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In reply:



We thank Freedman et al¹ for their letter in regard to our randomized trial comparing nausea relief with aromatherapy versus oral ondansetron. We found that patients allocated to arms receiving aromatherapy reported greater nausea reduction at 30 minutes.² This finding adds to the growing literature demonstrating that aromatherapy has efficacy in treating nausea in the emergency department (ED) setting.³ That said, Freedman et al¹ highlight several important study limitations.

First, blinding is difficult for any investigation of aromatherapy and was imperfect in our study. We might have improved blinding by exposing patients not allocated to receive isopropyl alcohol to an alternative aromatherapy agent with a similar smell or by exposing all patients in both arms to an additional background scent (eg, scented oils). However, we suspect the antiemetic effect of isopropyl alcohol is due to olfactory distraction. Consequently, we anticipate that any trial exposing all arms to some form of aromatherapy would likely show clinical equipoise. Indeed, the anesthesia literature suggests that a variety of aromatherapy agents reduces

postoperative nausea, suggesting that this effect is not unique to isopropyl alcohol,⁴ although the latter is likely to be more readily available in the ED setting courtesy of ubiquitous alcohol pads.

In regard to our selection of 30 minutes postintervention as the time to collect our primary outcome of nausea reduction, we agree that ondansetron is unlikely to achieve full effect within this period. However, insofar as this time horizon potentially biases our results against ondansetron, a longer time would arguably bias our results against aromatherapy. Although the time of primary outcome measurement should take into consideration the pharmacokinetic profiles of the agents under investigation, equally important is the relevance of that period to clinical practice. In the case of ED treatment of nausea, we believe most emergency physicians would find a wait of 2 or more hours for nausea relief to be untenable. Hence, although inhaled isopropyl alcohol may not provide superior nausea relief compared with oral ondansetron during longer periods, our finding that it achieves superior nausea relief at 30 minutes postintervention is itself a clinically important result. Similarly, patients receiving inhaled isopropyl alcohol reported greater satisfaction, as reflected by lower satisfaction visual analog scale scores at ED discharge (we designated lower visual analog scale scores as more satisfied to maintain consistency with the pain and nausea scores for which lower values were more desirable because they reflected less severe symptoms). Nevertheless, it is not our contention that aromatherapy should supplant ondansetron but rather that it may supplement this commonly used agent. The nausea relief reported by patients allocated to the study arm receiving both of these interventions speaks to the potential efficacy of this therapeutic strategy.

We concede that our ondansetron dosing (4 mg) may have been subtherapeutic. We selected this dose as the amount of drug commonly administered in the ED setting for the treatment of undifferentiated nausea. Future research might examine whether higher ondansetron doses would yield different findings.

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The views expressed herein are those of the authors and do not reflect the official policy or position of Brooke Army Medical Center, the US Army Medical Department, the US Army Office of the Surgeon General, the Department of the Army, the Department of the Air Force and Department of Defense, or the US government.

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Emergency Physicians and Firearms: Effects of Hands-on Training



Emergency department (ED) providers have opportunities to prevent firearm injuries or deaths; ED-based interventions include violence intervention programs and counseling about reducing firearm access to prevent suicide.¹ Yet ED providers often do not counsel patients about firearms, in part from knowledge gaps or discomfort discussing firearms. Specific firearm education, including by law enforcement officers, may help providers understand how they help prevent gun violence.

We held a 3-hour in-person educational session at a gun store and firing range to teach ED providers about firearms and related injuries. Lectures covered the epidemiology of firearm injuries and deaths; a hands-on introduction to firearms, ammunition, and storage devices, presented by a National Rifle Association–certified firearm instructor; a discussion about interactions between ED staff and law enforcement officers, facilitated by local law enforcement officers; and when and how to talk with patients about firearm access. The event ended with an optional session in the shooting range.

Twenty-six attendees included ED providers (n=21; 81%), trauma surgeons (n=2; 8%), and nonprovider university leaders (n=3; 11%). Sixteen attendees (62%) were men; most attendees completed the anonymous pretest (n=23) and posttest (n=21). We scored knowledge questions as incorrect or correct and dichotomized attitude questions as “disagree/strongly disagree” versus “agree/strongly agree.” The study was approved by the Colorado Multiple Institutional Review Board.

At baseline, attendees answered a mean of 2.85 of 6 knowledge questions correctly; this increased to 5.09 after the session ($P<.001$). At baseline, 61% of respondents agreed or strongly agreed that they were comfortable talking to patients about firearms, but only 35% were comfortable identifying which patients to talk to; these each increased significantly after the lectures.

In this novel training, we demonstrated improvement in provider gaps in knowledge and comfort with firearms. A recent review found few studies addressing training in this area, with only one validating its outcomes.² Development of firearm continuing medical education may reflect a powerful opportunity for improving patient care because it may increase the likelihood of counseling patients about firearms.^{3,4} Online and lecture-based education may be efficient for most medical topics; however, firearms are unique in that knowledge and comfort might require hands-on learning. Future work should compare physician knowledge and comfort outcomes after traditional versus hands-on training about firearms. It should also consider tailoring sessions to different physician specialties, including removal of the law enforcement officer module when less relevant.

Past work has demonstrated that, among gun owners, 14% believed their physician was knowledgeable about guns, 8% believed physicians had a responsibility to discuss guns, and 71% would not follow their physician’s advice about gun storage.⁵ Such findings underscore the need for physicians to engage in discussions focused on patient-centered decisionmaking.

To our knowledge, this was the first event of its kind. Our novel, in-person, emergency physician firearm training represents a successful pilot session for increasing physician knowledge and comfort with firearms—and a step forward in improving respectful care for individuals who own and use guns and for prevention of firearm injuries and deaths.

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