

might be more appropriate to change the name of the journal to *JOMA: Journal of the Ontario Medical Association*.

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#### Reference

1. Thomas J, Hoey J. Introducing *CMAJ's* Readers' Advisory Panel [editorial]. *CMAJ* 2003;169(7):676.

#### [A Deputy Editor responds:]

In our efforts to ensure that *CMAJ* readers working in community settings were represented on the Readers' Advisory Panel,<sup>1</sup> we overlooked the fact that so many of the physicians we selected were from Ontario. When we add new members to the panel in the future, we will try for a more balanced geographic representation.

**Jennifer Thomas**  
*CMAJ*

#### Reference

1. Thomas J, Hoey J. Introducing *CMAJ's* Readers' Advisory Panel [editorial]. *CMAJ* 2003;169(7):676.

#### Missing information on DEET

In their review of the safety implications of DEET (*N,N*-diethyl-*m*-toluamide) for children and pregnant and lactating women, Gideon Koren and associates<sup>1</sup> did not mention the results of animal trials involving dermal application of this repellent.

Abdel-Rahman and colleagues<sup>2</sup> reported diffuse neuronal cell death in the brains of adult rats after 6 days of daily dermal application of DEET. They concluded that motor deficits and dysfunction of learning and memory could ensue from these changes. Similarly, Abou-Donia and collaborators<sup>3</sup> observed impaired sensorimotor performance in rats at 30, 45 and 60 days after 60 days of daily dermal application of DEET. The impossibility of such studies in humans necessitates consideration of these data in any risk analysis.

It appears that the review by Koren and associates<sup>1</sup> deals only with acute adverse reactions and that no long-term controlled trials measuring neurologic function in humans after dermal application of DEET have been done.

**Robert D. Nevin**  
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#### References

1. Koren G, Matsui D, Bailey B. DEET-based insect repellents: safety implications for children and pregnant and lactating women. *CMAJ* 2003;169(3):209-12.
2. Abdel-Rahman A, Shetty AK, Abou-Donia MB. Subchronic dermal application of *N,N*-diethyl-*m*-toluamide (DEET) and permethrin to adult rats, alone or in combination, causes diffuse neuronal cell death and cytoskeletal abnormalities in the cerebral cortex and the hippocampus, and Purkinje neuron loss in the cerebellum. *Exp Neurol* 2001;172(1):153-71.
3. Abou-Donia MB, Goldstein LB, Dechovskaia A, Bullman S, Jones KH, Herrick EA, et al. Effects of daily dermal application of DEET and permethrin, alone and in combination, on sensorimotor performance, blood-brain barrier, and blood-testis barrier in rats. *J Toxicol Environ Health A* 2001;62(7):523-41.

#### [One of the authors responds:]

Robert Nevin cites 2 studies on the effects of DEET in rats<sup>1,2</sup> without mentioning the most important variable in such research, the dose applied. Many compounds, including water, will cause toxic effects if given in large enough doses. In both studies cited by Nevin, the doses given were astronomical (between 4 and 400 mg/kg body weight), but these doses are not relevant to the use of DEET in humans. In contrast, the findings from several studies in rodents, such as that by Schoenig and colleagues,<sup>3</sup> have not concurred with the results obtained by Abdel-Rahman and associates<sup>1</sup> or Abou-Donia and collaborators.<sup>2</sup>

The anxiety regarding the toxic effects of DEET in young children has stemmed from a small number of widely publicized case reports of acute seizures in toddlers, as cited in our article.<sup>4</sup> However, our analysis suggests that an association between the seizures and use of DEET is unlikely.<sup>4</sup> To the best of our knowledge, no similar claim has been made regarding chronic neu-

rotoxicity of DEET in children, and no published clinical data have been presented to support such a possibility.

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#### References

1. Abdel-Rahman A, Shetty AK, Abou-Donia MB. Subchronic dermal application of *N,N*-diethyl-*m*-toluamide (DEET) and permethrin to adult rats, alone or in combination, causes diffuse neuronal cell death and cytoskeletal abnormalities in the cerebral cortex and the hippocampus, and Purkinje neuron loss in the cerebellum. *Exp Neurol* 2001;172(1):153-71.
2. Abou-Donia MB, Goldstein LB, Dechovskaia A, Bullman S, Jones KH, Herrick EA, et al. Effects of daily dermal application of DEET and permethrin, alone and in combination, on sensorimotor performance, blood-brain barrier, and blood-testis barrier in rats. *J Toxicol Environ Health A* 2001;62(7):523-41.
3. Schoenig GP, Osimitz TG, Gabriel KL, Hartnagel R, Gill MW, Goldenthal EJ. Evaluation of chronic toxicity and oncogenicity of DEET. *Toxicol Sci* 1999;47:99-109.
4. Koren G, Matsui D, Bailey B. DEET-based insect repellents: safety implications for children and pregnant and lactating women. *CMAJ* 2003;169(3):209-12.

#### Bodychecking in hockey

Anthony Marchie and Michael A. Cusimamo,<sup>1</sup> in reviewing some of the available research, have established that concussions are more likely to occur when hockey is played with body contact and that concussions may have serious effects on the well-being and functioning of children. In my clinical and research work, I have seen the often-devastating effects of traumatic brain injury, including concussions, from a variety of causes. As the coach of a competitive girls' hockey team, I have seen the high calibre of hockey that is possible without bodychecking. And as the parent of an 11-year-old boy, I have observed concussions occurring as the result of even "clean" bodychecks and have worried about the safety of our children.

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