More Discussion of Over the Counter Cough and Cold Preparations

To the Editor:

We appreciate the opportunity to read and comment on a recent publication in Annals by Dart et al regarding potential toxicity from over the counter cough and cold preparations, a group of medications that has never shown much clinical efficacy in children. This topic has been commonly found in both the lay press and medical publications of late, and this work will no doubt add to our knowledge. However, we believe it is prudent to point out some issues regarding the article’s findings. First, although the authors amassed 118 cases judged possibly, likely, or definitely related to the cough and cold ingredients, it should be emphasized that this number was reported over a 50-year period, and not one of these were judged by the expert panel of reviewers to have occurred with “therapeutic” dosing of the products. All cases reported involved either “supratherapeutic” doses (75%), or the dose was unknown. Some of these supratherapeutic doses were intentionally administered for reasons other than symptom relief, such as for sedation or suspected homicide. Other cases were likely unintentional ingestions by young children of excessive doses. It is possible that the take-home message from these findings is not that these drugs are inherently dangerous in young children in recommended doses, but that overdosing these, like other over the counter medications including acetaminophen and salicylate, can be fatal.

Decreasing exposures to and ultimately fatalities from over the counter pharmaceuticals can be accomplished several ways. First, engineering and technological advancements in packaging and precise dosing may decrease unintentional ingestions and overdose. Second, educational awareness can be improved, for example by making parents more informed of the consequences of supratherapeutic dosing. Finally, government regulation can reduce potential exposure. This can be accomplished most abruptly by removing the agent from over the counter store shelves and controlling access, but also by removing specific ingredients from over the counter products, or by making recommendations to health care providers, such as the Food and Drug Administration did in this case. It is interesting to note that the 2007 collective data reported by US poison centers recorded similar numbers of childhood fatalities from cough and cold preparation and from over the counter analgesics, with many more exposures to over the counter analgesics. Advances have been made in packaging and dispensing technology of over the counter analgesics that may have improved safety, and it is possible that these types of innovations could be applied to over the counter cough and cold preparations. This may permit ongoing over the counter status of these agents, especially since large numbers of parents prefer to continue to administer them to children.

Lastly, it should be remembered that the most important conclusion of reviewing groups looking at the over the counter cough and cold medications in children was that they may be ineffective. This would seem to be a more prudent argument limiting their use or availability than showcasing their toxicity, especially in therapeutic doses.
Conducted Electrical Weapon Injuries Must Be More Broadly Considered

To the Editor:

We appreciate the importance of the study by Bozeman et al in the March issue of Annals,1 as the first, multi-center, prospective evaluation of conductive electrical weapon use by law enforcement. There are a few aspects of their methodology and data interpretation that are concerning, however.

The authors’ injury classification system acknowledges that conducted electrical weapon injuries could occur from direct effects (eg, electrical), indirect effects (eg, falls), or of an uncertain relationship. They do not describe, however, how direct or uncertain injuries would be determined. This is critically important, as the physiologic effect of conducted electrical weapon use is still part of a contentious debate.

The effect of these determinations could seriously impact the results of the paper. Only 3 “moderate or severe” injuries were identified in the study, but we are not told how many other subjects were found to have acidosis or other potentially significant pathophysiologic findings that have been linked to conducted electrical weapon use by prior studies.2 Furthermore, there is no reference to the injuries that were classified as “of uncertain” relationship to conducted electrical weapon use. We have analyzed data from 1000 conducted electrical weapon uses in an individual police force and have found that over 3% of individuals evaluated in the emergency department after conducted electrical weapon use had evidence of rhabdomyolysis; although these may have had an uncertain connection to the conducted electrical weapon use, such a relationship cannot be found unless all the data are presented and considered.

The risks of not casting a broad net when examining potential injuries from conducted electrical weapon use are apparent in key findings in their results. Two deaths are reported, both within 20 minutes of conducted electrical weapon use. The authors dismiss these cases as unrelated without any clear evidence that it is safe to do so; in fact, medical examiners have found conducted electrical weapons to be contributory in similar cases in the past3 and epidemiologic studies have shown a correlation between Taser deployment and an increase in in-custody deaths.4 The authors discuss the increasingly large literature on the physiologic effects of conducted electrical weapon use, stating that no findings would account for deaths minutes later, but other authors disagree, suggesting that the physiologic effects of conducted electrical weapon use might be safe in resting adults but could have a cumulative or priming effect in high-risk struggling individuals that impacts their outcome.5

In summary, we feel that the authors’ dismissal of the broad physiologic impacts of conducted electrical weapon use creates a potentially misleading conclusion of safety. More importantly, it excludes data that could be critical in identifying the infrequent cases when conducted electrical weapon use does impact subject safety. We feel that a much broader examination is necessary to continue the joint goal of the medical and law enforcement community of finding the situations when these otherwise safe weapons could become deadly. We endorse a national database of deaths occurring within 24 hours of conducted electrical weapon use to identify these infrequent cases and better define what impact conducted electrical weapon use has, if any, in restraint-related death.

Jared Strote, MD, MS
Division of Emergency Medicine
University of Washington
Seattle, WA

H. Range Hutson, MD
Department of Emergency Medicine
Massachusetts General Hospital
Harvard Medical School
Boston, MA

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