This does not, however, detract from the value of the modified Beaver respirator with negative pressure in such a case.

J. D. P. Wolff
Amsterdam, Holland

THE PHYSIOLOGICAL ACTION OF NEUROMUSCULAR AND GANGLIONIC BLOCKING AGENTS

Sir,—I was interested to read Professor J. H. Burn's most instructive paper on neuromuscular blocking agents. (Brit. J. Anaesth. (1957), 29, 242) and was particularly struck by his advocacy of the use of ephedrine to potentiate the action of neostigmine in neutralizing the effects of d-tubocurarine and gallamine.

I have been teaching the use of ephedrine in this way for the past three years, but with the additional object of preventing the later development of the condition sometimes called "Prostigmine shock", which is probably identical with the state that used to be known as "re-curarization".

This use of ephedrine has two advantages; the neutralizing action of neostigmine is potentiated, while its depressant effect on the vital centres is counteracted. The muscular action can be clearly seen if the neostigmine is followed, after a lapse of two or three minutes, by a small intravenous injection of ephedrine (say $\frac{1}{2}$ to $\frac{1}{4}$ grain), the remainder of the $\frac{1}{2}$ grain (30 mg) being given intramuscularly or subcutaneously. It must be made clear that ephedrine should not be given intravenously in these circumstances until the neostigmine has begun to produce its effect because when administered experimentally together with atropine, ephedrine has increased the sinus rate to 200 per minute often with AV block (Sollman, 1950). E.c.g. monitoring has been done on a number of cases during the administration of this atropine-neostigmine-ephedrine sequence, and a few continuous tracings have been taken. A typical one shows a sinus rate of 70 per minute, rising to 132 two minutes after an intravenous injection of atropine 0.6 mg; neostigmine 1 mg was then given, and two minutes later the rate had fallen to 90. After ephedrine $\frac{1}{4}$ grain (15 mg) intravenously the rate settled at 84; there was no significant change in the e.c.g. complexes.

It is encouraging to find this use of ephedrine advocated by so eminent an authority as Professor Burn.

D. Zuck
Chase Farm Hospital, Middlesex

REFERENCE

DOSES OF CURARE: A PLEA FOR THEIR REDUCTION

Sir,—In my article on Doses of Curare (Brit. J. Anaesth. (1957), 29, 228) I quoted Sadove, Wyant et al. as needing only 6-8 mg d-tubocurarine (dtc) for intubation of patients undergoing mitral valvulotomy. However, the drug they used was dimethyl tubocurarine which is 2-2 1/2 times as potent; therefore their dose corresponds to about 12-20 mg dtc. As this amount is still about half the one used by Grigor for the same purpose the argument for reducing the dose of dtc remains unchanged.

Luise Wislicki
Jerusalem, Israel