

## Form "EAST Multicenter Study Proposal"

Details #58 (submitted 02/22/2018)

<b>Study Title</b>	Wounding Pattern and Medical Interventions in Survivors of Civilian Public Mass Shooting Events
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<b>Are you a current member of EAST?</b>	Yes
<b>If you selected "No" above please identify a Sponsor that is an active EAST member:</b>	
<b>My Multicenter Study proposal is...</b>	Retrospective
<b>Use this area to briefly (1-2 paragraphs only) outline the burden of the problem to be examined</b>	<p>Civilian public mass shooting events (CPMS) continue to increase in frequency. Whereas most persons involved in these events will succumb to their injuries, a number of patients survive. Moreover, the wounding pattern following these events is significantly different than that of isolated penetrating trauma, in terms of location of wounding, number of wounds sustained, and type of weapon(s) used. A single previous publication evaluated the wounding pattern and opportunities for rescue in patients who ultimately died following CPMS. There are no studies evaluating those who survived.</p> <p>The purpose of this study is to evaluate the wounding characteristics and medical interventions required to rescue patients who survived a CPMS. By describing this cohort and comparing it with the previously mentioned study involving those who died after a CMPS event, we will have an overall understanding of the types of procedures and interventions that are needed to minimize death following CPMS. Such an understanding would provide guidance to prehospital provider medical directors and also to hospital-based physicians on how to best prepare to receive wounded from these events. We hope to enroll up to 1300 patients.</p>
<b>Primary aim</b>	<p>Describe the wounding pattern and medical interventions provided to survivors of CPMS</p> <p>Determine if there is an association between timeliness of EMS response, transport to trauma center (stratified by level designation), and/or patient demographic factors and survival</p>
<b>Secondary aims</b>	<p>Determine the prevalence of psychiatric consultation for survivors of CPMS</p> <p>Determine resources required, including operative, angiographic, and both ICU and hospital length of stay, to treat these patients</p>

**Inclusion Criteria**

All survivors of CPMS from 2000-2017. This includes approximately 61 events. We will utilize the FBI's definition of CPMS and will utilize the FBI's database of CPMS events to identify each event.

**Exclusion Criteria**

Patients evaluated at a trauma center with a trauma registry  
CPMS prior to 2000 (lack of computerized records make search prior to 2000 very difficult)

**Therapeutic Interventions**

Patients evaluated at a non-trauma center  
None

**Primary Outcome**

Medical intervention(s) provided

**Secondary Outcomes**

Number of wounds, time from shooting to transport to a hospital, number of operative/angiographic interventions, LOS

## I. Prehospital variables

Time from shooting to arrival to hospital

Mode of transport: private vehicle, police, Ground EMS, Helicopter EMS, Transferred from OSH

Wounded by: Handgun, Rifle, Shotgun, Not Known

Prehospital Interventions: TQ, RSI, IVF, Needle thoracostomy, cricothyroidotomy, TXA

OSH Interventions (as applicable): RSI, RBC transfusion, FFP transfusion, TXA, operation, angioembolization, chest tube insertion, central line, TQ

## II. Hospital Based Variables

Trauma center designation: 1, 2, 3, none

Interventions: RSI, RBC transfusion, FFP transfusion, TXA, operation, angioembolization, chest tube insertion/needle thoracostomy, central line, TQ. (include time to each intervention)

Consultants used: Ortho, NSGY, Psychiatry, other

Discharge destination after the ED/Trauma Bay: OR, IR, ICU, Floor

Discharge destination from the hospital: Home, SNF, Acute rehab, inpatient psych

ICU LOS

Hospital LOS

Injuries sustained (checkboxes): trachea/larynx, brain, carotid, jugular, lung, heart, pulmonary hilum, thoracic aorta, IVC/SVC, abdominal aorta, spleen, liver, stomach/intestine (including rectum), bladder, extremity named artery, genitalia, cervical spinal cord, thoracic/lumbar spinal cord, vertebral body (excluding TP/SP), appendicular skeleton fracture (ie. long bones/hands/feet)

## III. Demographics

Age

Gender

On anticoagulant at home (e.g. warfarin, full dose lovenox, fondaparinux, DOAC)

**List specific variables to be collected & analyzed**

On antiplatelet agent at home

**Outline the data collection plan and statistical analysis plan succinctly**

Retrospective study utilizing the trauma registry. All data will be entered into RedCap. This is a descriptive study only and does not require advanced statistical analysis. However, should the data find that advanced statistical analysis is required, a PhD biostatistician at the George Washington University is available for this task.

**Outline consent procedures here, if applicable**

N/A. We will request a waiver of informed consent.

**Succinctly outline a risk/benefit analysis**

N/A. This is a retrospective study that will not include specific patient identifiers. It will also not include hospital identifiers other than trauma center level designation.

**Include a brief listing of key references**

Smith R, Shapiro G, Sarani B. The profile of wounding in civilian public mass shooting fatalities. J Trauma and Acute Care Surg. 81(1):86-92; 2016