures, causative treatment of chronic phobias additionally requires psychological and psychosomatic approaches.

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Not Coordinated

It is regrettable that the opportunity for an interdisciplinary statement in coordination with the German Society of Anaesthesiology and Intensive Care Medicine (Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin, DGAI), the Professional Association of German Anaesthesiologists (Berufsverband Deutscher Anästhesisten, BDA), and the German Society of Pediatrics and Adolescent Medicine (Deutsche Gesellschaft für Kinder- und Jugendmedizin, DGKJ)

was not used, and we wish to contradict the authors’ statement that specially trained non-anesthesiologists (analgesia-sedation team) will ensure a standard of patient safety in patients of ASA classes I and II during the administration of analgesia-sedation that is comparable to that provided by anesthesiologists (even when propofol is used).

To write that problems are unlikely to occur in children of ASA classes I and II is to play down reality and risk danger. No compromise is possible with regard to the qualifications of the sedation team: every child requires a fully trained and experienced anesthesiologist.

Deep analgesia-sedation is a variant of general anesthesia, and unexpected incidents with life-threatening consequences may occur at any stage, even in completely healthy children. The boundaries between the stages of sedation are fluid, and moderate sedation can turn into deep sedation at any stage. For this reason, the German Society of Anaesthesiology and Intensive Care Medicine and the Professional Association of German Anaesthesiologists have unequivocally explained in a recent statement:

“Planned deep analgesia-sedation or analgesia-sedation in patients at risk (which includes children) should be administered by anesthesiologists. Other doctors should be consulted only if they have the required qualifications (additional qualifications in emergency medicine or intensive care medicine), if they have mastered the procedures, and if they are able to identify life threatening events early and deal with these according to the specialty standard for anesthesiology” (1, 2).

Further, the indications listed in *Box 2* of the article are really indications for general anesthesia with endotracheal intubation.

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In Reply:

We thank our colleagues for their valuable contributions and the lively discussion. The correspondence from our anesthesiology colleagues expresses concerns about the required competences of non-anesthesiologists in terms of administering analgesia-sedation in children and adolescents. In contrast to anesthesiologists, a satisfactory qualification in non-anesthesiologists cannot be taken for granted. Even for anesthesiologists, distinction has to be made between those with experience in treating children and those without such experience.

We thank Ms Soppart for giving us the opportunity to focus on this particular issue. The term “non-anesthesiologists” was introduced by the American Society of Anesthesiology (1) and applies to all doctors without a specialist qualification in anesthesiology; it is thus an imprecise term. For example, this category includes pediatricians with experience in intensive care medicine and neonatology—that is, physicians with competences in life saving and life sustaining measures in children. In our article, we said that if a doctor has insufficient competence and experience in administering analgesia-sedation or emergency management in children, regardless of whether anesthesiologist or non-anesthesiologist, then he or she is not qualified to provide analgesia-sedation in this age group. The safety aspects that we and others mentioned (1–4) apply without exception to all those administering sedation. To gain the required qualification, provide it, and prove it may pose a problem for many, which has to be resolved within hospitals (for example, by collaboration of anesthesiologists with pediatric hospitals). The regulation for specialist training in pediatrics and adolescent medicine already includes the treatment of acute emergencies, which entails life saving measures and basic intensive medical care for children. The catalogue of obligatory requirements for additional qualifications in neonatology and pediatric intensive care medicine includes knowledge of extended resuscitation, airway management, and sedation techniques. If international and national guidelines and the described safety standards are adhered to, and after the patient (or the person in loco parentis) has been fully informed and given written consent, then we think that the necessary requirements have been met. We are not in a position to answer legal questions.

We thank Spiess, Schmidt, Nachtigall, Bühner, Krude, Henning, and Ringe for their question about the necessity of a “sedation team.” Staff shortages are a real problem, but should not be a reason for cutting quality. Optimal care should be provided either by using existing resources (as mentioned in your correspondence) or by creating the necessary structures. The sedation team may consist of anesthesiologists and/or pediatricians with experience in intensive care medicine, who take on the supervision and training of less experienced colleagues or those still in training. The presence of a qualified nurse is also essential. The advantages of a sedation team are also mentioned in the

decision of the German Society of Anaesthesiology and Intensive Care Medicine (Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin, DGAI) and the Professional Association of German Anaesthesiologists (Berufsverband Deutscher Anästhesisten, BDA) (4). We don’t think that a new qualification is needed, but practical training on patients as proof of an existing qualification. Our article should therefore be understood as an invitation to shape and improve the existing quality of structures and processes in such a way that maximum safety for patients is guaranteed (2).

We thank Strauß, Becke, van Aken, and Philipp-Höhne for mentioning the recently published recommendations from the DGAI/BDA. We are pleased that our article is consistent with the decision of the DGAI/BDA, which, with regard to those administering sedation, says: “Deep sedation in children should be administered only by anesthesiologists or pediatricians with experience in intensive care medicine” (4). As we said in our article, incidents may occur at any stage during analgesia-sedation, independently of which ASA class applies to the patient.

Finally, we thank the Shahs for their constructive contribution and agree with their suggestions. We did not claim to provide complete lists in *Table 2* and the *eTable* in our article. For further explanations of the topic we’d like to refer readers to the publications cited in our bibliography and the current guideline from the DGAI/BDA (1–4).

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Conflict of interest statement

The authors of all letters declare that no conflict of interest exists according to the guidelines of the International Committee of Medical Journal Editors.