A SIMPLE METHOD FOR RELIABLY COATING INTRACRANIAL ELECTRODES

PETER G. BURCH AND ROBERT D. MYERS

THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE AND COLGATE UNIVERSITY

Because so many investigators use custom-made electrodes having different designs and dimensions for intracranial applications, we have devised a technique for insulating electrodes which insures uniform thickness of the insulating coat. The Insl-x E-33 clear (made by Insl-x Products Corp., 115 Woodworth

Ave., Yonkers, N.Y.), diluted 10 percent by volume with Insl-x TE-10 thinner, provides an insulating medium of suitable consistency and drying qualities.

The apparatus shown in Fig. 1 is easily assembled from materials available in most laboratories. A fine string attached to the main spindle of a spring-driven kymograph is led over a pulley to a weight. Then, one or more electrodes is vertically suspended from this weight by adhesive tape. After immersion in the Insl-x medium, the electrodes are withdrawn at constant speed by turning on the kymograph motor.

In addition to insuring an even insulating coat, this method permits accurate control of the thickness of the insulation. The use of a small resistance vane on the kymograph results in a rapid withdrawal of the electrodes and a thick insulating coat because of the high viscosity of the Insl-x medium. A larger resistance vane leads to a slower withdrawal and therefore a thinner coat. Micrometer measurements of electrodes coated by this technique revealed a variation of only 0.0002 in. from the mean coat thickness when the electrode diameter was increased from 0.014 in. to 0.018 in. by the coating process.

Fig. 1. Apparatus.