glycemic ketotacidosis. If however 0.9% NaCl solution is infused, the acidosis may be enhanced, as there is a lack of metabolisable anions. A balanced electrolyte solution is to be preferred here.

Table 3 is not very helpful. It is hardly possible to distinguish between “dry” and “dried out” mucus membranes. Experience has shown that the clinical evaluation of the child should be based on the general condition, respiration and circulation, with the help of the Pediatric Assessment Triangle. This tool is a valuable didactic aid when the severity of a pediatric emergency is to be assessed.

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REFERENCES

1. Müller-Lobeck L, Birnbaum J, Spies C: Kindernotfälle – Allgemeine Behandlungsstrategien, Anästhesiol Intensivmed Notfallmed Schmerzther 2009; (44)6: 422–7.
2. Heinzel O, Schwandt JC, Eppich WJ: Das ABC des lebensbedrohlichen Kindernotfalls. Monatsschr Kinderheilkd 2009; 157: 801–16.
3. Meyburg J, Bernhard M, Hoffmann GF, Motsch J: Principles of Pediatric Emergency Care. Dtsch Arztebl Int 2009; 106: 739–48.

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Use Familiar Material

The authors are quite right to state that, “Securing the airway [...] requires special knowledge and manual skills”. What is difficult to understand is the assertion that “oro-tracheal intubation [...] is to be preferred in emergencies”. The primary issue is really not intubation, but oxygenation.

If a child has a difficult airway, or if ventilation with a face mask turns out to be difficult or impossible, this is mostly due to errors in the positioning of the head or mask, or of the patient’s body. If positioning, the Esmarch maneuver, lifting the chin or Guedel’s tubes are all unsuccessful, the anesthesia must be immediately deepened and an alternative airway must be selected. As many physicians have had extensive experience with the laryngeal mask, the laryngeal mask should be the first choice in children.

Most emergency physicians are not pediatricians and are used to curved McIntosh’s spatulas. To avoid mistakes, they should use familiar material, particularly under stress or in emergencies. If Miller’s spatula fails to lift the epiglottis, intubation is impossible.

The cricoid cartilage (not “below the cricoid cartilage”) is the physiological bottleneck in a child’s respiratory tract and must be passed atraumatically. If there is damage, this may have happened because the selected tube is too wide. If intubation is necessary, a small but cuffed tube must be regarded as the gold standard. The resistance of the respiratory tract is irrelevant in ventilation. And why should an excessively small tube cause hyperexpansion of the lung?

Even under routine conditions, intubation of children requires enormous experience and regular training. Safeguarding a child’s respiratory tract is an enormous challenge for many emergency physicians. Although endotracheal intubation is established as the gold standard within the hospital, it can hardly be used preclinically. In this situation the supraglottic airway must be used and will guarantee a safe airway. The physician performing the intubation must master this flawlessly.

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REFERENCES

1. Hoehne C, Haack M, Machotta A, Kaisers U: Atemwegsmanagement in der Kinderanästhesie, Anaesthesist 2006; 55: 809–20.
2. Holzki J: Laryngeal damage from tracheal intubation. Paediatric An-aesthesia 1997; 7: 435–7.
3. Müller-Lobeck L, Birnbaum J, Spies C: Kindernotfälle – Allgemeine Behandlungsstrategien, Anästhesiol Intensivmed Notfallmed Schmerzther 2009; (44) 6: 422–7.
4. Meyburg J, Bernhard M, Hoffmann GF, Motsch J: Principles of Pediatric Emergency Care. Dtsch Arztebl Int 2009; 106: 739–48.

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In Reply:

We would like to thank our colleagues for the detailed discussion and for the valuable input from numerous letters. This has shown us that we have succeeded in waking the interest of many readers.

We have read the current review article referred to by Dr. Lukowski, but do not share his reservations about the administration of antipyretics. In most of the studies cited there, the fever could not be adequately reduced under the study medication (1). In one study, higher temperatures were even measured in children with recurrent febrile seizures than in the control group (2). We therefore do not regard it as justified to make a clear statement about the lack of reduction in the frequency of seizures. As Dr. Lukowski himself admits, the antipyretics help to control the fever and to safeguard the child’s well-being. If weight-adjusted doses are used and the contraindications respected, we see no evidence that the treatment is useless or even dangerous.

Genzwürker, Gernoth and Hinkelbein emphasize that the procedure of percutaneous coniotomy, as described by us, is not a standard procedure, for many reasons. They correctly point out that there is a DIN norm for first aid material. It is, however, common knowledge that, even for adult emergencies, desirable materials—or even material prescribed by the DIN norm—are often omitted. If medically approved products are not available in an emergency, the technique with simple materials which we describe (and use ourselves) can be employed to prevent potentially fatal hypoxia in the child, till the respiratory tract can be adequately safeguarded.

Drs. Müller-Lobeck and Spies refer to the Pediatric Assessment Triangle for the clinical assessment of pediatric emergencies. We have found that this practical aid is of great value in many emergency situations. We nevertheless think that it is unsuitable for assessing fluid loss, as two of the three parameters it records (respiratory work and skin perfusion) only change in the final stage of dehydration, during the transition to hypovolemic shock. For this reason, we prefer the classification shown in *Table 3*, which is widely used in pediatrics. We use the term “diabetic ketoacidosis” in the colloquial sense of the clinical picture of ketoacidotic coma, rather than as a description of the biochemical findings. We urgently advise against infusing uncontrolled potassium as a component of balanced electrolyte solutions, as there is often initial hyperkalemia in these patients, due to impaired renal function. For this reason, the current guidelines recommend initial fluid replacement with 0.9% NaCl (3).

We are grateful for the comments from Strauß and Becke about the possibilities and restrictions for pre-clinical management of the respiratory tract. However, we do not share their view about the preferability of small cuffed tubes. On the one hand, current studies call the dogma into doubt that it is less traumatic to use uncuffed tubes in children (4). On the other hand, the use of a cuffed tube which is too narrow can cause serious problems. This can considerably increase the resistance on expiration, particularly at high respiratory rates and/or with obstructive lung diseases (both of which are frequent in children).

We also wish to thank Dr. Mader for his suggestions and questions, although we unfortunately do not have enough space to answer them fully here. We hope that the emergency physician will manage to arrive within less than 15 min, as specified as the appropriate time limit in the individual federal states. In our opinion, the method of choice is rectal administration of diazepam, followed by escalating doses of antiepileptics. Because of the potential for side effects, we think it is at least debatable whether propofol can be recommended to all emergency physicians without specific training in pediatric anesthetics. In addition, propofol is not one of the drugs of first choice for epileptic seizures in children (5). Our article apparently left the impression that a narrow venous access with a 26G in-dwelling cannula is adequate for shock therapy. This is of course not the case. On the other hand, an access of this sort can, for example, be valuable to permit analgesic sedation when making an intra-osseous access or when applying lifesaving emergency drugs.

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3. Sherry A, Levitsky L: Management of diabetic ketoacidosis in children and adolescents. *Pediatric Drugs* 2008; 10: 209–15.
4. Weiss M, Dullenkopf A, Fischer JE, Keller C, Gerber AC: Prospective randomized controlled multi-centre trial of cuffed or uncuffed endotracheal tubes in small children. *Br J Anaesth* 2009; 103: 867–73.
5. Merckenschlager A: Der neurologische Notfall beim Kind. *Notfall Rettungsmed* 2009; 12: 590–9.
6. Meyburg J, Bernhard M, Hoffmann GF, Motsch J: Principles of Pediatric Emergency Care. *Dtsch Arztebl Int* 2009; 106: 739–48.

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Conflict of interest statement

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

REFERENCES

1. van Stuijvenberg M, Derksen-Lubsen G, Steyerberg EW, Habbema JD, Moll HA: Randomized, controlled trial of ibuprofen syrup administered during febrile illnesses to prevent febrile seizure recurrences. *Pediatrics* 1998; 102: E51.
2. Uhari M, Rantala H, Vainionpää L, Kurttila R: Effect of acetaminophen and of low intermittent doses of diazepam on prevention of recurrences of febrile seizures. *J Pediatr* 1995; 126: 991–5.