

Drs. Lee *et al.* rather well.<sup>1</sup> Alternate methods of zygomatic stabilization include open reduction and fixation at the fracture sites; antral support with gauze packing or Foley catheter balloon inflation; and extra-skeletal pin fixation. Since the Kirschner wire technique is blind, the course of advancement of the wire is not certain. In addition to skewering a nasal endotracheal tube, such wires may come to rest between the pilot tube and the endotracheal tube and may be extended laterally to impede mandibular motion by contact with the coronoid process. One additional hazard in this dangerous technique with a threaded wire is wrapping of a peripheral branch of the facial nerve around the Kirschner wire. There is a potential for avulsion far proximal to the site of entry of the Kirschner wire. A Kirschner wire might accidentally be di-

rected or curve toward an orbit, resulting in dire consequences. In summary, the hazards of this technique far outweigh the speed it allows. The anesthesiologist should be alerted to these potential problems.

MARK BOWDEN, D.D.S., M.D.  
500 Central Medical Building  
Lexington, Kentucky 40503

#### REFERENCES

1. Lee C, Schwartz S, Mok MS: Difficult extubation due to transfixation of a nasotracheal tube by a Kirschner wire. *ANESTHESIOLOGY* 46:427, 1977
2. Walker RV, Bertz JE: Facial and Extracranial head injuries, *Care of the Trauma Patient*. Edited by Shires GT. New York, McGraw-Hill 1966, pp 484-490

(Accepted for publication August 31, 1977.)

Anesthesiology  
48:80, 1978

### Heated Humidification for Infants during Anesthesia

*To the Editor:*—We commend Bennett *et al.*<sup>1</sup> for the excellent results achieved in maintaining body temperature in neonates during anesthesia and operation by using ambient temperature, Vi-drape®, a warming mattress, and warming of blood. Anesthetic gases were not heated, and it is unclear whether they were humidified. We are concerned that this report implies that heated humidification of anesthetic gases delivered through a T-piece circuit is not necessary. We evaluated the benefits of a new heated humidifier\* in 29 infants and small children undergoing anesthesia and operation using a Jackson Rees' modification of the Ayre's T-piece.<sup>2</sup> An ambient temperature of 23.9 C, warming blanket at 37.5 C, and any blood administered warmed to 37.5 C were used in all patients. The control group of 13 infants was managed without heating or humidification of the anesthetic gases. In the control group, 11 of 13 patients showed decreases in body temperature averaging 1.72 F. In the study group of 16 patients in which the heated humidifier was used, only four of 16 patients showed decreases in body temperature, and the group as a whole averaged a 0.71 F gain. Heated humidification is not only helpful in maintaining body temperature, but prevents damage to the ciliated epithelium of the tracheobronchial tree caused by dry anesthetic gases.<sup>3</sup>

Bennett *et al.*<sup>1</sup> also concluded that complaints from the operating room personnel of the high ambient temperatures were a small price to pay for minimizing the deleterious effects of hypothermia in the

newborn. However, when using ambient temperatures above 26 C we have experienced difficulty from increased sweating of operating room personnel causing prolongation of the surgical procedure and possible contamination of the surgical site. Although we agree that ambient operating room temperature is the most important factor in maintaining body temperature in infants and children, we strongly recommend that heated humidification be used as an adjunct when employing a T-piece circuit.

CHARLES T. WALLACE, M.D.  
*Associate Professor*  
J. DAVID BAKER, III, M.D.  
*Assistant Professor*  
*Department of Anesthesiology*  
*Medical University of South Carolina*  
*80 Barre Street*  
*Charleston, South Carolina 29401*  
CARROLL S. BROWN, M.D.  
*Staff Anesthesiologist*  
*North Trident Regional Hospital*  
*Charleston, South Carolina 29401*

#### REFERENCES

1. Bennett EJ, Patel KP, Grundy EM: Neonatal temperature in surgery. *ANESTHESIOLOGY* 46:303-304, 1977
2. Baker JD, Wallace CT, Brown CS: Maintenance of body temperature in infants during surgery: Experience with a new heated humidifier. *Anesthesiol Rev* 4:21-25, 1977
3. Chalon J, Loew DAY, Malebranche J: Effects of dry anesthetic gases on tracheobronchial ciliated epithelium. *ANESTHESIOLOGY* 37:338-343, 1972

(Accepted for publication May 31, 1977.)

[The Editor regrets the delay in publication, which resulted from a clerical oversight.]

\* Harlake Series 328 Respiratory Humidifier.