

BACKGROUND

Mass casualty incidents (MCI) can overwhelm the capacities of EMS and hospital systems. With the increasing incidence¹ of these events, medical students may be required to take an active role in the triage and treatment of patients during an MCI. Training for this type of event has largely been excluded in graduate medical education. Student leaders from the Brody School of Medicine *Emergency Medicine Interest Group* sought to bridge this educational gap with their annual Disaster Day. This event was designed, coordinated, and planned entirely by medical students.

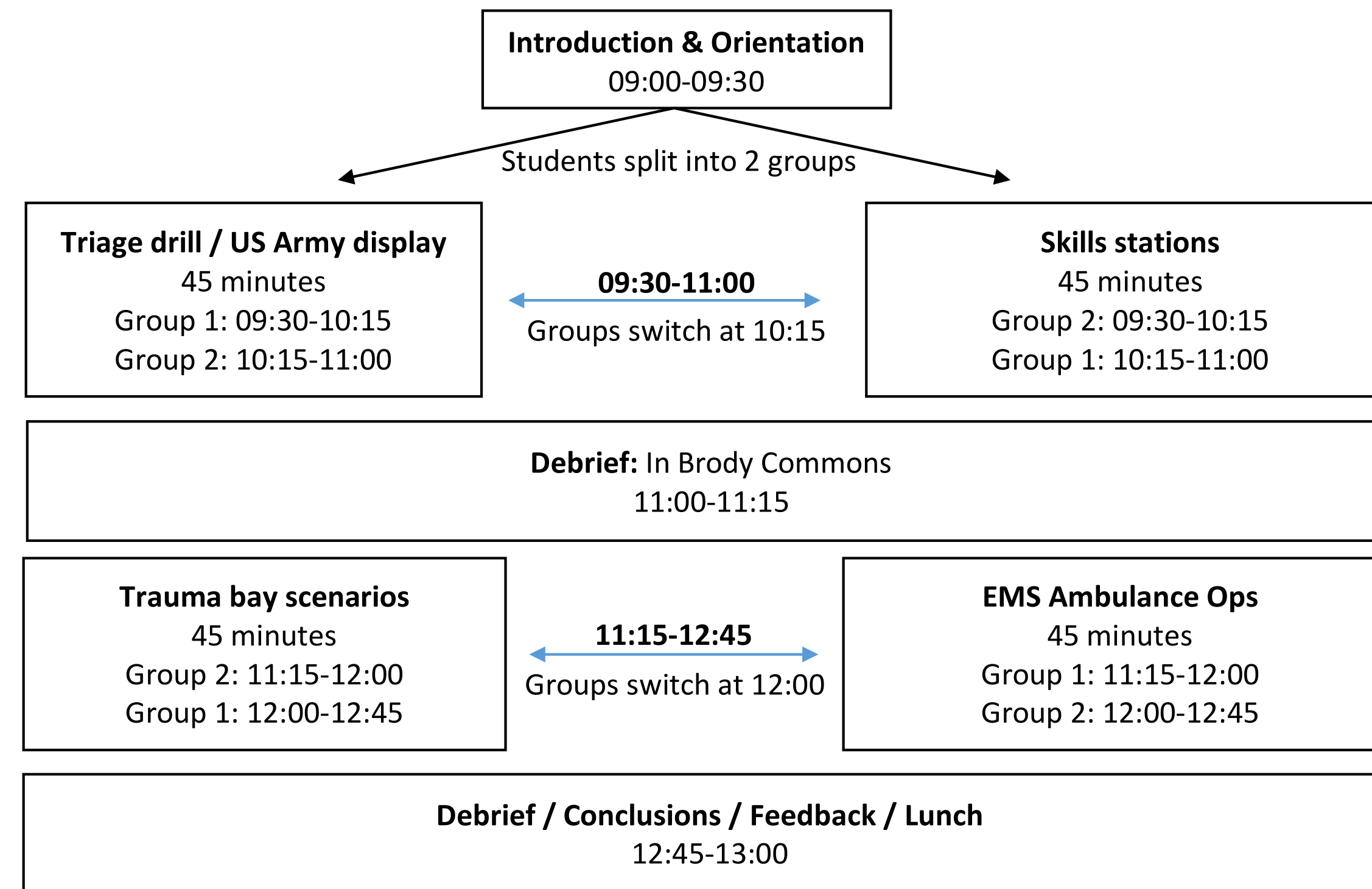
¹Blair, J. Pete, and Katherine W Schweit. "A study of active shooter incidents, 2000–2013. Texas State University and the Federal Bureau of Investigation, US Department of Justice, 2014." (2014).

GOALS AND OBJECTIVES

- Perform START triage in a simulated disaster environment with adverse conditions
- Perform hands-on skills in trauma scenarios
- Experience the MCI continuum of care

METHODS

20 medical students were instructed in the START triage algorithm by Emergency Medicine faculty. Each student then performed triage on 8 live patients and 1 mannequin using colored tags in a simulated explosion MCI. The disaster area was simulated by over turning chairs/tables, low lighting, and playing a loud "disaster sounds" playlist. Students then participated in airway, IV/IO, needle decompression, and tourniquet stations followed by 3 trauma bay scenarios. Pre and post event surveys were completed which asked the students to rate their perceived competence with each skill.

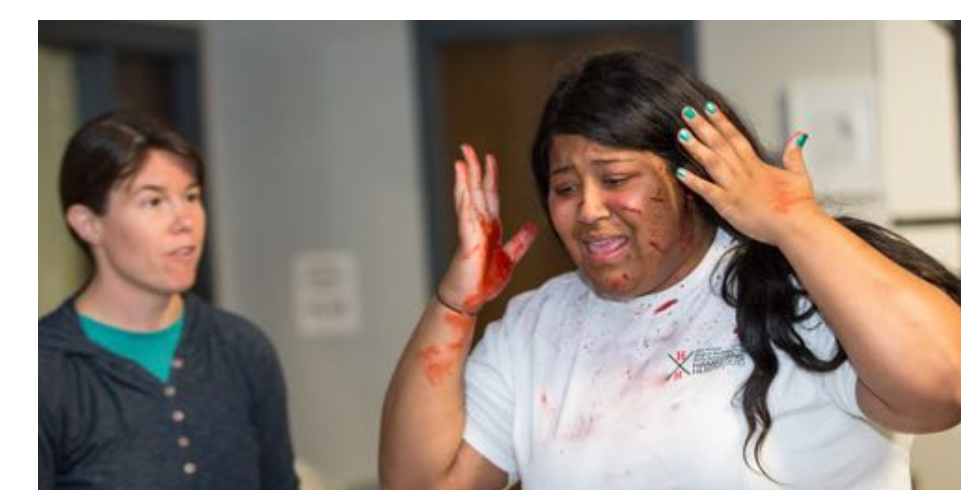


Skills stations: IV/IO, tourniquet, chest decompression, NPA / OPA / BIAD / ETT

Trauma patient 1: Closed head injury
 Skills: BVM, NPA, ETT
 Trauma patient 2: Tension pneumothorax
 Skills: Needle decompression, IV/IO
 Trauma patient 3: Hemorrhage / shock
 Skills: Tourniquet, fluid resuscitation guidelines

Triage Conditions

Patient 1: Upper extremity bleed, ambulatory
 Patient 2: Facial lacerations, deaf, ambulatory
 Patient 3: Ankle fracture, follows commands
 Patient 4: Shrapnel injury to leg, follows commands
 Patient 5: Unresponsive, apneic until repositioning
 Patient 6: Upper extremity arterial bleed
 Patient 7: Open abdominal trauma
 Patient 8: Chest trauma, respiratory distress
 Mannequin: 80% BSA burn, persistently apneic



Photographs courtesy of ECU News Media, Photographer: Cliff Hollis

RESULTS AND DISCUSSION

Triage Drill Performance

	Green	Yellow	Red	Black	Totals	Correct Tag
Patient 1	20				20	100%
Patient 2	19	1			20	95%
Patient 3	2	8	10		20	40%
Patient 4	1	13	6		20	65%
Patient 5			15	5	20	75%
Patient 6		7	11	1	19	55%
Patient 7			19	1	20	95%
Patient 8		3	16	1	20	80%
Mannequin			2	15	17	75%

Mean accuracy: 76%, Rate of over triage: 14%,
 Rate of under triage: 9%

Pre and Post Event Survey

- 17 respondents
- 15 first year students, 1 second year, 1 third year
- 82% had no prior pre-hospital medical experience
- 64% had no previous mass casualty training
- 94% felt more competent after the event in performing triage, IV/IO, needle decompression, tourniquets, and ETT/BIAD

The event successfully taught medical students the basics of triaging patients in an MCI. After the event, students were more comfortable initiating the triage algorithm, performing life saving interventions, and would be more likely to respond in the event of a MCI. A detailed manuscript of the event will be submitted to the medical education portal to allow other EMIGs to replicate the activity and compare data.

ACKNOWLEDGEMENTS

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