

You Can't Make a Silk Purse Out of a Sow's Ear: Time to Start Again with MCI Triage

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Abbreviations:

MCI: mass-casualty incident
START: Simple Triage and Rapid Treatment

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Dear Editor,

In "Accuracy, efficiency, and inappropriate actions using JumpSTART triage in MCI simulations," Claudius et al.¹ studied medical students following a triage algorithm. They showed that they are inefficient, either performing unnecessary steps (55.0% of the time) or omitting them (57.0%), even with notes to help them.

Despite being an elegant piece of education research, our hearts sink a little as we read it. This is because, like in many recent papers, the authors are too readily accepting of the process that they set out to study. Asserting that "application of the...algorithm...in one study resulted in a low sensitivity to correctly identify 'immediate' patients" is an astonishing understatement. The study they refer to² is the only prospective study of pediatric triage using real patients, testing JumpSTART (Simple Triage and Rapid Treatment) against 3,461 children in a South African emergency department. The sensitivity of JumpSTART for an immediate casualty was a pitiful 3.2% (95% CI, 1.3-7.5) using an Injury Severity Score > 15 (a standard definition of major trauma which may not actually represent a group who all require urgent intervention). Measured against resource-based criteria³ (ie, identifying children who actually needed emergent treatment), it plummeted to 0.8%. If these figures are accurate (and this is the best evidence available to date), then application of JumpSTART is more likely to triage patients incorrectly than any other decision-making tool, including a coin toss! The only prospective study in adults fared little better – with the United Kingdom system, the Triage Sieve (very similar to START) achieving only 59.0% in a military population.⁴ A systematic review of the most commonly used systems concluded that there "is limited evidence for the validity of existing triage tools."⁵

Immediate casualties genuinely need urgent intervention to aid survival, so using a tool with poor sensitivity can only be harmful. Many studies (including Claudius et al.) show that these ineffective activities take considerable time (exacerbated by inexperience), and the resultant delays accumulate and may become harmful, even when the tool occasionally gets it right. The mass-casualty incident (MCI) research community must accept that you can't make a silk purse out of a sow's ear: physiology-only tools just don't work, and continuing to tweak them, or the way we train people to use them, will not change the fact they are ineffective, or even detrimental. Leadership through research into new paradigms is desperately needed; otherwise, prehospital systems will continue to train their staff in these systems. In no other aspect of medicine would we be so readily accepting of an intervention that is consistently shown to offer no real benefit and which, quite possibly, harms our patients.

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Dear Editor,

We would like to thank Drs. Horne and Nutbeam for their interest in our paper and their response. Certainly, we accept that the JumpSTART triage method has limited research supporting its use. No other method has a clear evidence-based advantage; in fact, JumpSTART was recently proven superior to two other triage systems.¹

Some degree of over- and under-triage is expected in pediatric trauma, particularly in mass-casualty settings. The degree to which our current methods mistriage, and the reasons why, are largely unknown. Our goal was not to accept the process, but to add to the literature on that topic. We appreciate the perspective and hope our research helps improve upon the current triage systems.

Reference

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