than their late relative potency of 5.1 and lower than their early relevant potency of 7.4. 3) Lowe et al.[1] have shown the convenience of using the square root of time approximation for determining doses of inhalation anesthetics. My analysis of these data from Miller and Eger suggests the application of the square root of time approximation to pancuronium and d-tubocurarine.

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REFERENCE

1. Lowe HJ, MacKrell TN, Mostert JW, et al: Quantitative closed-circuit anesthesia. Anesthesiol Rev 2:16–19, 1974

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FIG. 1. Comparison of Feingold's square root of time method (O – – – O) with that assuming constant metabolism or excretion (● —— ●).

To the Editor:—We appreciate the opportunity to respond to Dr. Feingold's letter. We presented data which indicate that the ratio between that amount representing tissue uptake and that amount representing metabolism and excretion is larger for d-tubocurarine than for pancuronium. A difference in the required "loading" dose is obvious in table 1 of our article. d-Tubocurarine, with its larger relative tissue uptake, which may be due to protein binding, requires a larger loading dose relative to pancuronium.

We believe the square root of time approach adds little to the understanding of our data and, in fact, may produce an erroneous result. The square root of time approach presumes that uptake of relaxant progressively decreases with time; at each doubling of the square root, the uptake is halved, ap-
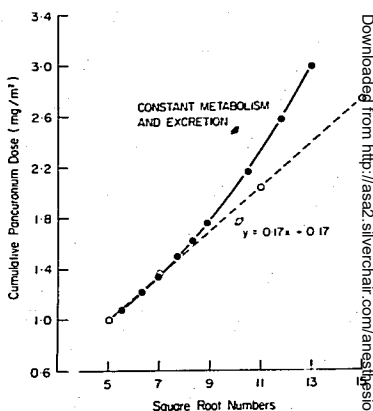
proaching zero as time becomes very large. This markedly differs from our interpretation, which is that the later values for relaxant requirement represent excretion and/or metabolism which remains constant indefinitely. Assuming constant metabolism and/or excretion of pancuronium (0.135 mg/m²/10 min), the difference between our interpretation and the square root of time method becomes apparent (fig. 1). For these reasons, we believe that the square root of time is not an appropriate method of analysis for our data.

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