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19 Repetition Improves Residents' Ability to Triage in a Simulated Mass Casualty Incident

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Background: Unlike other prehospital providers, emergency physicians providing care at mass gatherings are often not taught the START (simple triage and rapid treatment) method of triage or the National Incident Management System (NIMS).

Objectives: It is hypothesized that by providing lectures followed by repeating scenarios, students will learn techniques of mass casualty incident (MCI) triage, perform with better accuracy and faster times.

Methods: Five residency programs in Philadelphia participated in an EMS conference in May 2013. After didactics on START and NIMS, residents entered classrooms with low-fidelity manikins. All scenarios were identical

Table 1.

Scenario	Number of Tasks Completed Properly	Number of Tasks not Completed Properly	Percentages of Tasks Completed Properly	Percentage of Tasks not Completed Properly
1	34	30	53.13%	46.88%
2	44	12	78.57%	21.43%
3	30	2	93.75%	6.25%

Table 2.

Scenario	Baseline Time	Time 2	Time 3
1	7	15	10
1	5	5	4
1	15	10	5
1	10	7	3
2	4	4	
2	5	10	
2	8	5	
Mean	7.7	8	5.5

in mechanism with only the setting and demographic information as variables. Manikins used included CPR manikins, MCI Man and Ty Beanie Babies; they were assigned demographics, mechanism of injury, injuries, and vital signs. Each group received similar instruction by an evaluator to assess and triage the discovered victims using the START triage method. Each evaluator had NIMS knowledge and START triage method ability. Subjects were evaluated as a group and graded on eight predetermined

accomplishments. Upon completion of the scenario, the total time was recorded for each group, they were provided immediate feedback, and moved on to the next scenario.

Results: Of a possible 192 evaluated tasks, 160 were documented. Initially 53% of tasks were completed successfully; this improved to 94% after repeated attempts (Table 1). Of a possible 24 times, 18 were recorded. The mean time increased from 7.7 min to 8 min after the 1st round of repetition then decreased to 5.5 min after completion of the 3rd scenario (Table 2). This was not statistically significant.

Conclusions: Utilizing low-fidelity manikins and repetition with direct, immediate feedback, residents can learn to perform pre-hospital triage successfully. Limitations include poor data collection, and follow-retention at a later time.