



FIG. 1. Conducting strips for operating room shoes.

writes, "We were unable to produce sparks with the aluminum strip even on a very hard vitreous ceramic tile floor. The conductivity is rapid and thorough with this method."

ROBERT W. VIRTUE, M.D.,  
Associate Professor and Head  
of Division of Anesthesiology,  
University of Colorado Medical Center,  
Denver 20, Colorado

#### To the Editor:

Recently an explosion occurred as a complication of pentothal®-oxygen administration, which rocked the anesthesia world (1). There are, of course, many possible ways whereby cyclopropane, ether, ethylene, and so forth might come to be present in the apparatus or area, where the anesthetist thought the explosion hazard could not arise. With a lighted match held close to the anus at the psychological moment, the flammability of bowel gas can readily be demonstrated but the incidence of explosions is not such that one can accept this as a factor of clinical importance to the anesthetist.

The purpose of this communication is to direct attention to certain important but little known features of the thiobarbiturates, which may have a bearing on the incident mentioned above.

When a solution of a thiobarbiturate is prepared for intravenous injection, it exhibits a characteristic odor. If induction is rapid, that is, by forcible delivery through a 15 gauge needle of approximately 0.5 Gm. (5 per cent solution), there follows, in extreme form, the hypernea which is the great hazard with these agents (2). The successive powerful expirations throw off the same odor as does the solution before injection, showing that the lungs have a

relationship to the fate of these drugs in the body.

The influence of pulmonary excretion and the mechanisms of water ejection on the elimination of intravenous barbiturates and the duration of their action may repay serious study. However, in view of the explosion hazard, it must be remembered that many forms of sulfur are flammable, so it is possible that the odor from the lungs is that of an explosive gas. Remote though it seems, there is, too, the possibility that brimstone released into the lungs may irritate the respiratory epithelium.

Although the complications of anesthesia are fully discussed elsewhere (2), it must be mentioned here that unless scrupulous and effective measures are first taken to clear the respiratory passages and the upper digestive tract, the production of hypernea (with the barbiturates) invites a fatality.

#### REFERENCES

1. Medico-legal correspondent, *Explosion During Anesthetic*, Brit. M. J. 1: 168 (Jan. 19) 1952.
2. Baggot, M. G.: *Common Complications of Anesthesia, Operations, Obstetrics and Unconnected Conditions* (To be published).

M. G. BAGGOT, M.D.,  
Department of Anesthesia,  
De Paul Hospital,  
St. Louis, Missouri