REDUCTION OF THEATRE POLLUTION

Sir.—Further to the letter from Dr Evans-Prosser in the April edition (Brit. J. Anaesth. (1972), 44, 412) it is possible to reduce theatre pollution literally on a shoe-string.

The smooth end of a piece of standard black rubber elephant hose is cut off and the corrugated end that is left is tied over the expiratory valve of the Goldman nosepiece with a boodlace. It must be tied right at the base of the valve which should be fully open.

Despite its rather unaesthetic appearance, this contraption works very well. The tubing is light and can easily be led over the wrist that steadies the patient's head or over the back of the dental chair to the floor. My efforts have been rewarded both by the clearing of my own head and by the gratitude of long-suffering dental surgery assistants.

The next step is surely to install an extractor fan or something similar at floor level.

EVE M. PITT
Middlothan

THE RISK OF ASPIRATION IN PRESENCE OF CUFFED ENDOTRACHEAL TUBES

Sir.—Referring to the article by Dr Mehta (Brit. J. Anaesth. (1972), 44, 601) on preventing post-extubation aspiration of tracheal contents collected above the cuff of an endotracheal tube, I would like to add a method I feel is preferable. I agree completely with proper placement of the cuff just below the true cords, and with 10 degrees head-down tilt for extubation. However, I take great difference with terminal suction through the endotracheal tube at the time of its withdrawal. This action depletes the lungs of oxygen and removes the path of reoxygenation in one motion. This is particularly important, for the immediate post-extubation period is one of the most critical periods of an anaesthetic. The action leaves one with lungs depleted of oxygen and without an ensured airway should any difficulty arise, e.g., laryngospasm, vomiting, airway management.

I suggest a method referred to as "pseudo-cough". Immediately prior to cuff deflation, the patient's lungs are hyperinflated. The cuff is then deflated and the endotracheal tube withdrawn, any tracheal contents accumulated above the cuff being expelled into the pharynx by the rush of gases. Endotracheal suction is done, if necessary, prior to this, allowing several breaths of oxygen to clear the space between suctioning and extubation. These secretions and possible regurgitated material are now above the larynx, making their aspiration much less likely. The material is usually pushed to the front of the patient's mouth or swallowed by the patient. This technique leaves the recently extubated patient with a clean trachea and lungs filled with oxygen, providing a time buffer in event of any difficulty at this crucial time in the anaesthetic management.

DAVID CHENEY
Fort Sam Houston, Texas

ANAESTHESIA AND SICKLE-CELL HAEMOGLOBIN

Sir.—Whilst being grateful to Dr Mehta (Brit. J. Anaesth. (1972), 44, 601) for demonstrating so clearly the long-suspected potential danger of accumulated mucus and pharyngeal contents above the inflated cuff of an endotracheal tube, it would seem to me that both he and Dr Salem (Brit. J. Anaesth. (1972), 44, 994), in their attempt to prevent aspiration of any of this material, are trying to "close the stable door after the horse has bolted". Certainly the shorter the distance between the top of the cuff and the true vocal cords the smaller will be the volume of this fluid, but the only way to guarantee that none of the fluid runs downwards into the lungs is to ensure that all of it is blown upwards into the pharynx, where it can easily be sucked out prior to extubation; this is achieved by sudden deflation of the cuff during the application of positive airway pressure, and not before as their letters would seem to suggest.

I most certainly agree with Dr Salem that, as an extra safety precaution, all extubations should be performed smartly whilst maintaining positive airway pressure, and ideally at the peak of inspiration, so that the next respiratory movement of the patient is a healthy and explosive cough.

This is particularly important in young children where one achieves an airtight seal, not by means of auffed tube but by the selection of the correct size of plain tube to snugly fit the cricoid ring. It is rare to see any problems associated with extubation with the routine use of these two manoeuvres.

Dr Mehta is to be congratulated for delivering the death blow to that appalling technique of extubation which involves the slow withdrawal of the endotracheal tube, disconnected from the circuit and with a suction catheter passed down its lumen, until its end, in vain attempt to catch what secretions it can on the way out. Not only does this fail in its purpose, but also it deflates the patient's lungs at a time when there is little nitrogen to splint them, and effectively ensures that their next respiratory movement must be an inspiration, with the distinct possibility of inhaling some of those secretions which have been drawn down between the tube and trachea by the negative intratracheal pressure induced by the suction catheter.

JOHN W. CROOKE
Liverpool

A POTENTIAL DANGER

Sir.—The June issue (Brit. J. Anaesth. (1972), 44, 610) contains a letter from J. C. Richardson of Liverpool in which it was pointed out that the float in the Vickers/Puritan flowmeter could block the outlet orifice should breakage of the spring-type ball stop occur.

In January 1970 this potential problem was eliminated with the development of a seat which obviates the need for the spring-type ball stop. Since that time, all flowmeters manufactured by Puritan-Bennett Corporation include this feature. In addition, the new seat configuration, part no. 520328, may be installed in older flowmeters.

GARY L. PRICKETT (Product Manager)
Puritan-Bennett Corporation, Kansas City

Dr Hilary Howells and his colleagues have performed a valuable service for anaesthetists through their paper "Anaesthesia and sickle-cell haemoglobin" (Brit. J. Anaesth. (1972), 44, 975). Their review of the various sickle-cell syndromes provides a readily available source of reference for anaesthetists confronted with these conditions. However, two aspects of their recommendations about anaesthetic management require comment.

First, the evidence supporting the necessity for exchange transfusion before anaesthesia, or the efficacy of alkalization in preventing a crisis during anaesthesia, is slim. Both these aspects of anaesthetic management have been discussed in detail elsewhere (Oduro and Searle, 1972).

Secondly, the following results (which have not yet been published) may be of some interest in the light of the statement of Dr Howells and his colleagues that...