

prospective and retrospective studies that would allow for the control of comorbidity and variations in anesthetic management, the examination of effects according to surgical procedure, the determination of effect by LD type, and more comprehensive measures of academic achievement, cognitive/memory functions, and quality of life. This study represents an initial attempt at unraveling this complex and difficult issue. Other studies planned and currently under way will, no doubt, add to the slowly accumulating body of clinical data that we hope will help to resolve this important and difficult issue.

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The Need for Perspective

To the Editor:—We were disappointed that *ANESTHESIOLOGY* chose to publish the articles by Kalkman *et al.*¹ and Wilder *et al.*² without an accompanying cautionary editorial. Kalkman *et al.*¹ state, “children undergoing urologic surgery at age less than 24 months showed more behavioral disturbances . . . although the results were not statistically significant.” We disagree with this statement; namely, because statistical significance was not achieved, more behavioral disturbances were *not* observed. Furthermore, they go on to perform a sample size calculation to determine the number of patients that would be required to detect a statistically significant effect of the effect size they found. Their estimate for such a potential association between anesthesia and behavioral problems could be explained by chance alone, and using such an estimate to guide future studies is misleading. Wilder *et al.*² were unable to separate out the effects of multiple anesthetics from the effects of the underlying clinical problems requiring multiple procedures. By publishing these two studies as part of a larger series including several animal models, *ANESTHESIOLOGY* seems to send the message that two independent teams reported similar findings in humans. At a minimum, a cautionary editorial putting these studies into context was warranted. Studies such as these, reported on by the lay

media, may cause an already wary public much alarm and put pediatric anesthesiologists in an impossible position. Parental concerns regarding the possible deleterious effects of anesthesia will not be assuaged by statistical explanations. *ANESTHESIOLOGY* has an obligation beyond merely reporting interesting studies. We are sure that, like us, other readers are looking for perspective.

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In Reply:—We thank Dr. Raghunathan *et al.* for their letter regarding their disappointment that we did not publish a cautionary editorial regarding the reports by Wilder *et al.*¹ and Kalkman *et al.*² in the April issue of *ANESTHESIOLOGY*. These clinical articles, which were published with laboratory work presented at the *ANESTHESIOLOGY*/Foundation for Anesthesia Education and Research session at the 2008 Annual Meeting of the American Society of Anesthesiologists, were accompanied by an editorial by Drs. Patel and Sun,³ thought leaders in research regarding

the mechanisms and clinical relevance of neurodevelopment after exposure to anesthetics. Regarding the clinical article, they concluded in their editorial, “Although two retrospective studies herein suggest that a correlation between anesthetic exposure early in life is associated with learning and behavioral abnormalities later in life, the data cannot be considered to be evidence of the existence of anesthetic neurotoxicity in humans. The absence of rigorously conducted prospective randomized trials precludes recommendations on clinical

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