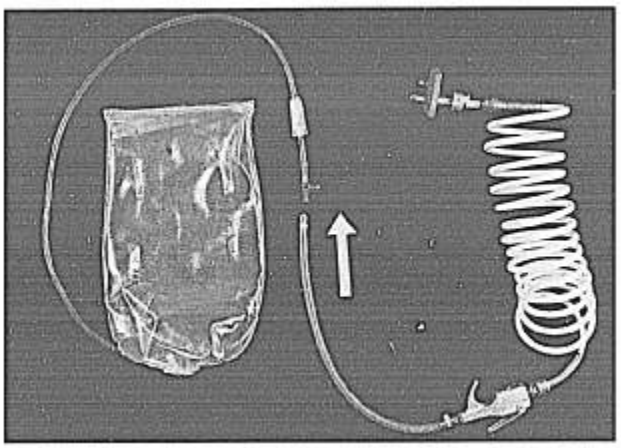

FIG. 1. The high pressure uterine dispacer. The arrow indicates attachment of the jet ventilator to the inflatable bag.

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Calculating the Potency of Mivacurium

To the Editor:—I am confused by some of the results reported by Savarese *et al.*[1] in their recent paper on the pharmacology of mivacurium. Specifically, using the data supplied in table 1, I cannot reproduce the ED_{95} value of 0.081 mg/kg that they calculate. If one performs a log dose-probit transformation and linear regression analysis on only the first four groups (0.03–0.10 mg/kg), the resulting ED_{50} and ED_{95} values are 0.052 and 0.10 mg/kg, respectively (table 1). In fact, this estimate of potency is substantiated by the group of patients receiving 0.10 mg/kg that showed 95.7% twitch depression. If the ED_{95} was, in reality, 0.081 mg/kg, then a dose of 0.10 mg/kg should produce greater than 99% twitch depression; this was not the case.

The authors do not actually state in their paper which groups were employed in calculating the ED_{50} and ED_{95} values. However, since 100% twitch suppression cannot be plotted on a log-probit graph, it appears that only the first four groups (n = 36) could have been used. It would be helpful if the authors could explain in greater detail how they estimated drug potency.

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TABLE 1. Log-probit Transformation of Data from Table 1 of Savarese *et al.*[1]

Dose (mg/kg)	% Effect	Log-dose	Probit
0.03	9.4	−1.5228	−1.3106
0.05	43.7	−1.3010	−0.1637
0.07	75.3	−1.1549	0.6280
0.10	95.7	−1.0000	1.6955

Equation for the dose-response relationship as determined by linear regression (least squares) analysis of the above log-probit data: $y = 5.8598x + 7.513$, $r = 0.998$.

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In Reply:—We appreciate the comments offered by Dr. Kopman. His letter reflects the need for a solution to a debatable question: How does one handle 100% or 0% twitch inhibition during construction of a dose-response curve for a neuromuscular blocking drug?

In our publication on mivacurium,[1] we estimated potency of mivacurium during nitrous oxide-narcotic-barbiturate anesthesia using single-twitch stimulation of the ulnar nerve to evoke thumb adduction at 0.15 Hz. This stimulus parameter was used so that the characteristics of mivacurium block might be easily compared with past literature on other relaxants. The methodology is fairly extensively presented and debated in Donlon *et al.*[2] where both single-bolus and cumulative dose-response curves for pancuronium were constructed.

Although we *calculated* an ED_{95} of 0.081 mg/kg in our paper, when we administered 0.10 mg/kg to nine consecutive patients, we *observed*