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Technique of Avoiding Esophageal Burns

To the Editor:—Over the years, we have been cognizant that any electrical apparatus can act as a ground and be the source of electrical burns. Despite the fact that we have not recognized an esophageal burn in 2,000 open-heart procedures, we admire the candor of Dr. Edson O. Parker¹ in publishing this interesting and important report of esophageal burns.

Besides proper grounding, we have a simple solution to this problem. The esophageal temperature probe is inserted into the esophagus via a #6 endotracheal tube. (Our department has been doing this for years for ease of positioning of the probe.) The length of the tube is marked on the probe with tape. When temperature monitoring is needed, the probe is inserted a centimeter or two beyond the edge of the tube. This insures proper positioning of the temperature probe. The probe may be pulled back into the tube during periods of maximal

electrical activity, *i.e.*, opening and closing the chest, and repositioned when temperatures values are needed.

We feel that the benefit of temperature monitoring outweighs the risks if this is done.

F. ROBERT WEIS, JR., M.D.
Associate Professor

ROGER E. KAISER, M.D.
Assistant Professor

*Department of Anesthesiology
State University of New York at Buffalo
462 Grider Street
Buffalo, New York 14215*

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Delayed Onset of Laryngospasm-induced Pulmonary Edema in an Adult Outpatient

To the Editor:—We would like to report another case of laryngospasm resulting in pulmonary edema in an adult.

A 30-year-old, 60-kg G₆P₄Ab₁ woman with a 13-week intrauterine pregnancy presented to the ambulatory surgery unit for an elective dilatation and evacuation (D&E). Her medical history included a previous D&E under general anesthesia. She denied cardiovascular and respiratory system disease. She had nothing by mouth for 16 h. Initial blood pressure was 116/74 mmHg, heart rate 68 beats/min, temperature 37.1° C, and respirations 16/min. Hemoglobin concentration was 11.0 g/dl.

Atropine 0.3 mg iv and fentanyl 100 µg iv were administered. Oxygen (F_IO₂ = 1.0) was administered by face mask for 1 min, followed by sodium thiopental 275 mg iv, resulting in a smooth loss of consciousness. N₂O 3 l/min, O₂ 2 l/min, and isoflurane 1% were administered by mask for maintenance. The patient tolerated positioning and examination under anesthesia, but dilatation of the cervix resulted in laryngospasm. Despite immediate administration of 100% O₂ and positive pressure, the patient could not be ventilated for 45 s.

The patient's heart rate decreased from 100 to 35 beats/min. Atropine 0.5 mg iv was administered and a succinylcholine infusion was started. The patient was intubated without difficulty. Suctioning revealed no evidence of regurgitant material in the pharynx or via the endotracheal tube. Breath sounds were clear bilaterally. The patient's heart rate returned to 100 beats/min, and the surgical procedure continued. The procedure was completed 20 min after intubation. With full return of muscle strength, the patient was extubated and brought to the recovery room.

One hour after arrival in recovery room the patient was fully awake and had no complaints. She had a respiratory rate of 20/min and her lungs were clear to auscultation. Total intravenous fluids were 1,100 ml of 5% dextrose in half normal saline. One hour and 25 min after arrival in the recovery room, she complained of dyspnea. She was tachypneic and coughing up pink frothy material. Rales were present over two-thirds of both lung fields. Breathing room air, her pH was 7.34, PaO₂ was 47 mmHg, and PaCO₂ was 40 mmHg. A chest radiograph revealed moderate pulmonary edema bilaterally. She was treated with furosemide 5 mg iv and