if the tapes are fixed correctly, and the face is left free. If the connector becomes dislodged, the tube remains, and a new connector can be easily fitted.

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JENNIFER M. EDWARDS

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REFERENCES


THALAMONAL AND CEREBRAL CIRCULATION

Sir,—We read with much interest the first study by Drs Sari, Okuda and Takeshita (Brit. J. Anaesth. (1972) 44, 330) as it relates closely to our own work. As they state, Fitch and his colleagues (1969) reported that fentanyl and droperidol in combination cause a small reduction in intracranial pressure, suggesting that this might be due to a fall in c.b.f. and CMR02. This led us to study the effect of fentanyl and droperidol in combination on c.b.f. and CMR02 in anaesthetised (trichloroethylene), ventilated dogs (Miller and Barker, 1969); c.b.f. was reduced significantly even when correction was made to the c.b.f. value for the fall in Pa02, which in some cases followed drug administration. There was a small (not significant fall in arterial pressure and CMR02 was not changed. Michenfelder and Theye (1971) also studied the effects of fentanyl and droperidol on c.b.f. and CMR02 in the dog. At normocapnia, c.b.f. was reduced by 40-50% and CMR02 by 23% and they concluded that droperidol is a cerebral vasoconstricting agent.

The disparity between these results and those of Dr Sari and his colleagues may relate to species differences, but this also raises the question of the validity of the use of Reivich's data (obtained from monkeys) to correct human c.b.f. results for changes of Pa02. Studies in progress in baboons and humans by the MRC Cerebral Circulation Group in Glasgow suggest that the change in c.b.f. produced by a 1 mm Hg change in Pa02 around 40 mm Hg may be closer to 3 ml/100 g/min than to the 1 ml/100g/min found by Reivich (1964) and used by Sari and his colleagues. On this basis, their corrected c.b.f. after Thalamonal would then be 43.7 ml/100g/min, a reduction of over 9% from their control value of 48.3 ml/100g/min.

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REFERENCES


A VARIABLE POSITIVE END EXPIRATORY PRESSURE VALVE

Sir,—Positive end-expiratory pressure (PEEP) has become an accepted and useful treatment for patients with terminal airway collapse. (Ashbaugh, Petty, Bigelow and Harris, 1969). Unless one possesses a recently produced ventilator with built-in PEEP (Petty, Nett and Ashbaugh, 1971) the most common method has up to now been to use a water column to limit the pressure (McIntyre, Laws and Ramachandran, 1969). This necessitates clumsy apparatus and is accompanied by a loud bubbling which may distress the patient.

A simple valve (fig. 1), has been designed which can be attached to the expiratory port or after the spirometer on any ventilator that has a single expiratory exit.

It consists of a light metal disc enclosed in a polythene envelope resting on an orifice of 1 in diameter. The resistance to the valve opening is provided by an arm connected to a balance arrangement with a movable weight (fig. 2). The travel of this weight enables pressure of 0.20 cm of H2O to be exerted on the flap. The blind

![Fig. 1. Photograph of the variable positive and expiratory pressure valve.](image)

![Fig. 2. Schematic diagram of variable positive and expiratory pressure valve.](image)