## LETTERS TO THE EDITOR

### CARDEN TUBE

SIR:

I read with great interest the article by Soder, *et al.* "Mechanical Ventilation During Laryngeal Surgery: An Evaluation of the Carden Tube". This excellent paper showed the ability of this tube to deliver adequate ventilation even in patients with diseased lungs. The authors, however, did report some problems which I also encountered in the initial stages of using this device.

The purpose of this letter is to describe the updated technique now used, which should virtually eliminate all of the problems which were encountered.

One problem noted was a high percentage of post-operative hypercarbia, less in those patients in whom cocaine had been used on the cords prior to surgery. This was noted by the authors to be due largely to laryngospasm and, of course, could also be due to excessive central depression. Having experienced the same thing myself, the following things were done. Firstly, a Bird nitrous oxide/oxygen high flow blender[1] was added to the system and 60 per cent nitrous oxide with 40 per cent oxygen was jetted, allowing less thiopentone and narcotic to be used and therefore less respiratory depression after operation. Secondly, before intubation the cords were sprayed with 2–3 ml of xylocaine four per cent and then, most important of all, the cords were sprayed again at the end of the operation and before removal of the operating laryngoscope blade, with a similar dose.

This virtually eliminated laryngospasm. Needless to say, the patients were returned to the recovery room on their side, 5° head down, and kept in that position for 30 minutes.

Mention was made of one difficulty in removing the tube, needing direct vision to get it out. If the cuff is deflated and then the oxygen is jetted, the tube will shoot out of the cords like a slow-moving rocket. Gentle traction on the two small attached tubes will deliver it from the mouth. Some of my colleagues have become so blasé about the tube removal that they leave it in until the patient is fully recovered from the relaxant and breathing spontaneously before removing it, using intermittent squirts of oxygen to maintain ventilation during the recovery period (1MV). One further point of caution should be made. This regards the use of an automatic device for ventilating the patient. I have always preached against this automatic type of ventilation control. We are delivering the gas below the level of the cords and should the cords ever be blocked by the surgeon moving the blade of his operating laryngoscope then we would be delivering the high pressure gas with no release mechanism. I firmly believe that only when one allows the last breath to escape should the next breath be delivered to the patient.

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#### REFERENCE

1. CARDEN, E. & VEST, H. Further advances in anesthetic technics for microlaryngeal surgery. Anesthesia and Analogesia *53*: 4 (1974).

### POST-OPERATIVE SORE THROAT

SIR:

I read with some interest the recent paper by Loeser, *et al.* concerning the incidence of post-operative sore throat and its relationship to various lubricants.[1] The authors state that the use of 4% lidocaine jelly resulted in an incidence of post-operative sore throat in 90% of patients. They explain this by stating that lidocaine jelly contains polyethylene and propylene glycols and that these are irritating to the mucosa. I am not aware of a jelly which contains these glycols. Five per cent lidocaine ointment does contain these compounds, however. Is this an error in typing or in conclusion? Even if we accept the fact that these glycols *are* irritating, I have trouble interpreting the author's results when they are compared to a companion study by Loeser, *et al.* which appeared in Anesthesiology the same month.[2] In this second study, the authors lubricated all endotracheal tubes with 5% lidocaine ointment (contains both propylene and polyethylene glycol). Patients intubated with a lubricated low volume, high pressure cuff had an incidence of post-operative sore throat of 24%. I can find no statistical difference between that figure and the 25% incidence of post-operative