

CORRESPONDENCE

Anesthesiology
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Electrosurgery Units, not Temperature Probes, Must Be Corrected to Prevent Burns

To the Editor:—A recent issue (July 1984) contains a report entitled “Electrosurgical burn at the site of an esophageal temperature probe” by Edson O. Parker III, M.D.,¹ which references statements attributed to an unidentified representative of Yellow Springs Instrument Company (YSI). I am probably that representative, and I remember a conversation with Dr. Parker on the subject. However, the report does not accurately reflect what I said, specifically in the sentence: “A YSI representative . . . informed this author that the temperature probes are an electrical hazard, that YSI makes no claims for them blocking RF current, and that the probes should be considered bare wires.”

YSI temperature probes are, of course, not bare wires; they are rather well insulated. I introduced the bare wire as an analogy to illustrate that no insulation can completely block capacitively coupled radio-frequency (RF) currents and that where there is no other satisfactory return path the RF current can burn through insulation. The temperature probe is not the culprit in this situation, but it is among the victims. Electrosurgery requires connection of apparatus so as to provide a safe and proper path that will preclude the flow of current to any unintended point, grounded or not.

In his summary, Dr. Parker recommends avoiding the use of monitoring devices that are not designed specifically to inhibit the reception of radio-frequency current. For temperature measurement, at least, this would effectively eliminate use of any device currently readily available, and should not be necessary if the RF current is properly isolated and controlled.

This misunderstanding aside, Dr. Parker's report is a valuable addition to the growing body of literature on this subject and should alert operating room personnel to some of the more subtle aspects of the problem.

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REFERENCE

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Intranasal Trauma Caused by a Sharp-edged Laser-resistant (Silicone) Endotracheal Tube

To the Editor:—Laser energy applied to tracheolaryngeal surgery may cause combustion of polyvinyl chloride and red rubber endotracheal tubes. This problem was solved by the use of flexible metal tubes.¹ However, they initially had sharp edges that could cause lacerations,² but this danger has since been eliminated.³ Subsequently, a new endotracheal tube was designed for laser surgery. It is made of a silicone elastomer and coated with a layer of silicone containing reflective aluminum oxide (Xomed Inc., 6743 South Point Drive North, Jacksonville, Florida 32216).

We wish to report that, in the performance of a nasotracheal intubation with a 6.0 mm Laser-Shielded™ endotracheal tube of this type, we caused an avulsion of the middle turbinate, the resulting epistaxis requiring packing to obtain hemostasis. We should like to call attention to the sharp Magill tip of this tube (fig. 1), the

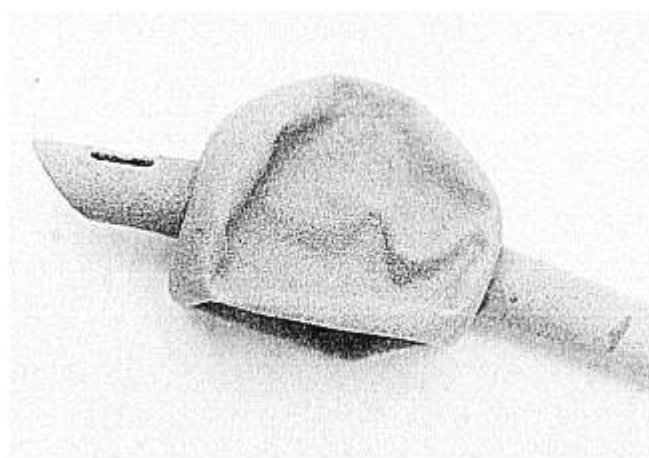


FIG. 1. The Xomed® Laser-Shielded™ endotracheal tube. Notice the angulated tip, the distal part of which is relatively noncompliant.

distal part of which is also relatively noncompliant compared with a polyvinyl chloride endotracheal tube. We suggest that this tip be rounded or smoothed by the manufacturer in the production process. We do not recommend that the anesthesiologist cut the tube prior to its use; though it may produce the desired effect, the cutting will most likely damage the reflective coating and compromise the sterility of the tube.

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In reply:—Xomed has manufactured and sold thousands of the Laser-Shield™ laser-resistant tubes to hospitals. In the entire time that we have manufactured these tubes, we have received very few comments regarding the tip of the tube.

We did recognize the fact that the tube was somewhat more pointed than our standard silicone endotracheal tubes and decided to change our manufacturing process. We currently do not coat the distal end of the tube up to the inflation balloon (fig. 1). This improvement now provides an all-silicone atraumatic tip. We feel that this modification will alleviate concerns regarding trauma during intubation.

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Multiorificed CVP Catheters and J-Wires: A Word of Caution

To the Editor:—The use of multiorificed central venous catheters for optimal air aspiration in patients at risk for air embolism is becoming increasingly popular.¹ We wish to call attention to a possible hazard associated

with the unintended misuse of the Bunegin-Albin Air Aspiration CVP Set® (Cook Inc., P.O. Box 489, Bloomington, IN 47402). This set consists of a 5.8 F 60-cm (for antecubital veins) or 40-cm (for jugular and subcla-

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FIG. 1. Laser Shield™ laser-resistant endotracheal tube with new silicone atraumatic tip.