Removal of lumbar extradural catheters

Sir,—In a recent short communication, Boey and Carrie [1] commented on the force required to remove extradural catheters from 100 parturients. They found that more than 2.5 times as much force was required to remove the catheters when patients were placed in the flexed sitting position compared with the lateral position. However, I note that all extradural catheters were inserted with the patients placed in the lateral position and consider that this may be a significant unconsidered factor. My recent experience illustrates this.

I was called to the obstetric ward to review a young woman in her twenties in whom I had inserted an extradural catheter for analgesia in labour. With the patient in the lateral position the ward nurse had been unable to remove the catheter despite firm traction, and the catheter had begun to stretch. There had been no difficulties in placing the catheter, but for patient comfort I had inserted the catheter with the patient sitting, her back flexed, her feet resting on a stool and her arms over two pillows on her lap. After confirming the nurse's findings, I placed the patient back into the position she was in when I inserted the catheter. I was then able to remove the catheter with minimal force and no further stretching.

I would suggest that extradural catheters are removed more easily when patients are placed in the same position as they were at the time of insertion. This may explain Boey and Carrie's findings, as no catheters were inserted in the flexed sitting position.

G. N. MORRIS
Department of Anesthesiology
University of Virginia
Charlottesville
VA, USA


Prevention of venous air embolism: are humans like sheep?

Sir,—By combining military antishock trousers (MAST) suit and positive end-expiratory pressure (PEEP), Meyer and colleagues [1] succeeded in preventing or markedly reducing the incidence of venous air embolism (VAE) in children undergoing neurosurgery in the sitting position. This impressive result was achieved by increasing right atrial pressure (RAP) to a level sufficient to distend the jugular veins to the level of the jugular bulb.

In sitting adults [2], as in "upright" sheep [3], an appreciably higher RAP is required to achieve distension of the neck veins over the considerable distance from the right atrium to the base of the skull. Where an increase in RAP is insufficient to result in an increase in jugular bulb pressure (JBP), then the potential for air embolism remains.

The question thus arises, "In sitting adult patients, can RAP be increased sufficiently to prevent VAE?" This question was examined in a film showing the upright venous system as a working model, which I presented at a combined Royal Australian College of Surgeons/Faculty of Anaesthetists meeting in Adelaide.

Figure 1 Schematic representation of a working model of a vertically positioned venous system. CVP = Central venous pressure, SVC = superior vena cava.