BLOCKED OR NON-FUNCTIONING CANNULAE

Sir,—May I report two methods I have found useful in overcoming blocked or non-functioning cannulae.

The first is for intravenous cannulae blocked with clotted blood. The giving set is disconnected and a hollow stilette is taken from an identical cannula set and attached to a syringe. If the stilette is introduced very gently into the blocked cannula and the plunger is drawn back while the syringe is being advanced, the clot can be sucked back into the syringe and the cannula cleared. An objection to this is that the clot may be dislodged and pushed into the vein proximally although I have not managed to demonstrate this in cannulae blocked deliberately in the laboratory. Another objection is the risk of shearing off the cannula tip if undue force is used. If any resistance is felt the procedure should obviously be abandoned. Because of these risks I think that this procedure should only be considered in patients who are known to have extremely difficult veins or people with precious veins; for example dialysis patients who sometimes reach a stage where most superficial veins are unusable.

The second method is helpful in non-functioning arterial cannulae. It sometimes happens that they fail to function although it is still possible to flush them. Presumably the tip lies against a diseased or damaged part of the intima which prevents successful pressure recording and sample taking.

If a short cannula is used in the first instance, e.g., a Medicut, and this subsequently fails to function correctly it is possible to insert the guide wire of a Seldiacth (Plastimed) through the Medicut up into a healthier part of the artery. The Medicut is then withdrawn over the guide wire, the guide wire is wiped to remove blood, and the Plastimed cannula is introduced in the usual way. The Plastimed cannula is nearly two inches longer than the Medicut, so its tip should lie in a healthier part of the artery proximal to the site traumatized by the Medicut.

P. T. WALLING,  
London

STATIC ELECTRICITY AND ROTAMETERS

Sir,—Your readers may remember an article, published in the Journal, on “Static electricity and Rotameters” (Brit. J. Anaesth. (1972), 44, 86).

Those who suffer from this particular defect in their anaesthetic machines may be interested to learn that a set of Rotameter tubes with bobbins was recently sent to me by the British Oxygen Company for testing. The manufacturers had treated the inside of the glass with a continuous coating of stannic oxide. The ends of the tubes were coated, inside and out, with gold. Inside the lower end of the tube and making contact with the gold is a coil of soft wire upon which the bobbin will rest when no gas is flowing.

These tubes were tested for conductivity and for the possibility of their collecting static charges which might make them give an inaccurate reading. The results of these tests are as follows: the resistance between the gold at the extremities of the tubes was 20–50 kΩ.

The resistance from the top of the tubes, through the normal rubber seating at the base of the flowmeter block, and the metal of this block was approximately 2000 MΩ at 1000 V d.c.

The outsides of the tubes were rubbed in a manner which regularly caused sticking of the bobbins in untreated tubes. No sticking of the bobbins in the treated tubes could be produced.

No measurable charge could be produced on the bobbin by rubbing the outside of the tube. Any voltage appearing was seen to fall very rapidly to zero. Shaking the tubes with oxygen flowing failed to produce any sticking of the bobbins, and no significant electric charges could be produced by this means. In order to measure the rate of decay of charges arising on the inside conductive coating, 500 V was momentarily applied to the gold at the top of one of the tubes, and the residual voltage measured after five minutes. After this time the voltage had fallen to 2.76 V.

It would seem quite clear from this that tubes treated in the manner described will not suffer from any significant static electrical charges, and that no inaccuracies from this cause can be expected. If cyclopropane is to be used, however, it would seem sensible to apply an antistatic spray, such as Croxtine, to the outside of the flowmeter tubes and also to any transparent covers.

It must be pointed out that whether charges occur on Rotameter tubes depends on the material in which they are mounted. The author has only, so far, had the opportunity of investigating treated Rotameter tubes in the equipment made by one manufacturer. The rubber seating made for these tubes was not conductive rubber, so the use of this seems to be quite unnecessary.

As well as testing these tubes, the author was asked to investigate the possibility of static charges causing inaccuracies in the Ewing type variable orifice flowmeter (Ewing, Sir J. Alfred, 1925), where a ball bearing rolls up and down a sloping conical tube. It was found quite impossible to alter the reading on these tubes by any of the usual ways of causing static charges, or by the application of any voltage likely to occur during their normal use. The Ewing flowmeter seems to offer many advantages over other similar orifice flowmeters, and is being currently investigated in relation to its use in anaesthetic apparatus.

J. CLUTTON-BROCK  
Bristol


ADVERSE REACTIONS TO INTRAVENOUS ANAESTHETICS

Sir,—Since the new steroid anaesthetic, Althesin, has now been in clinical use for over two years it is not unexpected that reports of “idiomsyncrasy” to it are being reported. This is not unusual with new drugs. Recently reports of adverse reactions to thiopentone have occurred more frequently with at least two such reactions being reported in 1971 and two in 1972.

The time has come for a detailed evaluation of the extent of this problem as it applies to all intravenous anaesthetics and our department are organizing such a study. This letter is a request to all anaesthetists to report to us patients with suspected idiomsyncrasy to any intravenous anaesthetic. To make this a meaningful survey and to standardize recording, one of the organizers would be prepared to visit the anaesthetist and patient when possible. In co-operation with Dr E. S. K. Assem, Department of Pharmacology, University College Hospital, London, it is hoped that tests for antibodies or other evidence of allergy can be carried out.

This venture can only succeed with the co-operation of all anaesthetists in this country. We are in close touch with the Committee on Safety of Medicines in this matter and are prepared to exchange with them any information we gather.

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