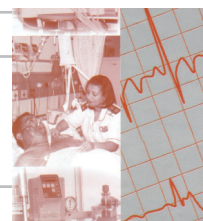


# Paediatric airway management



This issue of *SAJCC* includes an article on post-extubation stridor in children by Daan den Hollander and David Muckart from Durban.<sup>1</sup> In it the authors discuss a 3-year-old boy who required intubation after a motor vehicle accident, and who subsequently had a rather stormy course as a result of airway complications following endotracheal intubation. The article is timeless as it reminds us of the morbidity, and occasionally mortality, associated with paediatric airway intubation.

Given the number and size of children who are intubated in paediatric and neonatal intensive care units in South Africa, it is remarkable that our complication rate is not higher. This bears testimony to the quality of the nursing care in our units. In a recent study at Tygerberg Children's Hospital 41% of the 56 children in our tracheostomy home programme required a tracheostomy for post-intubation airway problems (unpublished data). Although this is a very small number of children considering that the study was done over a 10-year period, the children are usually tracheostomy dependent for approximately 2 years, with concomitant morbidity and consumption of expensive resources. The impact on the family is also significant as a dedicated caregiver is required to look after the child, who needs constant supervision. Surgical intervention is frequently required before the child can be decannulated.

The solution obviously lies in the training of health care personnel who may have to intubate children. The anatomy of the child's airway differs from that of the adult in many ways: the shape of the head is different, with a prominent occiput; the tongue is relatively big; and the larynx is situated higher up and more anteriorly.<sup>2</sup> We have always taught that the narrowest point in the child's airway is at the cricoid cartilage, but this has been questioned in a recent article.<sup>3</sup> What

remains true, however, is that the cricoid is made up of a complete cartilage ring, and any injury here may result in swelling that will cause severe airway narrowing.<sup>2</sup> This is also the area in which subglottic stenosis results from intubation injury.

One should always aim at preventing airway injury, and Den Hollander and Muckart discuss choosing the correct type and size of endotracheal tube (ETT), and other factors important in preventing post-extubation stridor.<sup>1</sup> Currently most young children in South Africa still tend to be intubated with uncuffed ETTs, but the use of cuffed tubes is becoming more frequent, even in this group of children. The authors discuss cuffed ETTs and describe how important it is to measure the cuff pressure and maintain it below 20 cm H<sub>2</sub>O.<sup>1</sup>

Even with all the precautions, post-extubation stridor is common in young children, and should be managed appropriately. Most texts recommend the use of nebulised racemic adrenaline and systemic steroids, although the evidence for these therapies is not strong. However, as the old adage states, prevention is better than cure, and it is the responsibility of the person intubating the child to ensure an appropriate and safe airway for the patient.

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