# **UC Irvine**

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

#### **Title**

A Simulation-Based Curriculum on Best Practices for Firearms Safety

#### **Permalink**

https://escholarship.org/uc/item/2n81h3jp

### **Journal**

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 20(4.1)

#### **ISSN**

1936-900X

#### **Authors**

Ketterer, A Lewis, J Novack, V et al.

#### **Publication Date**

2019

## **Copyright Information**

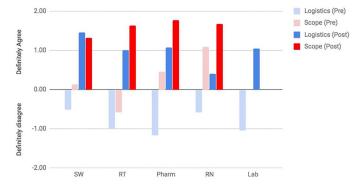
Copyright 2019 by the author(s). This work is made available under the terms of a Creative Commons Attribution License, available at https://creativecommons.org/licenses/by/4.0/

were completed. All seven general interprofessional questions demonstrated better appreciation of IPE after the intervention (+1.0 to +1.7). Interns reported improved understanding of scope of all providers, most notably for RT (-0.6 to +1.6). Greater gains were seen in appreciation of logistics, particularly for PH (-1.2 to +1.1), RT (-1.0 to +1.0), and LAB (-1.0 to +1.0). Overall, participants agreed on the program's helpfulness in their future (+1.7) and would recommend it to other residencies (+1.8). By integrating IPE into intern year and increasing familiarity with the scope and logistics of colleagues, we hope to promote ED collaboration for effective team-based patient care in residency.

Logistical Measures: Procedures Performed by Interns During H-AHRP Sessions

Lab		RN		RT		Pharm		sw	
	Proper labeling of tubes Blood bank safety Type of additives in each tube Special handling of specimens Time frame for processing lab studies Common provider/lab errors Microscopy techniques Culture positivity Ordering special analyses: CSF, paracentesis, joint aspiration, parasites When to contact the lab for heme/onc cases	000000000000000000000000000000000000000	IV placement Art line set up Foley catheter Medication administration Obtain EKGs OG tube placement/wall suction management Medication protocols (DKA, heparin, electrolyte replacement) Wound assessment and care Location of supplies in code room Set up IV pump and titration of drips	0 0 0 0 00 000 0	BIPAP set up and management Bag valve mask technique Endotracheal intubation and aftercare Oxygen delivery devices Asthma treatment Peak flow measurements Equipment ordering Tracheostomy care Arterial blood gas and interpretation – including co-oximetry Ventilator modes and management	000000000000000000000000000000000000000	Review allergies Calculate weight- based dosing, Run drug-drug Interaction checker Medication delivery routes Review the contraindications for medications Management of IV infillration Assist with conscious sedation or intubation meds Risk classes of medications in pregnancy Review antidote dosing Participate in a medical code or	00 0 0 0 0 000	Shelter Referral Skilled Nursing Facility Placement Sexual assaul/DV (including DV reporting form) Decedent care/death notification Family Conversations Mental Health Service Referral Minors in the ED CPS/APS referral Resources for trauma patients
							trauma activation		

Understanding the Scope & Logistics of Healthcare Team Members Before & After Intervention



# A Simulation-Based Curriculum on Best Practices for Firearms Safety

Ketterer A, Lewis J, Novack V, Dubosh N, Ullman E / Beth Israel Deaconess Medical Center, Boston, Massachusetts

**Background:** Gun violence in the United States is a significant public health concern, and emergency departments (ED) have been found to be at risk for the entry of firearms.

Emergency providers (EP) have been shown to have low levels of familiarity with firearms. Given the risks for encountering firearms while at work in the ED, EPs may benefit from dedicated training on safely handling firearms.

**Educational Objectives:** After participation in this curriculum learners will be able to 1) describe safety measures if a firearm is found on a patient in the ED; and 2) demonstrate the ability to safely remove a firearm from the clinical work space until it can be secured by security personnel.

Curricular Design: Participants included medical students rotating on their emergency medicine (EM) subinternship and EM bootcamp elective. An eight-item competency checklist was created by a group of attending EPs and hospital security personnel in accordance with gun safety standards, using a modified Delphi approach. Each student was asked to evaluate a patient with dyspnea during a regular simulation session. A model handgun was placed in the patient's belongings, and upon discovering it the students were asked by the nurse to remove the firearm. The students' baseline performance was evaluated using the checklist. Students then participated in a small group, hands-on didactic on how to safely handle firearms found in patients' belongings. Students completed surveys regarding their baseline knowledge of, exposure to, and comfort with handling firearms. Two weeks later, the students were again presented with a model firearm in a different high-fidelity simulation case and asked by the nurse to remove the firearm. Students were evaluated using the checklist, and directed individual feedback was given.

**Impact/Effectiveness:** Fourteen students completed the curriculum. The median number of correctly performed steps pre-intervention was 5 (interquartile range [IQR] 4-6), and post-intervention was 7 (IQR 7-8, p = 0.002). Learners showed statistically significant improvement in two steps: pointing the firearm in a safe direction at all times (3/14 to 14/14, p = 0.001); and holding the firearm by the grip only (6/14 to 14/14, p = 0.008). This innovation is the first to formally teach learners on the safe handling of firearms found in the ED. This low-cost pilot project is easily transferrable to other training centers for teaching principles of safe firearms handling.

**Table.** Action checklist for the safe removal of firearms found in patients' belongings.

	Performed	Not performed
Participant identifies and verbalizes that there is a firearm present in patient care area.	YES	NO
Participant treats the firearm as if it is loaded: A. Holds the firearm by the grip only. B. Keeps fingers OFF the trigger and OUT of the trigger guard at all times. C. Points the firearm in a sate direction at all times.	YES YES YES	NO NO NO
Participant does not attempt to manipulate external modifications on the gun (e.g. safety or magazine release).	YES	NO
Participant removes firearm from the immediate patient care area and places it on a clear and safe area.	YES	NO
Participant calls police/security to safely secure the firearm.	YES	NO
Participant ensures that the firearm is monitored and not touched until police/security personnel arrive to secure the firearm.	YES	NO