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The Intensity of the Current at which Sciatic Nerve Stimulation Is Achieved Is More Important Factor in Determining the Quality of Nerve Block than the Type of Motor Response Obtained

To the Editor — We read with interest the study by Benson et al., which was published in the September 1997 issue of Anesthesiology. Using the peripheral nerve stimulator technique, Benson et al. attempted to determine whether there is a correlation between the type of observed motor response and the ability to block all divisions of the sciatic nerve. Benson et al. defined a successful sciatic nerve localization as a motor response to nerve stimulation using a Braun Stimplex DIG peripheral nerve stimulator (B. Braun Medical, Bethlehem, PA) when the stimulating current was <1.0 mA. The proximity of the needle to the nerve was confirmed when an injection of 1 or 2 ml of local anesthetic abolished the elicited motor response. The authors concluded that elicitation of foot inversion was associated with the most complete sciatic nerve blockade.

Because of several inherent methodologic flaws in this study, we are compelled to comment on their methods and offer an alternative explanation for the obtained results.

1. What was the exact current at which the response was obtained for every one of the four elicited responses?

The Braun Stimplex DIG peripheral nerve stimulator is a constant current generator with a built-in LCD display allowing current adjustment in 0.01 mA increments for precise current delivery. The authors should report the exact current at which every one of the four different responses was obtained. In the absence of this information, the differences in the number of sciatic nerve branches that were blocked could simply be a function of different needle-to-nerve distances at which the local anesthetics were injected.

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