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### Elastic Foamed Polymer Earplug as a Stethoscope Earpiece

*To the Editor:*—A precordial or esophageal stethoscope has been considered to be a fundamental monitor in pediatric anesthesia. A monaural earpiece is more comfortable than a binaural headpiece. However, unless custom-molded, the earpiece is often not used during a long operation because of discomfort.

I have found that an elastic foamed polymer earplug (Ear Whisper™, Cabot Corporation) and a disposable iv extension tube made a very comfortable earpiece, even for a long use.

The earplug is cut short, and a male adapter of an iv extension tube is inserted into the plug (fig. 1). The plug-earpiece is compressed and inserted into the auditory canal, then the earplug expands slowly in the canal and seals the space.

Since the introduction of the elastic foamed polymer earplug-earpiece, no residents have complained about discomfort of the ear.

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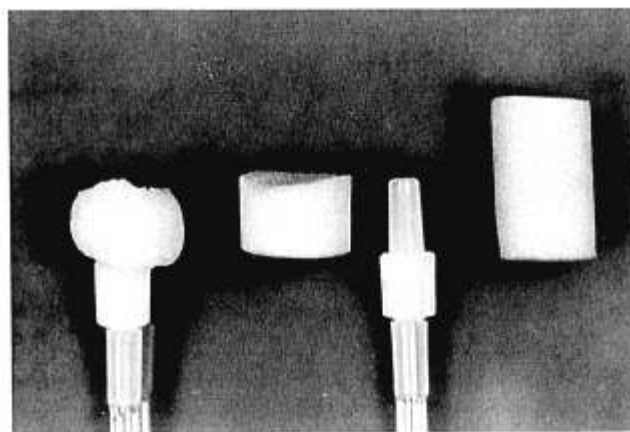


FIG. 1. Ear plug and iv extension tube make a comfortable earpiece.

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### N<sub>2</sub>O Has No Place During Oropharyngeal and Laryngotracheal Procedures

*To the Editor:*—We read with interest the clinical report entitled "Endotracheal Tube Fire Ignited by Pharyngeal Electrocautery," by Simpson and Wolf,<sup>1</sup> and we agree with their concern regarding the use of intraoral or pharyngeal electrocautery. However, we feel they missed an important opportunity to warn others and emphasize the danger when using electrocautery or laser with N<sub>2</sub>O/O<sub>2</sub> combinations during upper airway procedures. Although the beneficial effect of decreasing the O<sub>2</sub> concentration in N<sub>2</sub> has not been studied in a controlled fashion with electrocautery, we feel the specific energy ignition source (electrocautery or laser) is of secondary importance to the

avoidance of N<sub>2</sub>O and the use of a low O<sub>2</sub> percentage in N<sub>2</sub>.

El-Baz *et al.*,<sup>2</sup> investigating catheter ignition by laser during the use of O<sub>2</sub>-N<sub>2</sub> and O<sub>2</sub>-N<sub>2</sub>O mixtures, noted the critical O<sub>2</sub> concentration in N<sub>2</sub> which avoided PVC tube ignition by laser to be an FI<sub>O<sub>2</sub></sub> of 30%. Although the use of O<sub>2</sub> concentrations above the critical level of 30% may be required to provide adequate oxygenation in patients with coincident pulmonary disease, the majority of those presenting for elective airway procedures should tolerate 25-30% O<sub>2</sub> in N<sub>2</sub>. Whether individual clinicians use cuffed endotracheal tubes in children or not, or avoid the

use of electrocautery in close proximity to PVC endotracheal tubes, as suggested by Simpson and Wolf, we feel the use of N<sub>2</sub>O and O<sub>2</sub> during anesthesia for intraoral, pharyngeal, or laryngotracheal procedures should be avoided completely in favor of air or air-oxygen mixtures.

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*In Reply:*—We agree with Shapiro and El-Baz that “the use of N<sub>2</sub>O and O<sub>2</sub> during anesthesia for intraoral, pharyngeal, or laryngotracheal procedures should be avoided completely in favor of air or air-oxygen mixtures” only with the proviso that electrocautery and/or laser is required for surgery. Certainly, the combination of a fuel (endotracheal tube), an oxidant (oxygen and/or nitrous oxide), and an ignition source (electrocautery or laser) has the potential for fire. When any one of the triad is missing, however, fire is unlikely.

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### Malignant Hyperthermia: Are We Really Prepared?

*To the Editor:*—Malignant Hyperthermia remains a formidable challenge to anesthesiologists. As with so many other nightmarish situations in medicine, being prepared is the key to successful management. Dantrolene, the drug of choice, when used appropriately,<sup>1</sup> has contributed to the reduction in mortality from 90% to about 10%. Since dantrolene is an emergency drug, experts agree that it should be immediately available at all anesthetizing locations. That means, in most cases, in the operating room.<sup>2-5</sup>

Recently, we conducted an informal telephone survey of all hospitals and surgical centers in Dallas, Texas, as listed in the Parkland Memorial Hospital telephone directory. Twenty-three institutions at which surgical procedures under general anesthesia are performed were polled. All major hospitals had dantrolene available within the operating room.

However, four of 23 surgical locations had no dantrolene available in the hospital. One further institution stored dantrolene in the pharmacy, but not in the operating room.

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We are of the opinion that, in the management of a malignant hyperthermia crisis, every minute counts. Storing dantrolene in the operating room should be as mandatory as storing, for example, epinephrine and other resuscitation drugs and devices.

Anesthesiologists should not rest until mortality from malignant hyperthermia is completely erased. To reach that goal, we need to be prepared, wherever we practice.

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