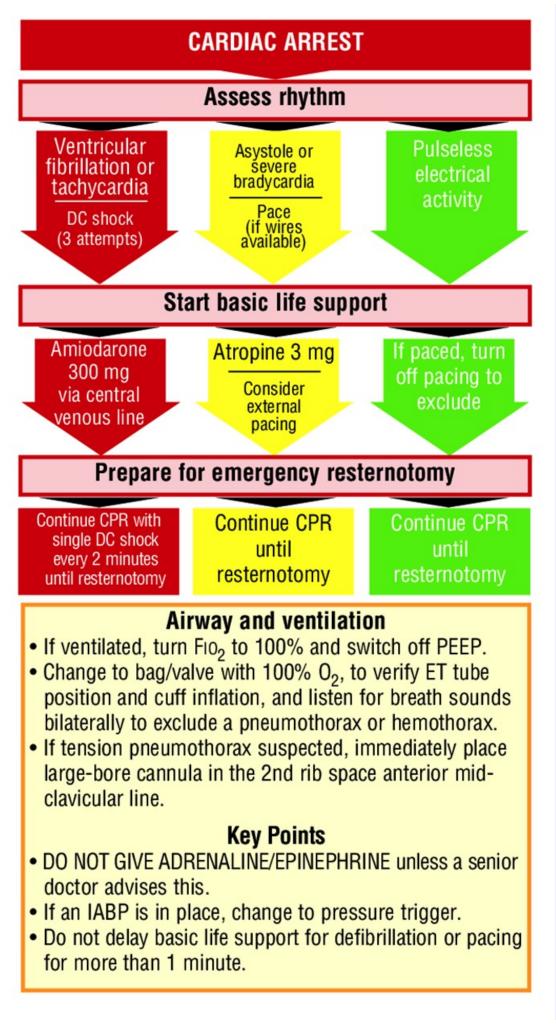


## **Background & Significance**

 Patient who are post-operative cardiac surgery requiring cardiopulmonary resuscitation do not receive the same BLS and ACLS protocols instead they receive a form of ASU-ALS which is recommended by the Society of Thoracic Surgeons (STS) this algorithm includes patients undergo an emergent re-sternotomy in the setting of cardiac tamponade.

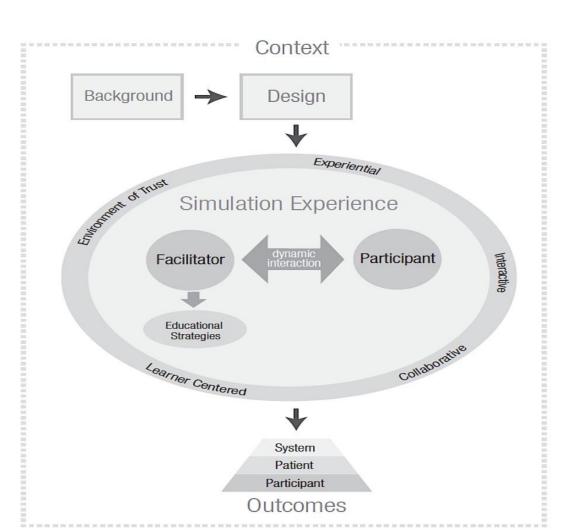


## **Objectives**

Initiate preparing the patient for an emergent sternal re-entry and gain chest re-entry within 5 minutes

- Will simulation-based learning in the form of mock open chest codes with debriefing improve time to emergent chest re-entry in the cardiac surgery population
- Will debriefing after a mock open chest code be a useful tool in simulation-based learning?

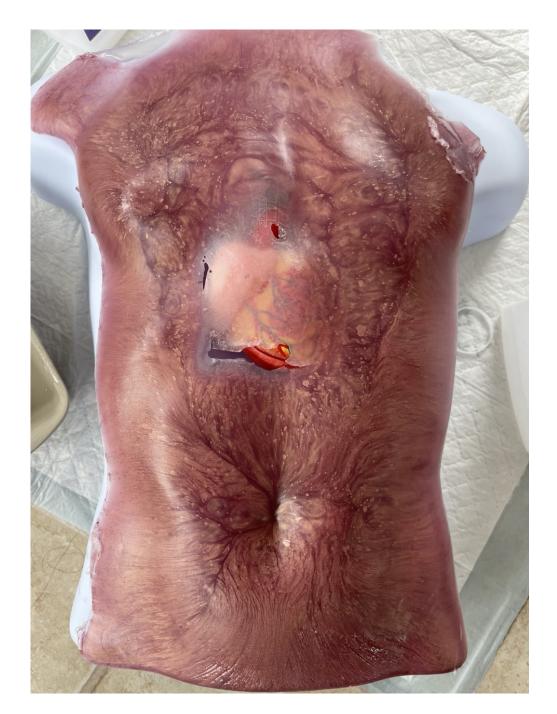
# **Theoretical Framework** NLN Jeffries Simulation Theory



# "FAILURE TO RESCUE" A QUALITY INDICATOR ... CAN WE DO BETTER? TERESA WEISNECK BSN, RN, CCRN-CSC-CMC DNP Chair Dr. Mary DiGiulio DNP Co-Chair Dr. Michael Cane

### Methodology

- Method- development, implementation, and evaluation of a mock code involving sternal re-entry in the cardiac surgery unit with a debriefing
- Population- 10 nightshift Surgical ICU nurses who tend to immediate post operative cardiac surgery patients
- Setting- Acute Care Facility located in Southern New Jersey
- Developmental phase consisted of developing a mock "open" chest code based of the current policy at the facility and building a manikin to use for the simulation



- Implementation took place over approximately three consecutive weekend nightshifts which consisted of mock "open" chest codes with simulation-based technology, a debriefing between the pre/post mock "open" chest code, and a post debriefing survey
- Evaluation of the debriefing effectiveness was an anonymous survey which was handed into after the debriefing, pre/post mock "open" chest code times were recorded and analyzed to measure if there was a change in time before and after the debriefing
- Outcomes were measured between groups with pre/post test times

#### **Results**

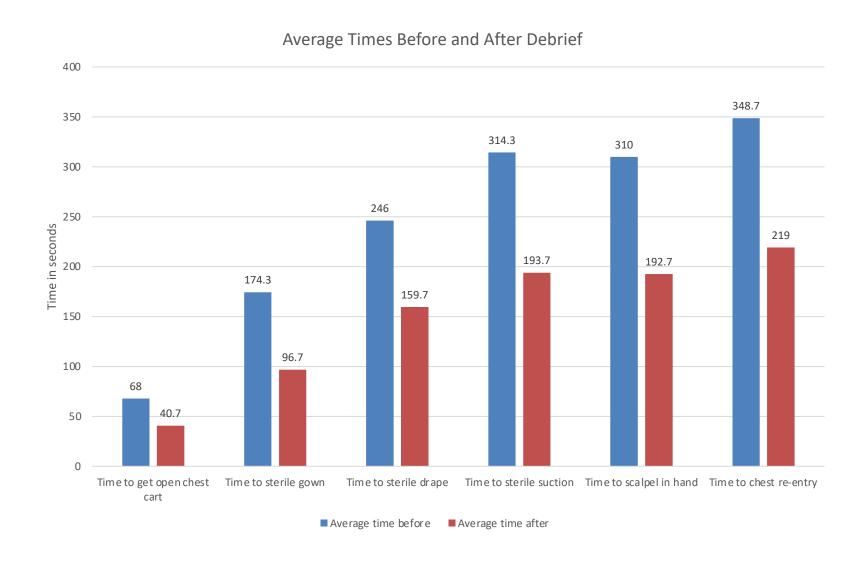
There was no increase in times for any milestone for any group.

								U	escrip	tive Sta	TISTICS								
		Time to get open chest cart (Before)	Time to get open chest cart (After)	Cart change	Time to Sterile gown (Before)	Time to Sterile gown (After)	gown change	Time to Sterile drape (Before)	Time to Sterile drape (After)	drape change	Time to Sterile suction (Before)	Time to Sterile suction (After)	suction change	Time to Scalpel in hand (Before)	Time to Scalpel in hand (After)	scalpel change	Time to Chest re-entry (Before)	Time to Chest re-entry (After)	Chest entry change
N	Valid	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Miss ing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mear		68.0 000	40.6 667	27.3 333	174. 3333	96.6 667	77.6 667	246. 0000	159. 6667	86.33 33	314.3 333	193. 6667	120.6 667	310.0 000	192. 6667	117.3 333	348.6 667	219. 0000	129. 6667
Std. Devia	tion	24.0 0000	19.0 0877	21.3 8535	53.4 0724	11.7 1893	58.3 9806	69.2 8925	49.0 9515	21.50 194	108.5 1882	37.2 3350	71.29 049	115.4 2530	42.3 9497	76.39 590	118.1 4539	39.2 8104	79.2 2331
Medi	an	68.0 000	40.0 000	32.0 000	144. 0000	92.0 000	55.0 000	207. 0000	137. 0000	81.00 00	270.0 000	179. 0000	91.00 00	251.0 000	186. 0000	82.00 00	307.0 000	210. 0000	97.0 000
Minir	num	44.0 0	22.0 0	4.00	143. 00	88.0 0	34.0 0	205. 00	126. 00	68.00	235.0 0	166. 00	69.00	236.0 0	154. 00	65.00	257.0 0	185. 00	72.0 0
Maxi	mum	92.0 0	60.0 0	46.0 0	236. 00	110. 00	144. 00	326. 00	216. 00	110.0 0	438.0 0	236. 00	202.0 0	443.0 0	238. 00	205.0 0	482.0 0	262. 00	220. 00

• The average decrease in time to chest re-entry was 129.7 ± 79.2 seconds. Due to the small sample size the results are limited.

		Group	1		Group	2	Group 3			
	Before	After	Decrease	Before	After	Decrease	Before	After	Decrease	
Time to get open chest cart	44	40	4	92	60	32	68	22	46	
Time to sterile gown	236	92	144	144	110	34	143	88	55	
Time to sterile drape	326	216	110	207	126	81	205	137	68	
Time to sterile suction	438	236	202	270	179	91	235	166	69	
Time to scalpel in hand	443	238	205	251	186	65	236	154	82	
Time to chest re-entry	482	262	220	307	210	97	257	185	72	
Time in second										

## All times were decreased after the debriefing sessions



Average time bef verage time af /erage time decreas 40.7 ± 19.0 27.3 ± 21.4 Fime to get open chest ( 68.0 ± 24.0 96.7 ± 11.7 77.7 ± 58.4 Time to sterile go 174.3 ± 53.4 159.7 ± 49.1 86.3 ± 21.5 Time to sterile dra 246.0 ± 69.3 193.7 ± 37.2 120.7 ± 71.3 Time to sterile suct 314.3 ± 108.5 192.7 ± 42.4 310.0 ± 115.4 117.3 ± 76.4 Time to scalpel in h 348.7 ± 118.1 219.0 ± 39.3 129.7 ± 79.2 Time to chest re-en

Utilization of simulation-based technology in the form of mock "open" chest codes improved efficiency in chest re-entry. This was a pilot project and a larger sample size would be recommended for further study.

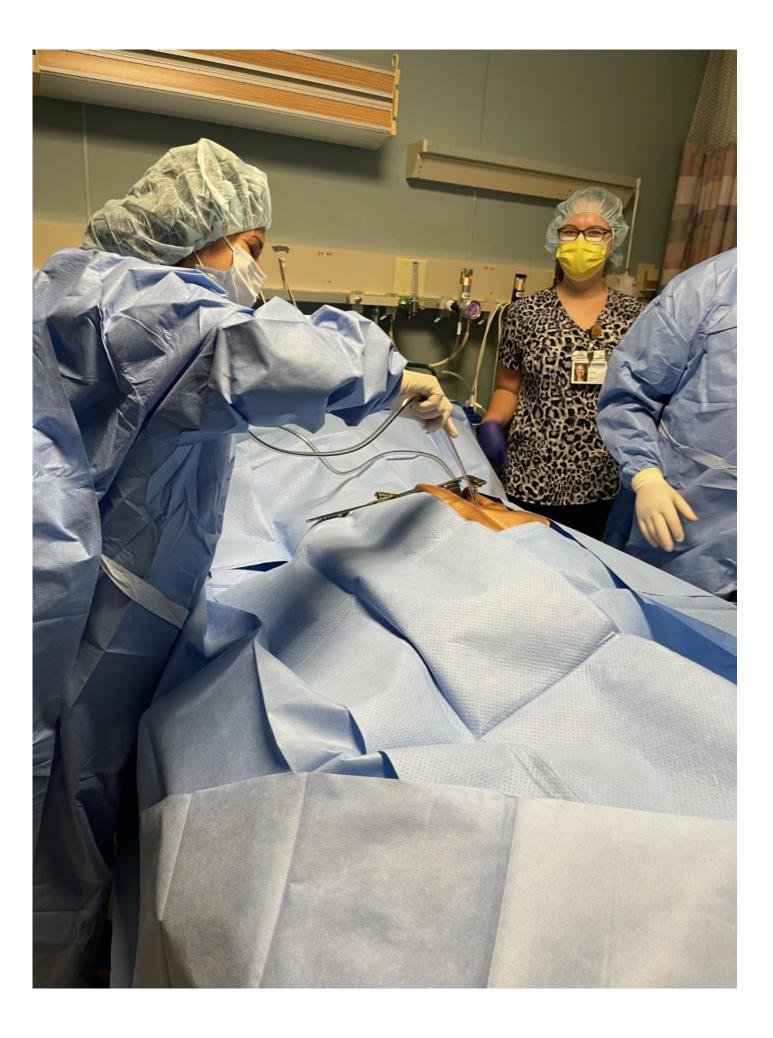
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#### Limitations

Small sample size Time constraints

#### **Facilitating Factors**

Facilitating factors of my project included the willingness of the staff to participate



#### Conclusion

References

