Results Section

First Care Provider

31-January-2016

1 Pre-Screen Questions

To compare and contrast the underlying perceptions of trained and untrained individuals, both groups were asked a series of 5 questions prior to the simulation. The first question "What is the number one cause of death in the US population ages 1-44" was correctly identified as trauma by 85% of the trained groups, as opposed to 15% of the untrained groups.

	Group	Cardiac Arrest	Trauma	Cancer	Medication OD
1	Nursing Grad	1	3		
2	Nursing Undergrad		4		
3	Teacher - Trained		5		
4	Teachers - Untrained				3
5	City - Trained		5		1
6	City - Untrained		2		3
7	Security - Trained	1	2		
8	Security - Untrained	4	1	1	
9	Students - Trained		5		1
10	Students - Untrained	3	1		1
11	OCFA		4		

Both groups were then asked for the standard response time for medical personnel when 911 is dialed. The correct answer of 8-11 minutes was identified by only 35% of the trained groups and 11% of the untrained groups.

	Group	2-4 min	5-7 min	8-11 min	12-15 min
1	Nursing Grad		3	1	
2	Nursing Undergrad		3		1
3	Teacher - Trained		1	5	
4	Teachers - Untrained		3		
5	City - Trained	1	4		
6	City - Untrained	1	4		
7	Security - Trained		1	2	
8	Security - Untrained		4	1	1
9	Students - Trained	4	2		
10	Students - Untrained	2	2	1	
11	OCFA		1	3	

The primary concern following a disaster or emergency situaiton was nearly unanimous (86%) identified as safety, with no individuals answering treating victims.

	Group	Cardiac Arrest	Trauma	Cancer	Medication OD
1	Nursing Grad	1	3		
2	Nursing Undergrad		4		
3	Teacher - Trained		5		
4	Teachers - Untrained				3
5	City - Trained		5		1
6	City - Untrained		2		3
7	Security - Trained	1	2		
8	Security - Untrained	4	1	1	
9	Students - Trained		5		1
10	Students - Untrained	3	1		1
11	OCFA		4		

Nearly all (88%) correctly identified not removing the tourniquet to a victim in distress from the tourniquet itself.

	Group	Loosen the TQ	Remove the TQ	Reassure them	Tourniquets are an outdated means for hemorrhage control
1	Nursing Grad			2	2
2	Nursing Undergrad			4	
3	Teacher - Trained			5	
4	Teachers - Untrained			3	
5	City - Trained			6	
6	City - Untrained			5	
7	Security - Trained			3	
8	Security - Untrained			6	
9	Students - Trained			6	
10	Students - Untrained	1		3	1
11	FIRE/EMS	1	1	2	

Finally, for reasons to not render aid in an emergency situation, both groups were split across 3 answers: not knowing what to do, unsure if their assistance would make them worse, and their concern for disease. Only 2 test subjects identified litigation as a reason to not render aid in an emergency.

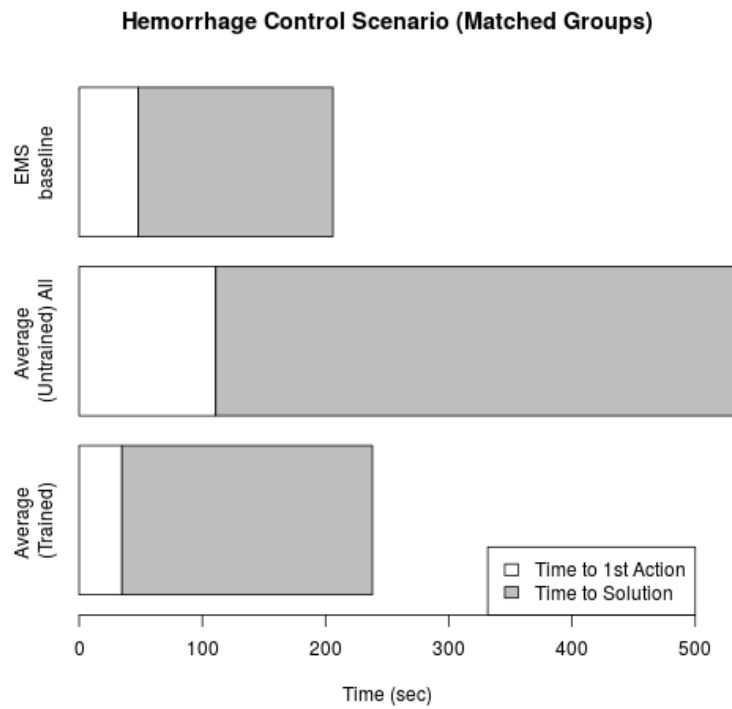|	Group	Not knowing what to do	Unsure if make them worse	Afraid of litigation	Disease concern
1	Nursing Grad	2	1		1
2	Nursing Undergrad	2	1		1
3	Teacher - Trained		1	1	3
4	Teachers - Untrained	2	1		
5	City - Trained		1		4
6	City - Untrained		3		2
7	Security - Trained	2			1
8	Security - Untrained	2	2		2
9	Students - Trained	4	2		
10	Students - Untrained	3	1		1
11	FIRE/EMS				

2   Arterial

in the disaster simulation, the subjects were timed and their 1st actions were recorded. When treating the arterial bleeding victim, the appropriate action is to hold pressure on the wound and/or apply a tourniquet to the effected extremity. In regards to treating this victim, the training group had a significantly lower time than the untrained group when responding and preventing death from exsanguination (which was designated at 8 minutes) (p-value = 0.001446, CI = $(-\infty, -204.416)$). trained groups had an average time to solution in 3 minutes and 33 seconds, while the untrained groups were never able to come to a solution before the time expired and death from exsanguination occurred. The average time to solution of the trained groups was similar to that of the EMS workers, who had an average time to solution in 2 minutes and 38 seconds.

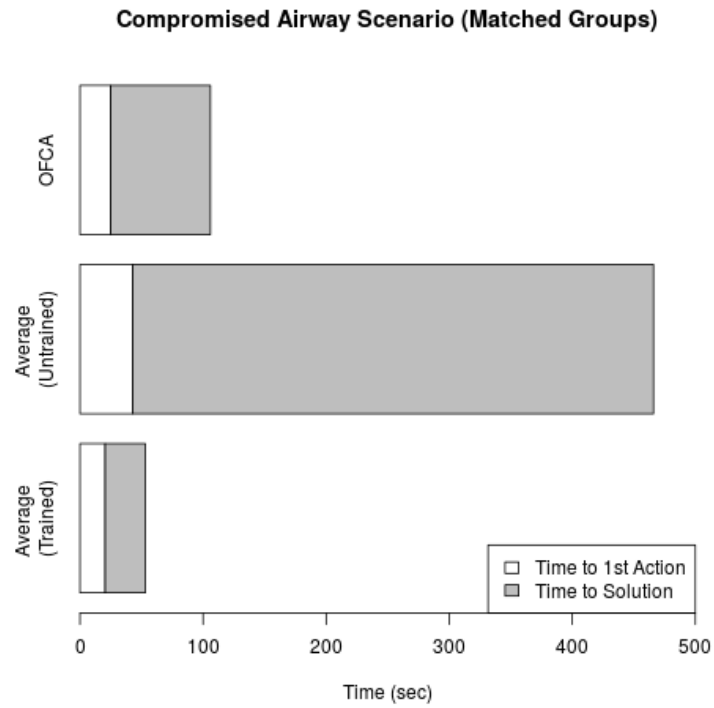|	Subject	Time to 1st Action	Tourniquet Applied	Time to Solution
1	1 Nursing Grad	1m 15s	No	8m
2	Nursing Undergrad	1m	No	8m
3	Teacher - Trained	4s	Yes	2m 24s
4	Teachers - Untrained	2m 50s	No	8m
5	City - Trained	1m	Yes	2m 55s
6	City - Untrained	4m 55s	No	8m
7	Security - Untrained	30s	Yes	8m
8	Security - Trained	45s	Yes	4m 47s
9	Students - Trained	30s	Yes	3m 27s
10	Students - Untrained	37s	Yes	8m
11	EMS baseline	48s	Yes	2m 38s

3   Airway

when treating the unconscious victim the proper maneuver is to place the victim on his side in the rescue position to prevent airway aspiration or obstruction. Once again the trained group saw a significantly different time to resolution than that of the untrained group. (p-value = 0.008729, CI = $(-\infty, -191.5561)$). Trained groups had an average time to solution in 32.6 seconds, while untrained groups had an average time to solution in 7 minutes and 3 seconds. Only one untrained group was able to come to a solution before time expired (security officers) Once again the trained groups average time to solution closely mimicked that of trained EMS workers who had an average time to solution of 1 minute and 21 seconds.

Hemorrhage Control Scenario (Matched Groups)

Notes: Most groups performance improved once Traumedix kit was identified. Majority of groups did not continue to chest evaluation after addressing hemorrhage. All trained groups applied direct pressure until able to place tourniquet. Untrained groups derive comfort from remaining in their group.

	Subject	Time to 1st Action	Time to Solution	Time to Reassess
1	Nursing Grad	1m 27s	8m	8m
2	Nursing Undergrad	1m 3s	7m 36s	7m 36s
3	Teacher - Trained	11s	11s	2m 24s
4	Teachers - Untrained	1m	8m	8m
5	City - Trained	38s	38s	3m 38s
6	City - Untrained	32s	8m	1m 38s
7	Security - Trained	18s	18s	2m 42s
8	Security - Untrained	18s	2m 40s	1m 58s
9	Students - Trained	15s	15s	2m 26s
10	Students - Untrained	1m 2s	8m	3m 22s
11	OCFA	25s	1m 21s	1m 21s

Compromised Airway Scenario (Matched Groups)

Compromised Airway Scenario (All Groups)