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Pediatric Emergency Bootcamp Pilot: Targeted Procedural and Simulation Skills for The Developing Physician

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**Objectives:** Determine the unknown toxin or toxic exposure from prompts such as toxidrome, antidote, patient presentation, or other signs or symptoms. Collaborate in a small group to teach and review toxicology topics.

**Design:** As part of an ongoing didactic initiative to increase interactive sessions I planned a review based on the word-guessing game “Heads Up!”. The cohort was divided into 4 groups of about 5-6 learners each. Each group had an identical deck of cards with a toxin or toxic exposure on each card. Players took turns guessing the toxin based on clues provided by the group. This educational method allows individuals to share their understanding of key clinical facts while building on others’ descriptions. The player guessing may rapidly identify the toxin based on a “buzzword” or require many clues to come to an answer. After a minute of guessing cards there was a brief group review period and then the next player would take a turn guessing. The game was played for an hour and a post-event survey was used for evaluation.

**Impact:** The “Heads Up!” game is easy to play with any level of learner and any topic that utilizes similar cognitive matching. The session content and delivery were found to be “very good” or “excellent” by all survey respondents (n=13). Outside of the planned objectives, faculty observed the senior residents sharing their toxicology resources, including phone applications and websites. This session was highly effective at disseminating toxicology educational tools within the residency.

## 58 Beyond the Flashing Lights: Incorporating EMS Education Into an Emergency Medicine Clerkship Curriculum

*Michael A. Kaduce, Max R. Berger, Stephen Villa, Leila So Hyun Park*

**Introduction:** Emergency Medical Service clinicians are the primary healthcare providers for those calling 911 and around 17% of ED patients arrive at the hospital via EMS. Since 2010, EMS has been a subspecialty of EM however there is little documented about the incorporation of EMS into medical school curriculum. We created an “EMS Day” experience within our EM core clerkship to introduce medical students to the EMS system and its interaction with EM.

**Educational Objectives:** 1. Improve awareness by including an EMS experience in the EM core clerkship. 2. Improve understanding of patient assessment and care in the prehospital setting. 3. Perform basic prehospital skills such as Epi-Pen and naloxone administration and tourniquet application.

**Curricular Design:** The 4-week required EM clerkship engages students to think critically about emergency complaints, acute management, and the bridge between EM and definitive care. The clerkship gives direct exposure to emergent evaluation of patients and development of diagnostic frameworks. For EMS Day, we utilized EMS educators and

developed 6 simulations, each with an associated skill. In each simulation, one student played the patient and was treated by a fellow student as if they were the first arriving medical provider. Scenarios included chest pain on a plane, opioid overdose of a neighbor, and anaphylaxis during a sporting event. Each simulation was followed by a debrief specific to caring for a patient in the prehospital setting, teaching points on the EMS system, and students practiced prehospital skills including administering an Epi-pen and naloxone, controlling hemorrhage, and completing a head-to-toe assessment.

**Impact/Effectiveness:** Students were surveyed following the experience using a standard clerkship evaluation about the effectiveness, relevance, and educational value. Survey results were overwhelmingly positive (Table 1). EMS Day has been continued in the next year of the clerkship.

**Table 1.** EMS day survey results.

Question	Mean (Scale 1-5)	Standard Deviation
This was a positive learning experience and an effective use of my time.	4.47	0.79
The course content was relevant to my training level or practice.	4.55	0.75
The staff and instructors were helpful and responsive.	4.75	0.64
I learned information/skills that I would incorporate into my practice.	4.61	0.65
I would recommend this course to my peers.	4.48	0.81
The instructor was enthusiastic and engaging.	4.95	0.21
The instructor created a comfortable and safe learning environment.	4.91	0.46
The instructor was knowledgeable about the subject.	4.97	0.17
The instructor was overall an effective teacher.	4.94	0.3

## 59 Pediatric Emergency Bootcamp Pilot: Targeted Procedural and Simulation Skills for The Developing Physician

*Alexa Curt, Raylin Fan Xu, Kelsey Miller, David Schoenfeld, Jason Lewis*

**Introduction/Background:** Medical students should have a foundational level of knowledge for managing common pediatric emergencies regardless of what specialty they pursue. Often pediatric patients are treated by providers without dedicated pediatric training who have varying levels of comfort. Simulation-based training provides an opportunity to practice initial management steps for common pediatric emergencies in realistic settings.

**Educational Objectives:** We developed a simulation-based pediatric EM (PEM) bootcamp for students to increase their comfort level in performing common procedures in pediatric

emergencies.

**Curricular Design:** Bootcamp skills were selected by surveying peers, literature review, and a focus group of PEM faculty to include airway management, intraosseous placement, fracture management, nursemaid’s reduction, FAST, and ultrasound guided peripheral IVs. We partnered with PEM faculty to develop each station and reviewed materials for appropriate developmental level. Each station consisted of a brief didactic introduction followed by high signal simulation on mannequins or skill trainers. All 2nd, 3rd, and 4th year students at our institution or 1st years with extensive previous experience were offered to participate. Participants completed pre- and post-workshop surveys assessing self-reported comfort levels using a Likert scale. We also elicited feedback for how to improve future sessions.

**Impact/Effectiveness:** 13 students participated in the pilot. Pre and post confidence levels were assessed using a Fisher’s exact test. Confidence levels increased significantly for all procedures after participation in the bootcamp (p<0.05 for all domains). This pilot suggests that the bootcamp increased comfort in managing a subset of pediatric emergencies. Participant feedback was overwhelmingly positive. Future iterations are necessary to confirm these findings and adjust the program to fully address all student’s needs.

## 60 A Novel Points-Based Curriculum for Scholarly Activity

*Olivia Victoriano, Erick Torres, Stephen Hayden*

**Background:** The ACGME requires residency programs to facilitate resident scholarly activities to further their understanding of evidence-based medicine. For many established residency programs with robust academic publishing backgrounds, these requirements are often met through original studies.

**Curricular design:** Our 3-year community-based residency program had its inaugural year in 2021 and is set to graduate its first set of residents in 2024. This allowed for the opportunity to establish a curriculum to strengthen the scholarly characteristics of this new program. We pioneered a point system for scholarly activity that took effect in 2022 to encourage resident involvement in various projects including IRB-approved original research studies, publication of a book chapter, case reports, poster or abstract presentations, and representative positions in professional committees. Original research including studies, chapters, and QI projects were given more weight and earned 5 points, the maximum allowed for a project. Surveys were collected annually from the residency class to inquire about project involvement.

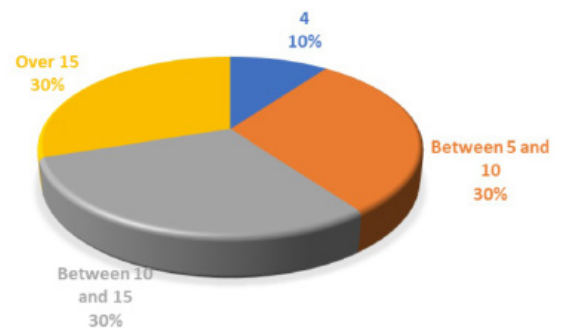
**Results:** Within the first year of the implementation, the PGY3 class was surveyed at the beginning of their final year to assess status of meeting these scholarly activity requirements.

90% of the PGY3 class met the minimum 5-point requirement entering their 3rd year. 60% of the class held 10 or more points, and 30% of the class held 15 or more points.

**Conclusion:** We believe this points-based system allows residents to diversify their interests in scholarly activity and allows freedom to engage in multiple small projects or one large project. This liberal system that presents multiple options for scholarly activity encourages collaboration between faculty and residents and may be adopted in newer or established residency programs.

**Table 1.**

Type of Scholarly Activity	# of Awarded Points
IRB-approved original research study: prospective (RCT or Cohort) or retrospective (registry or chart review) complete and submitted (acceptance not required)	First/second author: 5 points Third author: 3 points
Completion of a resident research grant	PI: 4 points Other investigator: 2 points
Original review article, systematic review/meta-analysis using accepted guidelines/methodology	1 <sup>st</sup> and 2 <sup>nd</sup> author: 4 points 3 <sup>rd</sup> author: 2 points
QI project that tests a hypothesis or clinical/administrative question, is written and disseminated in health care system	5 points
Creation of a NEW educational curriculum	5 points
Official Board officer for National EM Resident Organization	5 points
Publication of a book chapter or section (e.g. Corpendium, 5 Minute EM consult)	NEW Chapter: 5 points Revision of chapter: 3 points
Written Case Report submitted for publication	First/second author: 4 points Third author: 2 points
Submission to regional/national/international conference (no acceptance)	1 <sup>st</sup> or 2 <sup>nd</sup> author: 3 points
Posters and oral presentations of original research at a Society meeting (e.g. SAEM, ACEP)	National: 4 points Local: 2 points
Creation of NEW electronic learning tool (MDCalc, WikEM) (approved by PD)	4 points
Board member for National EM Organization	4 points
Creation of de novo innovation in medical education	3 points
Reviewer for JEM: minimum of 3 reviews	3 points
Critically Appraised Topic submitted to peer-reviewed journal (JEM)	2 points
Posters and oral presentations to home institution	2 points
Educational publications disseminated to physician group (CME tidbits submitted to EMA group)	2 points
Service on professional committee (EMRA program representative, RAMS, RSA, SAEM, ACEP etc)	2 points
Published podcast, educational or procedural video, other new online learning module	2 points



**Figure 1.** Number of scholarly activity points accumulated in PGY3 class.