63 Paintball Casualty Care – Using Paintball to Teach Trauma Related Procedures

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Background: The ability to effectively perform trauma-related procedures is an important skill in emergency medicine (EM). We identified 8 procedures that had relevance to patient care in both the ED and the prehospital setting. Combining assessment of technical skills with a paintball activity creates an opportunity for experiential learning while also emphasizing team building and wellness.

Educational Objectives: 1) Increase EM resident competency in performing 8 trauma related procedures. 2) Increase knowledge retention through an experiential learning activity. 3) Increase resident cohesion via a team building activity. 4) Introduce EM residents to basics of prehospital trauma care.

Curricular Design: An outdoor paintball facility was used to host this activity. 4 stations were set up with each covering 2 procedures. In addition to classic paintball games, we designed "Capture the Patient" where teams had to capture the opposition's mannequin and return it to their base. Players were "eliminated" after being struck with a paintball and subsequently presented to a skill station. If a specified procedure was performed correctly, they "revived" and returned to the field of play. An EM attending physician assessed each learner's competency with the procedure. All residents progressed through each skill station twice. Participants completed surveys before and after the activity to gauge their comfort level with these procedures based on a 5-point Likert scale ("Not Comfortable, "Somewhat Comfortable, "Neutral", "Comfortable" or "Very Comfortable"). Proportions of respondents reporting "Comfortable" or "Very Comfortable" for each procedure were compared pre- and post-activity via chi square analysis (α=0.05).

Impact/Effectiveness: Experiential learning has been shown to enhance knowledge retention. 18 residents completed pre- and post-activity surveys. Self-reported comfort levels demonstrated significant improvement in 6 of the 8 procedures (Figure 1).

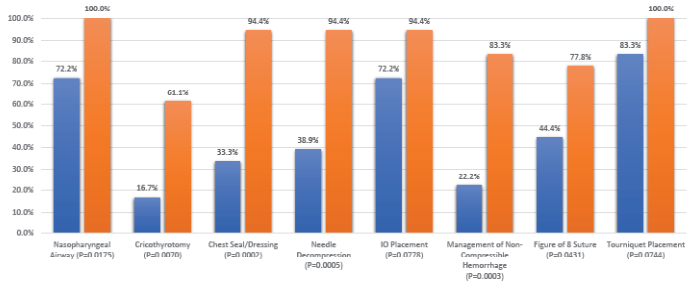

Figure 1. Percent of respondents who were "comfortable" or "very comfortable" with the procedure based on a 5-point Likert scale. 8 procedures were assessed pre- and post-activity to gauge effectiveness of the event.

64 Presenteeism in Emergency Medicine

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Background: Presenteeism has been previously indicated as prevalent in the healthcare field and thought to be due to a self-sacrifice culture. It has been postulated that presenteeism may be even more prevalent in resident physicians due to reduced opportunities for a full and fair sick coverage system in residencies and possible pressure or expectations from peers during residency. Few studies have expanded this research on presenteeism to include the COVID-19 pandemic and how this has affected the culture in the medical field regarding working while ill. In addition, little research has been done looking at interventions to reduce presenteeism in residency programs, although prior research has breached the possibility of the need for a transparent policy to decrease presenteeism amongst hospital staff.

Education Objectives: A survey has been designed to be sent to emergency medicine programs in the United States to determine the motivations behind presenteeism in Emergency Medicine.

Curricular Design: A transparent sick policy has been designed to designate how coverage is obtained when sick days are used by residents at the University of Nebraska. The sick policy also encourages the use of sick days for mental health emergencies and for illnesses. A post-survey will be conducted to determine if there is a change in attitudes towards or comfort with using sick days for mental health or medical reasons within the residency program.

Impact/Effectiveness: The purpose of this project is to identify the motivations of emergency medicine personnel for working while sick as well as changes that may have transpired related to the COVID-19 pandemic. If there is a change in resident comfort calling in sick with a transparent policy, this may be an intervention to be applied elsewhere and improve resident wellness.

65 Sex and Gender Transformative Medical Education Curriculum Begins with Assessment

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Background: Assessment tools are available for measuring sex and gender responsiveness in health policies and research (Table 1), but not for medical education and curriculum design. Educators and institutions can benefit from a tool that guides the incorporation of sex and gender into medical education.

Objective: We developed a tool that provides a framework for evaluating the state of the inclusion of sex and gender in

Table 1. Summary of World Health Organization and The Canadian of Health Research Sex and/or Gender Responsive Assessment Scale.

WHO Gender Responsive Assessment Scale: criteria for assessing programs and policies		Sex/Gender Responsive Assessment Scale: criteria for assessing for health research	
Gender-Unequal	Perpetuates gender inequality by reinforcing unbalanced norms, roles and relations	-	-
Gender-Blind	Ignores gender norms, roles and relations	Sex/Gender-Blind	Ignores sex & gender trends and needs. Sex and gender are excluded as a variable in research design and methodology
Gender-Sensitive	Considers gender norms, roles and relations	Sex/Gender-Sensitive	Acknowledges the differences in sex & gender trends and needs without the inclusion of sex/gender in the research design
Gender-Specific	Intentionally targets and benefits a specific group of women or men to achieve certain policy or program goals or meet certain needs	Sex/Gender-Specific	Acknowledges the differences in sex & gender trends and needs with the inclusion of sex/gender in the research design
Gender-Transformative	Considers gender norms, roles and relations for women and men and that these affect access to and control over resources Considers women's and men's specific needs Addresses the causes of gender-based health inequities Includes ways to transform harmful gender norms, roles and relations The objective is often to promote gender equality Includes strategies to foster progressive changes in power relationships between women and me	Sex/Gender - Transformative	Considers gender norms, roles and relations for people of all genders Considers the specific needs of people of all genders Addresses the causes of gender-based health inequities Includes ways to transform harmful gender norms, roles and relations The objective is often to promote gender equality Includes strategies to foster progressive changes in power relationships between people of all genders

educational content, identifies the gaps and provides guidance on steps toward a more sex and gender-responsive curriculum.

Curricular Design: At Alpert Medical School, we trained faculty on how to assess sex and gender responsiveness of their educational content using our 5-level assessment scale. Listed below are descriptions of the levels with examples in Table 2. Sex/gender-biased: Reinforces stereotypes. limits the discussion of disease presentations to those that are predominant in one gender or sex or include incorrect use of terminologies. Sex/ gender-blind: Does not mention any sex and gender differences. Sex/gender-sensitive: Acknowledges the differences without mentioning the mechanisms or contributing factors. Sex/gender-specific: Acknowledges the differences and discusses the possible contributing factors to the observed differences including sex hormones, environmental or genetic factors or highlights the knowledge gap. Sex/ gender-transformative: In addition to the previous level, includes knowledge translation strategies that can be used in clinical settings to improve patient care.

Table 2. Sex/Gender Responsiveness Assessment Scale: examples for health education.

	Example	Explanation
Sex/Gender-Biased	An illustration of a man with a large body habitus, placing his fist on his chest to teach about symptoms of a MI on a PowerPoint slide.	Using this picture to talk about MI presentation reinforces the misbelief that heart attacks only present with midsternal chest pain. Whereas evidence shows that MI symptoms typical for women include fatigue, chest sensations other than pain, nausea, SOB, weakness, and indigestion.[7]
Sex/Gender-Blind	Family history is a strong risk factor for alcohol use disorder.[8]	This statement is blind because it fails to discuss any sex and gender differences. When discussing the risk factors for alcohol use disorder it's important to mention stress and negative mood states as risk factors in women. Smoking is an important risk factor for men.[9]
Sex/Gender-Sensitive	Women develop COPD earlier and with less smoking exposure than men.[9]	This statement is sensitive because it mentions a difference between men and women. However, it does not explain the mechanism for the observed difference or alternatively highlights the existing knowledge gap.
Sex/Gender-Specific	There is a large disparity between men and women in the prevalence of BE, the exact mechanisms for hormonal prevention of, or progression to BE have yet to be determined.[8]	This statement is highlighting a difference between men and women and makes an attempt to explain the contributing factor to the observed difference. Since the evidence is not very strong it highlights the knowledge gap.

Impact: This assessment scale could be applied to a wide range of educational materials, including slideshows, clinical vignettes, and curriculum in general. It can increase faculty competency and provide a roadmap for modifying educational content to be gender and sex-responsive. Based on interviews conducted after the training sessions, using this scale could address some of the barriers to integrating sex and gender into educational activities.

66 Sonographer Educator in the Emergency Department: Evaluation of a Novel Education Intervention

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Introduction/Background: Point-of-care ultrasound (POCUS) is considered standard of care for evaluation of Emergency Department (ED) patients. There is a wide range of provider comfort and competency. Physicians who completed Emergency Medicine (EM) residency training greater than 10 years ago may lack POCUS proficiency unless they have pursued additional focused training. This project sought to address this potential skills deficiency by evaluating the impact of a dedicated sonographer educator on provider ultrasound competency.

Educational Objective: Our objective was to provide hands-on training sessions for faculty to learn from a dedicated sonographer educator, a non-physician registered diagnostic medical sonographer (RDMS) who functions as a sonographer educator in the ED.

Curricular Design: Study participants were board certified EM faculty within a single large academic ED. Prior to the first session with the sonographer educator, each participant provided informed consent and completed a survey. Participants completed the same survey after the educational session. During the intervention, the faculty worked with the ultrasound educator in the clinical environment and received one-on-one, real-time feedback and coaching. This included operational logistics of the ultrasound, documentation, and hands-on scanning for numerous ultrasound indications.

Impact/Effectiveness: Twenty-six participants completed at least one session with the sonographer educator. The median years post-residency training for all trainees who completed the survey was 20. Three participants reported that POCUS was an integral part of their residency/ fellowship training. Among those completing the post-survey, the most frequently performed POCUS exams were FAST, Echo, and Gallbladder. All study subjects either agreed or strongly agreed that they would participate in additional sessions with the sonographer educator.