

screwed in place. The entire assembly is placed in the filling port. The tubing is slipped over the 23 gauge needle with the stopcock and syringe attached. The end of the tubing in the vaporizer is adjusted to deliver the halothane directly onto the wick. The outer section of the tubing may be bent to allow mounting of the syringe wherever de-

sired. Longer or shorter tubing may be used to aid convenient mounting.

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### Cardiac Arrest Board

Dr. Gordon M. Greenblatt of Winter Park, Florida, notes that one of the essential features in closed chest cardiac resuscitation is that the patient be placed on a firm hard surface. Many cardiac catastrophies happen with the patient in a bed supported only by a soft inner spring or foam rubber mattress. This usually necessitates carrying the patient from the bed and placing him on the floor. The time spent in gathering enough help, disconnecting Levine tubes, Foley catheters, intravenous infusions, are restraints, and other incumbrances can be better spent in performing the actual resuscitation.

He has solved this problem with a  $14 \times 20$

$\times \frac{3}{4}$  inch plywood board that can be easily slipped under the patient's thorax. This provides a very satisfactory firm support for the resuscitation. One of the essential characteristics of the board is that it have a smooth surface so that resistance between patient, board, and bed is minimal when the board is inserted. This can be done with multiple coatings of shellac on a smoothly sanded surface.

The board is then labeled "Cardiac Arrest Board" and placed with the cardiac arrest cart or other resuscitation equipment.

This technique is a compromise to the ideal surface for resuscitation, but it is an easily available technique and saves valuable time.

### Epidural Needle

Dr. Philip R. Bromage of the Royal Victoria Hospital in Montreal notes that most anesthesiologists who practice epidural analgesia are familiar with the advantages of the Huber tip on the Tuohy needle. Its prime function is to give a bias to catheters during insertion, so that they will glide smoothly up the spinal canal, and not impinge forcibly upon the dura at right angles. In addition to this, accidental

puncture of the dura occurs much less frequently with Huber-tipped needles than with the more orthodox, short-bevelled point.

Design of the other end of the needle should vary according to the needs of the technique employed to identify the epidural space. The ordinary standard hub to the Tuohy needle is quite satisfactory for performing the Sicard-Dogliotti (loss-of-resistance) test. But the hanging-drop method of Gutierrez requires a needle which can be held firmly and securely, without fingers and thumbs encroaching on the orifice and the suspended drop. And so, for thoracic and cervical punctures, where the hanging-drop technique is usually employed, Dr. Bromage recommends a needle which combines the advantages of both a Huber point and a good finger-grip. A needle of this type has been developed for Dr. Bromage, with a Huber tip on the end of a Crawford needle (see figure). It has proved extremely satisfactory.



Thoracic epidural needles, 18 and 16 gauge.