Letters to the Editor

The Epinephrine Conundrum

To the Editor:

I read the roundtable report on epinephrine with keen interest.¹ It's a thorny problem and I applaud those tackling it. A few points oblige clarification to further shed light on the risks, highlight breadth of the problem in the wilderness, and introduce another option in this confusing legal issue.

A well-recognized potential complication of epinephrine autoinjectors is accidental digital injection.²⁻⁴ A 20-year veteran emergency medicine provider in my hospital injected his thumb when trying to treat himself for anaphylaxis.

How big is this problem in the wilderness? I found only 1 citation⁵ that would suggest it's a significant issue. I've been involved in 2 mountain rescue callouts for "bee sting anaphylaxis," that were misdiagnosed. One was a bee sting without an allergic reaction; the other was syncope from dehydration and malnutrition. Maybe a study is in order?

The report blends 2 separate concerns that were discussed in *Wilderness Medicine Magazine* in 2007^{6,7}: (1) participants with known anaphylaxis should carry their own epinephrine; a lay bystander can assist a person in using their own medicine under some states' Good Samaritan laws; (2) the crux is whether a lay (unlicensed) guide should carry prescription epinephrine with intent to diagnosis and treat anaphylaxis, or, in short, practice medicine under protocol. Such recommendation would apply well beyond commercial outdoor schools: ski patrols, rural fire-rescue units, park and forest rangers, and search and rescue personnel. Are these organizations asking for similar capability?

Changing state legislation and lobbying medical boards are 2 excellent avenues. In Washington, certain birth control pills are available "under the counter" and physicians are allowed to prescribe certain antibiotics for partners of patients afflicted with sexually transmitted diseases. Another possible option, which wouldn't require haranguing with 50 states, is to ask the Food and Drug Administration to reclassify epinephrine autoinjectors as over-the-counter medication. While possibly far-fetched and fraught with bureaucratic difficulty, it is nonetheless important to consider all options. Recategorizing as over-the-counter does not resolve the issue of training, as astutely pointed out by the authors. However, we do, after all, prescribe to and teach lay parents how to

recognize and treat anaphylaxis in their kids with little more than brief instruction on using autoinjectors.

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References

1. Gaudio F, Lemery J, Johnson D. Recommendations on the use of epinephrine in outdoor education and wilderness settings. *Wilderness Environ Med.* 2010;21:185-187.
2. Muck AE, Bebarta VS, Borys DJ, Morgan DL. Six years of epinephrine digital injections: absence of significant local or systemic effects. *Ann Emerg Med.* 2010;56:275-277.
3. Mathez C, Favrat B, Staeger P. Management options for accidental injection of epinephrine from an autoinjector: a case report. *J Med Case Rep.* 2009;3:7268.
4. Simons FE, Lieberman PL, Read EJ Jr, Edwards ES. Hazards of unintentional injection of epinephrine from autoinjectors: a systematic review. *Ann Allergy Asthma Immunol.* 2009;102:282-287.
5. Fortenberry JE, Laine J, Shalit M. Use of epinephrine for anaphylaxis by emergency medical technicians in a wilderness setting. *Ann Emerg Med.* 1995;25:785-787.
6. Mock FT. Legal implications of administering emergency prescriptions drugs by non-licensed providers. *Wilderness Medicine Magazine.* 2007;24:18-19.
7. Moss J. Prescriptions and the law. *Wilderness Medicine Magazine.* 2007;25:14-15.

Reply to Dr Van Tilburg

To the Editor:

We sincerely thank Dr Van Tilburg for calling attention to the adverse effect of accidental digital injection of epinephrine. As Muck et al (from Dr Van Tilburg's excellent list of references) described, the majority of such accidental injections resolved spontaneously or with warm compresses, but 23% of such cases received pharmacologic treatment.¹ The incidence of accidental injections is estimated to be 1 per 50,000 injections of epinephrine, but the true incidence is likely higher as a consequence of under-reporting.²

As for the extent of anaphylaxis in the wilderness, the epinephrine roundtable report cited the National Outdoor Leadership School's database, that described 2 cases of anaphylaxis in 2.5 million participant-days or 20 years of