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## Letters to the Editor

### THE TOURNIQUET GAP EXISTS EVEN AMONG HEALTH CARE STUDENTS



#### To the Editor:

We wish to summarize the preliminary results of our ongoing tourniquet study that supplements those of Ross et al. that were recently published in the *Journal of Emergency Medicine* (1). Our institutional review board–approved study invited 50 tourniquet-naïve health care students (from respiratory care, nursing, public health, and medical specialties) to place a commercial Combat Application Tourniquet (C-A-T), without previous instruction, on a “severely bleeding” standardized patient (brachial artery). They were timed from the opening of the C-A-T wrapper to their stated completion of the attempt. Any errors in application along the way were documented and categorized. The mean time of application was 96.16 s (range 25.12–226.31 s). This was statistically different from our emergency medical technician-paramedic (EMT-P) subject matter experts’ time of 42.83 s (range 23.89–82.94 s). More dramatically, only 5 (10%) correctly applied the tourniquet. Apart from difficulty in deciphering the enclosed directions and applying the C-A-T in the wrong place, a consistent error was the misuse of the windlass (31/50; 62% of the study group)—a critical component of many hemorrhage tourniquet systems (2,3). Therefore, consistent with Ross et al., we also found a lack of intuitiveness regarding C-A-T placement in a different study population (1). However, we would like to share additional insight into how to improve tourniquet application efficacy when used by the public.

First, tourniquet education (including improvisational tourniquets) needs to extend to both health care students and professionals. Second, the instructions enclosed in the C-A-T need to be simplified and in a larger font, contain clearer graphics, and be printed in multiple languages. Finally, research and development should be initiated to create as economically as possible a “talking tourniquet” like automatic external defibrillators.

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### REFERENCES

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#### REPLY



I thank Rega et al. for their important work. These concepts need to be heavily considered when large municipalities embark on public access hemorrhage control campaigns. Their work along with other emerging literature continue to demonstrate what many of us have been concerned about—that is, while commercial tourniquets are effective and easy to use, they are not intuitive to use and therefore require specific training or require additional engineering to allow laypersons