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Rapid Development and Implementation of a Public Health Elective during the Covid-19 Pandemic

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Objectives: We implemented a residency physical activity challenge during the first COVID-19 surge in order to:

1.Encourage regular physical activity

2.Increase a sense of community

3.Improve overall wellness

Design: Participation was opt-in. Residents created a Strava account and joined the club, PennEM Fit Tested. During the challenge, points were given for each day a resident participated in 30 minutes of activity. Those posting five days of activity in a week were eligible for weekly prizes. At the end of the challenge, residents with the most active days overall and in each class won an award. Prizes were also given for creative pictures and activity titles. Residents had the opportunity to provide "kudos" and post comments on each other's activities. At the conclusion of the challenge, participants were asked to complete a survey to better understand impact.

Impact: 28 residents participated in the challenge. Our response rate was 89.3% (n=25) with 76% (n=19) identifying as being more physically active as a result of the challenge. 92% (n=23) identified the challenge as fostering a personal sense of community with 92% (n=23) stating the challenge improved their overall wellness. Physical activity challenges can promote a sense of community and positively impact the overall wellness of residents. Similar challenges can easily be implemented at other programs. Future iterations will focus on increasing participation and teamwork.

41 Pushing the R.E.S.E.T. Button: Hot Debriefing Curriculum for Emergency Medicine Residents

Megan Gillespie, MD Mohamad Moussa, MD; Ramin Tabatabai, MD; Adam R. Kellogg, MD

Learning Objectives: This developed curriculum focuses on educating EM residents about hot debriefing as well as providing resources to train these residents to be effective hot debriefing leaders.

Abstract:

Emergency medicine (EM) residents experience critical incidents (CIs), such as cardiopulmonary arrests, pediatric resuscitations, or severe traumatic injuries, routinely in clinical practice. It is often difficult for EM residents to reset after emotionally intense CIs and resume routine clinical responsibilities. Residency training provides EM resident physicians the skills needed to medically manage patients of CIs, however, residency training rarely provides formal training on how the resident can manage themselves and their team immediately after CIs. This developed curriculum focuses on educating EM residents about hot debriefing as well as providing resources to train these residents to be effective hot debriefing leaders.

Repeat exposures to CIs can cause emergency providers to experience burnout, compassion fatigue, low compassion satisfaction, an inability to cope, and secondary traumatic stress. Debriefing has supportive evidence for improved patient outcomes, team morale, and personal resiliency as benefits. Despite these benefits, debriefing infrequently occurs in real time in the emergency department. Two of the most noted perceived barriers to performing debriefing is lack of time and lack of training for effective facilitators.

Hot debriefing, an abbreviated post-event debriefing occurring within minutes to hours after a CI so that all members who were involved can participate, is a practical debriefing methodology for emergency clinicians. This developed and implemented original curriculum provides residents with education about how to be an effective hot debriefing facilitator based on the framework of emotional intelligence and Mitchell's 7-Step Model of Critical Incident Stress. This hot debriefing curriculum for residents to help them reset after CIs is summarized by the mnemonic R.E.S.E.T., which stands for:

Recognizing the critical incident;

Emotional self-awareness;

Self debrief;

Empathy towards others' emotions;

Team hot debrief.

42 Rapid Development and Implementation of a Public Health Elective during the Covid-19 Pandemic

Therese Mead, DO, FACEP; David Hansen, DO; Kathleen Cowling, MS, DO, MBA, FAAEM, FACEP; Derek Schaller, MD, FACEP; Bethany Figg, MBA, MLIS, C-TAGME, AHIP

Learning Objectives: The objectives of this elective were to: identify acute public health issues and utilize different media formats to educate the public on current community health concerns.

Abstract:

Background: In early 2020, a number of emergency medicine residency programs temporarily removed resident physicians from nonessential clinical duties in order to limit exposure to Covid-19. In our institution, a public health elective focusing on emergency preparedness was developed to provide a structured learning experience for those displaced residents. Educational Objectives: The objective of this curriculum was to develop an elective to allow residents to gain timely knowledge to identify acute public health issues, discuss with faculty mentors, and synthesize available data to deliver a public health project. Curricular Design: A 4-week curriculum was designed for residents at a community academic institution. The curricular design included daily online briefings, a topic of the day, targeted readings, and asynchronous project work with colleagues and community partners. Thirteen residents from five specialties participated in this elective from March to April 2020. After each week, opportunities for fine-tuning the

elective were discussed in the group debrief. A post-elective survey was sent to all participants to assess their perceptions of the elective experience. Impact/Effectiveness: Over 20 projects were completed including: educational infographics for the community, design of a lung ultrasound protocol for a local ED, broadcasting of a commercial for a local cable station, a pandemic simulation case series, and development of frequently asked questions regarding Covid-19 for pregnant patients. In the post-rotation evaluation, 12/13 (92.3%) participants answered the question "How satisfied are you with the Population Health elective?" with either "Very Satisfied" or "Satisfied." This elective rotation, although designed out of necessity, turned out to be one of the most productive elective experiences to date at our institution and could be adopted by other institutions needing to work while maintaining social distancing.

43 Resuscitation Leadership Training for Emergency Medicine Residents

Rachel Gartland, MD; Lauren Conlon, MD; Michael Abboud, MD MSEd

Learning Objectives:

Emergency medicine residents must learn to lead teams in high-acuity dynamic situations, but most do not undergo formal leadership training. We developed a simulation course to teach leadership and communication skills using resuscitation scenarios and the tenets of crisis resource management.

Abstract:

Introduction: The ability to lead and communicate effectively with team members in dynamic, high-stress situations is expected of graduating EM residents. Nevertheless, most residents do not undergo formal leadership training, instead learning these skills by observing senior residents and attendings before being thrust into the team leader role themselves.

Educational Objectives: We seek to develop a training course to teach leadership and communication skills to junior residents. The goal of this curriculum is to facilitate the transition from junior to senior resident by improving team skills that are often difficult to teach but imperative to the growth of emergency medicine physicians.

Curricular Design: We developed a curriculum called Resuscitation Leadership Training, using high-fidelity simulation and the tenets of crisis resource management to improve the leadership skills of junior EM residents, specifically with critical care scenarios. We used the TeamSTEPPS framework to teach leadership and teamwork, using a combination of didactic learning, simulation cases, and deliberate practice to hone these skills. We intentionally created simulation cases that involved critically ill patients, as these require the leading senior resident or attending to coordinate with a larger medical team in dynamic situations. We anticipated that participation would specifically improve residents' comfort in leading resuscitations and their ability to communicate effectively with their team. We also anticipated that after completing this curriculum, residents would feel more comfortable with the medical management of similar critical patient cases.

Impact: This curriculum was well received by residents and considered highly effective. Survey data of participating residents showed statistically significant improvements in their self-perception of leadership and communication skills, as well as comfort in managing patients with the presentations they were tasked with.

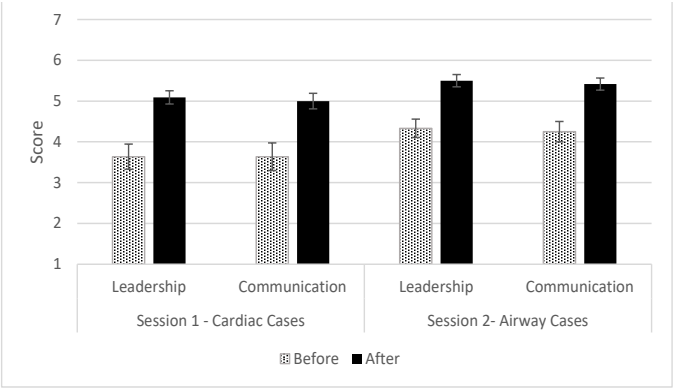

Figure 1. Leadership and communication survey results from both sessions. Residents were asked after each session to rate how ready they felt to lead a resuscitation before and after completing the course, where 1 = not at all ready and 7 = very ready; the mean scores and standard errors are listed here under "Leadership." Residents were also asked after each session to rate how effective their communication skills were before and after completing RLT, where 1 = not at all effective and 7 = very effective; the mean scores and standard errors are listed for each session under "Communication."

Table 1. Case-specific survey results.

Case		Mean Comfort Score	Standard Error	Standard Deviation	95% Confidence Interval	t-score (p-value)
STEMI	before	4.55	0.31	1.04	3.85 - 5.24	6.53 (p<0.01)
	after	5.82	0.23	0.75	5.31 - 6.32	
PE	before	4.36	0.41	1.36	3.45 - 5.28	5.16 (p<0.01)
	after	5.82	0.30	0.98	5.16 - 6.48	
WCT	before	3.55	0.25	0.82	2.99 - 4.10	8.03 (p<0.01)
	after	5.36	0.28	0.92	4.74 - 5.98	
Flash	before	4.82	0.35	1.17	4.03 - 5.60	4.08 (p<0.01)
	after	5.86	0.27	0.90	5.26 - 6.47	
Shock	before	5.50	0.19	0.67	5.07 - 5.93	5.74 (p<0.01)
	after	6.25	0.18	0.62	5.86 - 6.64	
Asthma	before	3.83	0.24	0.83	3.30 - 4.36	9.95 (p<0.01)
	after	5.33	0.14	0.49	5.02 - 5.65	
ICH	before	4.50	0.23	0.80	3.99 - 5.01	7.00 (p<0.01)
	after	5.67	0.14	0.49	5.35 - 5.98	
ARDS	before	3.58	0.29	1.00	2.95 - 4.22	6.09 (p<0.01)
	after	5.17	0.17	0.58	4.80 - 5.53	

Residents were asked to rate their comfort managing each case before and after completing RLT, where 1 = not comfortable and 7 = comfortable. The mean scores for each response are recorded with the standard errors, standard deviations. The t-scores were calculated using paired samples t-tests with significance assumed at a 95% confidence interval.

STEMI, St-elevation myocardial infarction; *PE,* pulmonary embolism; *WCT,* wide complex tachycardia; *Flash,* flash pulmonary edema; *Shock,* septic shock; *asthma,* asthma exacerbation; *ICH,* intracranial hemorrhage; *ARDS*, acute respiratory syndrome.