

Anesthesiology
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Allaying Fear of Anesthesia in Children

To the Editor:—Dr. Simmonds' concern about the phrase "put to sleep" frightening children who have had a pet "put to sleep" is very appropriate.¹ For some years now I have avoided (and have taught others to avoid) this locution. Instead we say "help you take a nap." Nap may not always be welcome in childhood, but it is familiar, benign and reversible, and therefore not threatening.

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Rectal Temperature is Best Indicator of Adequate Rewarming during Cardiopulmonary Bypass

To the Editor:—I also have observed hypothermia following cardiopulmonary bypass (CPB) as reported by Noback and Tinker in a recent issue of *ANESTHESIOLOGY*.¹ It has been my impression that rectal, rather than nasopharyngeal or esophageal temperature monitoring, is the better guide for adequate whole body rewarming during CPB.

To confirm this impression I studied 30 consenting patients, 18 men and 12 women, ages 32-75 years, scheduled for coronary artery bypass (16), aortic (12), or mitral (2) valve replacement. Thermistor probes, calibrated against a mercury thermometer, were placed in the rectum, esophagus, and nasopharynx of each patient. Hypothermia during CPB was induced by cooling the perfusate to about 25° C and rewarming by warming the perfusate to about 38° C. CPB was concluded when rectal temperature rose to about 35° C. Temperatures were recorded every 15 min during the rewarming phase and for 1 h after the conclusion of CPB. The results, summarized in table 1, were analyzed statistically using Student's *t* test; *P* values below 0.05 were considered significant. Rectal temperature remained stable during the first post-CPB hour while esophageal and nasopharyngeal temperatures drifted downwards until they reached the same level as rectal temperature.

Highly perfused tissues, such as the heart and brain, constitute only 9 per cent of body mass but receive 75 per cent of the cardiac output.² Their temperatures, as represented by esophageal and nasopharyngeal temperatures, respectively, equilibrate quickly with the perfusate's temperature, but they represent only a small part of the body mass. In contrast, rectal temperature lags behind esophageal and nasopharyngeal temperatures, but it represents the temperature of a larger part of the body mass.

TABLE 1. Rectal, Nasopharyngeal (NP), and Esophageal Temperatures during the Rewarming Phase of CPB

| State | Temperatures (°C)* | | |
|------------------|--------------------|-------------|-------------|
| | Rectum | NP | Esophagus |
| Before rewarming | 27.7 ± 0.1 | 25.1 ± 0.4† | 24 ± 0.4† |
| Rewarming 30 min | 33.2 ± 0.4 | 38.2 ± 0.3† | 37.8 ± 0.2† |
| CPB off | 35.6 ± 0.2 | 37.5 ± 0.2† | 36.9 ± 0.2† |
| CPB off 30 min | 35.8 ± 0.1 | 36.3 ± 0.1 | 35.8 ± 0.1 |
| CPB off 60 min | 35.6 ± 0.1 | 35.8 ± 0.1 | 35.2 ± 0.1 |

* Values are means ± SE.

† *P* < 0.005 when compared to rectal temperatures.

We therefore recommend rectal temperature monitoring to serve as a guide for whole body re-warming during CPB.

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A Modified Laryngoscope Blade for Dental Protection

To the Editor:—The hazards of damage to teeth, gums, dental restorations, and prostheses during laryngoscopy are well-known to all anesthesiologists. Despite an adequate preoperative assessment, many patients, especially those with protruding maxillary incisors and poor dentition, may experience damage to dental structures. The risk of this damage is increased if the maxillary incisors or alveolar ridge is used improperly as a fulcrum for the laryngoscope to visualize the larynx.

In order to guard dental structures, mouth and teeth protectors have been developed.¹ Their main disadvantages are that they generally decrease the opening of the mouth and may interfere with visualization of the larynx.

Recently we have introduced a strip of polyfoam to the flange of the Macintosh blade to provide a cushion for teeth and gums (fig. 1). These strips are available

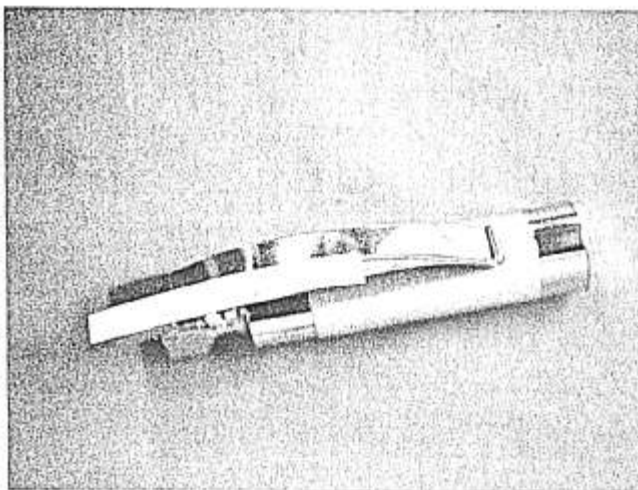


FIG. 1. Addition of a polyfoam cushion to the flange of a Macintosh blade.

precut to fit a Macintosh #3 blade (Ace Surgical, Brockton, Massachusetts). The adhesive of the polyfoam is pressure-sensitive, repositionable, and FDA approved. This cushion is easily removed for cleaning of the blade after each use. The polyfoam is extremely dense and because it is so thin (1/16 in) does not interfere with the insertion of the blade into the mouth, visualization of the larynx, and intubation of the trachea.

We apply polyfoam to the blade in cases where difficult laryngoscopy is anticipated and use it extensively in teaching laryngoscopy to the inexperienced. Although probably offering less protection than the rigid, custom-made mouth guards, it is our impression that dental damage has been reduced significantly since the introduction of this simple and inexpensive modification.

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