Cut and Rip and Cut Alone Techniques Versus Usual Practice in the Removal of Trauma Patient Clothing

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Introduction
Rapid exposure of a critical trauma patient is an essential component of the primary survey. No gold standard exists regarding the best technique to remove clothing from a patient. The purpose of this study is to compare two techniques of clothing removal versus usual practice using standard trauma shears.

Methods
Advanced Care Paramedic (ACP) students were randomized to learn either the Cut and Rip (CaR) or Cut Alone (CaL) techniques using common trauma shears to remove clothing from a standardized trauma mannequin. Practicing paramedics were recruited and asked to remove clothing from the mannequin using trauma shears as in their usual practice (UP). Total time plus time for removal of individual pieces of clothing was recorded.

Results
24 participants (8 per group) were recruited to participate. One participant (CaL group) did not perform the technique as taught and was withdrawn from analysis. The student groups (CaR, CaL) were similar in mean age (29, 27), years of practice, (1 student >5 years) and male gender (63%, 43%). The UP group was older (mean 34), more experienced (63% practice >5 years) had a higher level of training (63% ACP) but a similar percentage of males (63%). Mean total time for clothing removal (SD, 95% CI) was 104 (23, 88-120), 124 (25, 108-140), and 136 (15, 119-154) seconds, for the CaR, UP and CaL groups respectively. Significant differences in total time were found between CaR and CaL groups (p=0.03) but not CaR and UP groups. Only time to remove pants was significantly different among individual pieces of clothing (p=0.007). Removal of one CaR participant who was a clinical outlier showed a statistically significant difference in total time between the CaR and UP groups.

Conclusion
The CaR technique is faster than both CaL and UP groups to remove clothing from a standard trauma mannequin.