

soon achievable. I had done the power analysis and was well aware of the need for over 3 million more cases. Because of this impracticality, the data were offered now as an observation on the evolution of our practice in a manner not tied to $P < 0.05$ but more like a case conference presentation that can be an equally valid way to arrive at the "truth."

The last sentence from Dr. From reveals a lack of understanding. Pulse oximetry and capnography cannot be separated from the standards because the standards mandate behavior and using this equipment is one appropriate, effective way to implement the behaviors of continuous monitoring. Neither the standards nor the equipment can stand alone and neither directly "causes" improved outcome. The actuaries

and insurers lowered our premiums because, I believe, this trend is real. It is a reasonable conclusion that the concepts and behaviors embodied in the principles of safety monitoring have contributed to improved outcome of anesthesia care.

JOHN H. EICHHORN, M.D.
*Harvard Medical School and Beth Israel Hospital
330 Brookline Avenue
Boston, Massachusetts 02215*

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Protecting Teeth during Endotracheal Intubation

To the Editor:—Every anesthesiologist has experienced difficulty during tracheal intubation, and many have been unfortunate enough to damage teeth, gums, lips, or other mouth structures during a difficult (or even routine) intubation. Damaged teeth result in the largest number of lawsuits filed against anesthesiologists.¹ Several products have been designed to protect the teeth from damage, however these are usually cumbersome full upper-mouth guards that place a loose foreign body in an already cramped working area.

Since most anesthesiologists use a Macintosh blade as their primary intubation instrument, it is reasonable to place the padding directly on the flange. After trying several products for this purpose (including cut layers of Microfoam* tape), I found polyurethane sheeting with an adhesive backing† (fig. 1). This material is soft, resilient, and has a

firm adhesive backing that sticks well to the metal of the blade without leaving a residue when it's removed so the blade can be easily cleaned. It is available in a variety of configurations, including sheeting and rolls. I have used strips cut about 1-cm wide and 3-4-cm long (fig. 2) and find that they fit well on the flange of the Macintosh 3 blade. The strips should be somewhat longer for use with the Macintosh 4 blade. They will work well with the Miller series of blades, but the narrower flange makes it important to adhere the pad firmly.

Fully cured polyurethane is essentially inert if ingested.² The pad should be inspected upon removal to make certain that none of it has torn off. The material is available in several colors; however, bright green or yellow show up best in the mouth should the pad become dislodged.

No amount of padding or other protective equipment is a substitute for proper intubation technique; however, several of my colleagues have found this extra bit of protection well worth the few seconds it takes to apply the pad. In addition, they make valuable teaching aids since more than a slight amount of pressure will leave a visible dent in

* 3M Manufacturing, Medical-Surgical Division, St. Paul, Minnesota.
† Success Polymers, Paramount, California.

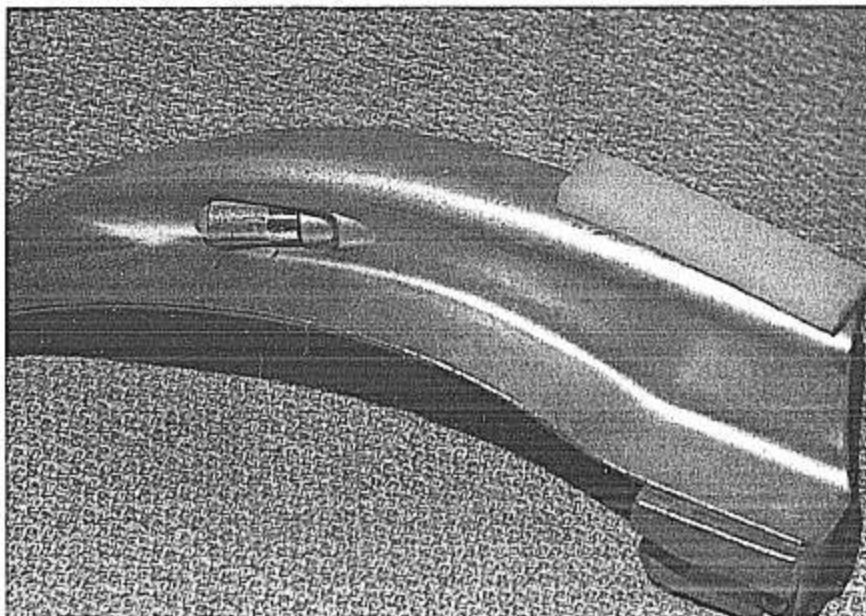


FIG. 1. Macintosh 3 blade with polyurethane sheeting in place ready for use.

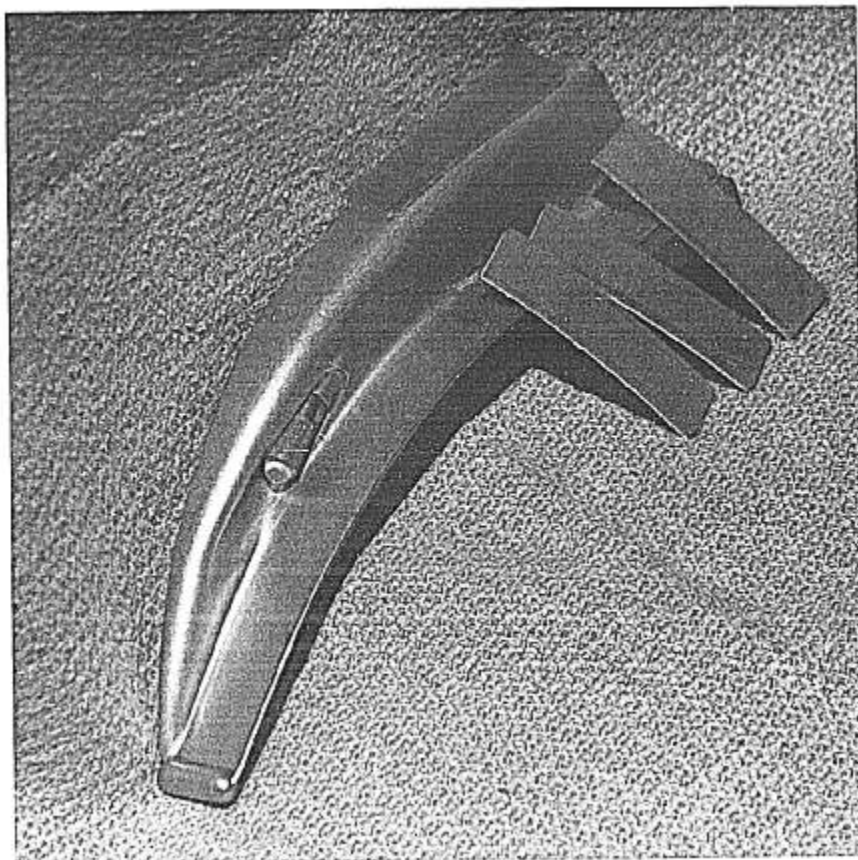


FIG. 2. Macintosh 3 blade and precut strips of polyurethane sheeting.

the material, indicating that the operator has been using the incisors for a fulcrum.

STEVEN HADDY, M.D.‡
Department of Anesthesiology

‡ Dr. Haddy is a shareholder in Success Polymers, Inc. and may potentially profit from sales of material described in this communication.

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A Recommendation for Reduced Lidocaine Dosage during Intravenous Regional Brevyrium Treatment of Reflex Sympathetic Dystrophy

To the Editor:—Ford *et al.* report four cases of Reflex Sympathetic Dystrophy managed by the injection of bretylium 1 mg/kg in 0.5% lidocaine.¹ The volume of 0.5% lidocaine injected in the lower extremity was 100 ml in three patients. The weights of these patients were not specified; however, this lidocaine dose would likely result in complications of lidocaine toxicity in the event of tourniquet failure.

We have administered a lower dose of lidocaine for iv regional bretylium block. Four female patients, ages 37–42 yr, were administered 1 mg/kg of bretylium in 0.25% lidocaine with 100 U of heparin. One hundred milliliters of local anesthetic with bretylium was injected after exsanguination of the lower limb and inflation of a double tourniquet. All patients experienced pain relief during administration of the block and none had tourniquet pain. No patients had complications from

the procedure; however, pain relief lasted only 2–7 h after deflation of the tourniquet. Each of these patients additionally received conventional therapy with lumbar sympathetic block. With this therapy, one patient had a duration of pain relief for only 4 h, but the remainder had pain relief for 5–9 days.

To explain our findings, we considered the following. 1) Our patients may have been different from those described by Ford *et al.* with respect to their underlying mechanism of pain. Their favorable response to lumbar sympathetic block, however, suggests sympathetically mediated pain. 2) The local anesthetic is an active component of iv regional treatment of RSD. Reduction of the concentration of local anesthetic may have resulted in decreased efficacy of the regional block. If, in fact, bretylium proves to be the agent responsible for pain relief using

*Hospital of the Good Samaritan
616 S. Witmer St.
Los Angeles, California 90017*

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