

Bryan Alan Cotton, MD, MPH, FACS, FRCS (Glasg)

Office Address

The University of Texas Health Science Center at Houston

The Center for Translational Injury Research

6431 Fannin Street

MSB 4.286

Houston, Texas 77030

Contact Numbers

Office: (713) 500-7354

Fax: (713) 512-7135

Pager: (713) 607-0056

Mobile: (615) 260-9915

E-mail addresses

bryan.a.cotton@uth.tmc.edu

cotton21b@gmail.com

Place of Birth Fort Worth, Texas

Postgraduate Training and Fellowship Appointments

7/02-6/04 Fellowships in Trauma & Surgical Critical Care,

Hospital of the University of Pennsylvania &

Children's Hospital of Philadelphia, Philadelphia, PA

7/01-6/02 Chief Resident in General Surgery,

University of Missouri Hospital & Clinics, Columbia, MO

7/97-6/01 Resident in General Surgery

University of Missouri Hospital & Clinics, Columbia, MO

Education

2007-2009 M.P.H. Vanderbilt University, Nashville, TN

1993-1997 M.D. Ross University School of Medicine, Edison, NJ (Dominica, W.I.)

1988-1993 B.S. Baylor University (Biology), Waco, TX

Faculty Appointments

09/20-present Professor of Surgery *with Tenure*, Department of Surgery

Division of Acute Care Surgery

University of Texas Health Science Center

Houston, Texas

07/17-present The John B. Holmes Distinguished Professor in Clinical Sciences

Department of Surgery

McGovern Medical School

University of Texas Health Science Center

Houston, Texas

09/14-present Professor of Surgery, Department of Surgery

Division of Acute Care Surgery

University of Texas Health Science Center

Houston, Texas

07/13-present Director, Acute Care Surgery and Trauma Surgery Fellowships

Division of Acute Care Surgery

University of Texas Health Science Center

Houston, Texas

01/10-present Associate-Director, Shock-Trauma ICU

Memorial Hermann Hospital/Texas Medical City

University of Texas Health Science Center

Houston, Texas

01/10-present Director, Surgical Critical Care Fellowship

Division of Acute Care Surgery

University of Texas Health Science Center

Houston, Texas

- 09/09-present Teaching and Advisory Faculty
Center for Surgical Trials and Evidence-based Practice
University of Texas Health Science Center
Houston, Texas
- 3/09-present Associate Professor of Surgery, Department of Surgery
Division of Acute Care Surgery
University of Texas Health Science Center
Houston, Texas
- 03/09-present Faculty in Coagulation Research
Center for Translational Injury Research (CeTIR)
Houston, Texas
- 7/06-02/09 Director of Surgical Critical Care and Staff Surgeon
Division of General Surgery
Tennessee Valley VA Medical Center,
Nashville, TN
- 7/04-02/09 Assistant Professor of Surgery, Department of Surgery
Division of Trauma-Emergency Surgery, Surgical Critical Care
Vanderbilt University Medical Center
- 7/03-6/04 Clinical Instructor in General Surgery, Department of Surgery,
Division Traumatology & Surgical Critical Care,
St. Luke's Hospital, Bethlehem, PA
- 7/02-6/04 Clinical Instructor in General Surgery, Department of Surgery,
Division Traumatology & Surgical Critical Care,
Hospital of the University of Pennsylvania

Special Certifications

- 2017 Advanced Burn Life Support, Instructor
- 2016 American Board of Surgery re-certification, Surgical Critical Care (2194)
- 2015 American Board of Surgery re-certification, General Surgery (49597)

2016 Basic Endovascular Skills in Trauma (BEST), Instructor
 2015 American Board of Surgery re-certification, General Surgery (49597)
 2014 Advanced Surgical Skills for Exposure in Trauma (ASSET), Instructor
 2014 Definitive Surgical Trauma Care (DSTC), Instructor
 2009 Definitive Surgical Trauma Skills (DSTS), Instructor
 2005 American Board of Surgery certification, Surgical Critical Care (2194)
 2005 Fundamentals of Critical Care Support, Instructor
 2004 American Board of Surgery certification, General Surgery (49597)
 2004 Advanced Trauma Operative Management (ATOM), Instructor
 2002 Advanced Trauma Life Support (ATLS), Instructor
 2002 Basic Cardiac Life Support
 2001 Advanced Cardiac Life Support
 2000 Advanced Solid Organ Laparoscopy (SAGES course)

Licensure

2009-present Texas, MD N2453
 2004-2009 Tennessee, MD 38646
 2002-2006 Pennsylvania, MD 420624

Awards, Honors, and Membership in Honorary Societies

2018 **Induction into Alpha Omega Alpha Honor Society**
 2014 **Fellow of the Royal College of Surgeons (Glasgow)**
 2012 **Outstanding Young Physician Award**, The University of Missouri School of Medicine. Award given to medical alumni which age 45 and younger, who have distinguished themselves in their field, both nationally and internationally.
 2008 **Promising Investigator Award**, American Society for Parenteral and Enteral Nutrition: Anti-oxidants reduce mortality in critically injured patients
 2007 Department of Oral and Maxillofacial Surgery **Resident Lecture Series Award** (Awarded by the residents and faculty for outstanding contribution to resident education by non-OMFS faculty)
 2007 **25th Annual Housestaff Research Forum, Clinical Science Judge** (selected by Vanderbilt Medical

Center Housestaff as one of 6 Faculty judges)

2006 **CANDLE Award** (Vanderbilt University School of Medicine award for faculty devoted to teaching and mentoring)

2006 **24th Annual Housestaff Research Forum, Clinical Science Judge** (selected by Vanderbilt Medical Center Housestaff as one of 6 Faculty judges)

2006 **Peri-operative Innovation Award** (for development of trauma exsanguination protocol)

2005 **Physician Paper Award**, 18th Annual Southern Region Burn Conference

2005 **Clinical Faculty- Educator of the Year Award**, Department of Emergency Medicine

2005 **Fellow of the American College of Surgeons**

2002 **General Surgery In-service Exam Award** (greater than 90th percentile)

2001 **Resident Educator of the Year Award** (University of Missouri School of Medicine award for excellence in medical student teaching)

2000 **Resident Educator of the Year Award** (University of Missouri School of Medicine award for excellence in medical student teaching)

2000-2003 HIKIDS (Helping Inner City Kids in Danger), Board of Directors

1999 **Resident Educator of the Year Award** (University of Missouri School of Medicine award for excellence in medical student teaching)

1998 **General Surgery In-service Exam Award** (greater than 90th percentile)

Memberships in Professional and Scientific Societies

National Societies

2018-present Alpha Omega Alpha

2014-present The Southern Surgical Association

2014-present Society of University Surgeons

2008-2012 The Coller Society

2007-present American Association for the Surgery of Trauma

2007-2009 Association of VA Surgeons

2006-present Shock Society

2006-2010 Neuro-critical Care Society

2006-2010 Southeastern Surgical Congress

2004-2014 Association for Academic Surgery
 2002-2013 Society of Critical Care Medicine
 2002-2016 Eastern Association for the Surgery of Trauma
 2002-2006 American College of Chest Physicians
 2002-2006 Association for Surgical Education
 2001-present American College of Surgeons

Professional Activities

2018-2019 Data Safety Monitoring Board (Chair), Propranolol in Severely Injured Burn Patients:
 Multicenter Trials Group

2016-present Scientific Advisory Council, Haemonetics Corporation

2012-2015 American Association for the Surgery of Trauma, Multi-Institutional Trials Committee

2012-2015 Data Safety Monitoring Board, Transfusion Trigger Trial of the American Burn Association
 Multicenter Trials Group

2011-2015 Eastern Association for the Surgery of Trauma, Board of Directors

2011-2014 Eastern Association for the Surgery of Trauma, Advocacy and Outreach Committee, Chairman

2010-2012 Coller Society, Program Committee

2010-present *Journal of Critical Care*, Reviewer

2010-present *Journal of Emergencies, Trauma and Shock*, Reviewer

2009-present *Journal of Trauma*, Reviewer

2009-2011 Trauma Surgeon Consultant/Adjudication Reviewer for Multi-center, randomized trial on the
 efficacy of prothrombin complex concentrate (PCC) in rapidly reversing warfarin associated
 coagulopathy in patients bleeding diagnoses.

2009-2011 Military and Civilian Collaborative for Research Involving Transfusions in Trauma patients
 (MC-CRITT), Civilian Researcher

2009-present *Neurotrauma*, Reviewer

2008-present *Expert Review of Hematology*, Reviewer

2008-2010 Educational Initiative on Critical Bleeding in Trauma; An International, Multidisciplinary
 Committee on Trauma Associated Coagulopathy

2008-2010 Hemostasis Summit-Advisory Committee, Trauma Consultant

- 2007-2009 Veteran's Administration Expert Panel on Traumatic Brain Injury and Post-traumatic Stress Disorder (Defining the problem, estimating the prevalence, and determining the optimal management of soldiers injured in the Afghanistan and Iraq conflicts)
- 2007-2008 Trauma Surgeon Consultant/Quality Improvement Reviewer for Multi-Institutional, International randomized trial on the efficacy of Factor VIIa in hemorrhagic shock
- 2007-present *Critical Care Medicine*, Reviewer
- 2007-present *Journal of the American College of Surgeons*, Reviewer
- 2007-present *Intensive Care Medicine*, Reviewer
- 2007-2008 Eastern Association for the Surgery of Trauma, Fluid Resuscitation Practice Management Guideline, Chairman
- 2006-2009 Eastern Association for the Surgery of Trauma, Future of Trauma Committee
- 2004-2010 Eastern Association for the Surgery of Trauma, Practice Management Guidelines Committee
- 2004-2009 ICU Delirium and Cognitive Impairment Group (<http://www.icudelirium.org>)

Academic and Administrative Committees at the University of Texas Health Science Center

- 2010-present Memorial Hermann Hospital Critical Care Council
- 2009-present Center for Clinical and Translational Sciences, Data Safety Monitoring Board
- 2009-present Multidisciplinary Patient Blood Management and Transfusion Committee
- 2009-present Center for Surgical Trials and Evidence-based Practice, Faculty (Center designed to encourage and support residents and faculty to pursue clinical research)
- 2009-present Surgical Clinical Research Fellowship, Faculty

Academic and Administrative Committees at Vanderbilt University Medical Center

- 2006-2009 Trauma Exsanguination Protocol-PI committee, Chair
- 2004-2009 Blood Utilization Review Committee
- 2005-2008 Recombinant Factor VIIa Utilization Committee
- 2004-2008 Multi-disciplinary Surgical Critical Care Committee

Academic and Administrative Committees at Tennessee Valley VA Medical Center

- 2007-2009 Institutional Review Board member

2006-2009 Multi-disciplinary Joint Critical Care Committee

2006-2009 Surgical ICU Practice Management Guideline Development, Chair

Major Teaching and Clinical Responsibilities for University of Texas Health Science Center

Medical Students

2009-present Associate Professor in Surgery

2009-present Third year medical student Surgery Clerkship Lecture Series, Coagulation and Nutrition

2011-present Fourth year medical student Surgical Critical Care Lecture, Coagulation

General Surgery, Anesthesiology, and Emergency Medicine Residency

2009-present Associate Professor in Surgery-Trauma, Emergency Surgery, and Surgical Critical Care

Surgical Critical Fellowship

2009-present Associate Professor in Surgical Critical Care

2010-present Director of Surgical Critical Care Fellowship

Major Teaching and Clinical Responsibilities for Vanderbilt University School of Medicine

Vanderbilt University Medical Center

Medical Students

2007-2009 Faculty Preceptor for third year medical students, "Surgery Clerkship Inter-session: History and Physical Examination Skills in Surgery."

2005-2009 Faculty Mentor and Preceptor for fourth year medical students, "Research in Trauma and Critical Care" elective rotation

2005-2009 Faculty Mentor and Preceptor for first and second year medical students, "Introduction to Surgery and Trauma" elective rotation

2004-2009 Assistant professor in Trauma and Emergency General Surgery

2004-2009 Assistant professor in Surgical Critical Care, Trauma and Burn ICUs

2004-2009 Third year medical student Surgery Clerkship Lecture Series, Trauma II: Evaluation & Management of Specific Injuries

2004-2009 Oral examiner for third year Surgery Clerkship

General Surgery and Emergency Medicine Residency Programs

2007-2009 Faculty mentor and advisor for Surgical Education Group charged with the development of a

“residency-wide” revision of the *General Surgery Weekly Resident Teaching Conference*.

Restructuring of this conference to improve resident education, test-taking skills through structured reading schedule supplemented with aggressive Faculty input and guidance on both high-yield facts, test taking skills.

2006-2009 Faculty mentor and advisor to PGY-2 through PGY-4 residents on academic probation.

Development of individually tailored teaching and examination programs for improving ABSITE scores.

2004-2009 Assistant professor in Trauma and Emergency General Surgery

2004-2009 Assistant professor in Surgical Critical Care, Trauma and Burn ICUs

2004-2009 Faculty examiner for General Surgery Mock Oral Boards (PGY-4 and 5)

2004-2008 ATLS and ATOM course instructor

Fellowship in Trauma, Emergency Surgery, and Surgical Critical Care

2004-2009 Assistant professor in Trauma and Emergency General Surgery

2004-2009 Assistant professor in Surgical Critical Care, Trauma and Burns

2004-2008 Faculty Mentor for Fellows Conference on Operative Trauma

2005-2008 Faculty Mentor for Daily Trauma Patient Sign-out (Morning Report)

Tennessee Valley VA Medical Center

Medical Student

2006-2009 Assistant professor and Staff Surgeon, General Surgery

2006-2009 Assistant professor in Surgical Critical Care

2006-2009 Clerkship Coordinator, fourth-year Surgical Critical Care elective and Sub-internship

General Surgery and Anesthesiology Residency

2006-2009 Assistant professor of Surgery and Staff Surgeon in General Surgery

2006-2009 Assistant professor in Surgical Critical Care

Major Teaching and Clinical Responsibilities for the University of Pennsylvania

2002-2004 Clinical Instructor in General Surgery

2002-2004 Problem Based Learning, Surgery/Trauma Instructor

2002-2004 Surgery Clerkship Lecture Series, Initial Evaluation & Management of the Trauma Patient

Academic Committees at the University of Missouri

2000-2002 Member, Trauma Committee

2001-2002 Member, Surgical Pathology Case Review

Major Teaching and Clinical Responsibilities for the University of Missouri

2001-2002 Advanced Trauma Life Support, Instructor

1999-2002 Surgery Clerkship Lecture Series, Acute Abdomen Evaluation

1999-2002 Surgery Clerkship Lecture Series, Initial Evaluation & Management of the Trauma Patient

1999-2002 Surgery Clerkship Suture Lab

Research Supervision and Mentoring

Medical Students

1. Clinton D. Kemp (2005-2006). Evaluation of the non-neurological causes of death following traumatic brain injury. Presented at Annual Housestaff Research Forum 2006 and the American College of Surgeons, Surgical Forum 2006. **Manuscript published in the *American Surgeon* 2008.**
2. Clinton D. Kemp (2005-2006). Evaluation of donation patterns, conversion, and organ yield in traumatic brain injury patients. Presented at the Annual Housestaff Research Forum 2006, World Transplant Congress 2006, and the American Society of Transplant Surgeons 2007. **Manuscript published in the *Journal of Trauma* 2008.**
3. Charles M. Madigan (2006-2007). Identifying risk factors for developing secondary abdominal compartment syndrome in patients with isolated extremity injuries. Presented at 2007 Annual Meeting of the American Association for the Surgery of Trauma. **Manuscript published in *Journal of Trauma* 2008.**
4. Aviram M. Giladi (2006-2007). Identifying risk factors for developing secondary abdominal compartment syndrome in patients with isolated thermal injuries. Presented at Annual Housestaff Research Forum 2007.
5. Brigham K. Au (2006-2007). Evaluation of the Vanderbilt Trauma Exsanguination Protocol (TEP) impact on blood utilization and patient outcomes following implementation. Presented at Annual Housestaff

- Research Forum 2007, the American Association for the Surgery of Trauma 2007, and at The American College of Surgeons, Surgical Forum 2007. **Manuscript published in the *Journal of Trauma* 2008.**
6. Igor Voskresensky (2007-2008). Evaluating the impact of neuromuscular blockade and sedative use by aero-medical personnel on Trauma Related Injury Severity Scores (TRISS) predicted mortality. More specifically, we evaluated the potential of replacing TRISS at our institution with the “TRISS-like” methodology. Presented at the Association of Academic Surgery and Society of University Surgeons Annual Academic Surgical Congress 2008. **Manuscript published in the *Journal of Surgical Research* 2009.**
 7. Aviram M. Giladi (2007-present). Evaluation of the implementation of a high-dose Anti-oxidant protocol on trauma patient mortality. Presented at the American Society for Parenteral and Enteral Nutrition Annual Meeting 2008. **Manuscript published *Journal Parenteral and Enteral Nutrition* 2008.**
 8. Brigham K. Au (2006-2008). Evaluation of the impact of specific blood component ratios on blood utilization and patient outcomes following implementation. Presented at the Eastern Association for the Surgery of Trauma Annual Scientific Meeting 2008. **Manuscript published in the *Journal of Trauma* 2008.**
 9. Aviram M. Giladi (2007-2009). Investigation of the impact of heart control and beta-receptor selectivity on survival in patients with traumatic brain injury. Presented at the Society of Critical Care Medicine Annual Critical Care Congress 2007. Manuscript submitted to the *Journal of Trauma*.
 10. Igor V. Voskresensky (2008-2009). Critical evaluation of a newly developed predictor of need for “massive transfusion.” The Trauma Associated Severe Hemorrhage (TASH) score was developed to rapidly identify patients at risk of requiring >10 units packed red blood cells in the initial 12-24 hours. Presented at the 2008 Annual Meeting of the American Association for the Surgery of Trauma. **Manuscript published in the *Journal of Trauma* 2009.**
 11. Aviram M. Giladi (2008-2009). Evaluation of the impact of a high-dose anti-oxidant protocol on pulmonary failure, catheter-related infections, and abdominal wall complications in trauma patients. Presented at the American College of Surgeons' 94th Annual Clinical Congress Meeting, October 12-16, 2008. San Francisco, CA and the Society of University Surgeons 4th Annual Academic Surgical Congress, February 3-6, 2008. Ft. Myers, FL. **Manuscript published in the journal *Injury* 2010.**
 12. Ricky Shinall (2008-2009). Validation of existing scoring methods to predict the need for massive transfusion and comparison to the Assessment of Blood Consumption (ABC) score. Each of these scores was developed to rapidly identify patients at risk of requiring >10 units packed red blood cells in the

initial 12-24 hours. Presented at the 2008 Annual Meeting of the American Association for the Surgery of Trauma. **Manuscript published in the *Journal of Trauma* 2009.**

13. Brigham K. Au (2008-2009). Evaluation of the incidence and risk factors for development of hyperkalemia in the setting of massive transfusion. Presented at the Association of Academic Surgery and the Society of University Surgeons 4th Annual Academic Surgical Congress, February 3-6, 2008. Ft. Myers, FL. **Manuscript published in the *Journal of Surgical Research* 2010.**
14. Nina Glass (2008-2009) Examination of the impact of hyper-catecholamine state on the marrow activity and erythropoietic status following severe traumatic brain injury. Specifically, we investigated the hemoglobin trends and nadirs of patients exposed to beta-blocker agents and those not and the hemoglobin trends in these patients. Presented at the Association of Academic Surgery and the Society of University Surgeons 4th Annual Academic Surgical Congress, February 3-6, 2008. Ft. Myers, FL. **Manuscript published in *Transfusion* 2012.**
15. Quinton Hatch (2009-2010). Evaluation of the current incidence of damage control surgery, specifically the incidence of abdomens being left open at the time of the initial laparotomy. We are evaluating the risk factors and “indications” for abdomens being left open rather than closed at the initial and subsequent laparotomies. Presented at the 2010 Annual Scientific Assembly of the American Association for the Surgery of Trauma. **Manuscript published in the *Journal of Trauma* 2011.**
16. Robert Paisley (2009-present). Evaluation of the incidence of pulmonary embolism at a urban level-1 trauma center. Specifically, we are evaluating the occurrence of pulmonary embolism by compliance with EAST and ACCP guidelines, admission service, and days hospitalized and not on pharmacological prophylaxis.
17. Sarah Muellner (2009-2011). Investigation into the relationship of ABO blood type and vWF status and the development of venous thrombo-embolism among trauma patients. The A1 and B1 blood types have been associated with an increased risk of venous thrombo-embolism. We are evaluating the strength of this relationship among critically injured patients and assessing the ability to incorporate this variable into an algorithm for determining the need for more aggressive surveillance and prophylaxis. **Manuscript published in *Thrombosis & Hemostasis* 2010.**
18. Quinton Hatch (2009-present). Evaluation of the impact of early fascial closure on complication rates in the damage control surgery patients. Specifically, we evaluated the infectious and non-infectious complication rates among patients undergoing DCL and stratifying by time of closure. Presented at

the 2011 Annual Scientific Meeting of the Western Trauma Association. ***Manuscript published in the Journal of Trauma 2011.***

19. Zayde A. Radwan (2010-2012). We performed a simple time series analysis on the impact of the institution of a thawed plasma protocol (available in emergency department) on the time to first transfusion of plasma and overall blood and blood component use in trauma patients. As well, we evaluated the impact on time to achieving a predefined 1:1 ratio of RBC: plasma and the impact of this protocol on overall survival. Presented at the 2011 Scientific Assembly of the American Association for the Surgery of Trauma. ***Manuscript published in Archives of Surgery.***
20. Neeti Reddy (2010-2011). We evaluated the change in lethal triad parameters (coagulopathy, hypothermia, and acidosis) being corrected upon ICU arrival in patients who had undergone damage control laparotomy in the years after implementing damage control resuscitation techniques. Patients undergoing damage control laparotomy in 2009 (post-institution) were compared to those undergoing damage control prior to implementing damage control resuscitation techniques (hypotensive resuscitation, restricted crystalloid use, and transfusion of blood products in a 1:1 ratio). Presented at the 131st Annual Scientific Meeting of the American Surgical Association (2011). ***Manuscript published in the Annals of Surgery 2011.***
21. Zayde A. Radwan (2011-2014) We evaluated the impact of supplemental energy drinks on the coagulation system as detected by thromboelastography. Healthy volunteers were given a 12-ounce energy supplement drink or 12-ounce bottle of water. Thromboelastography and conventional coagulation tests were drawn before and after consumption. Presented at the 2014 Thrombosis and Hemostasis Summit of North America. ***Manuscript published in the Journal of Surgical Research 2015.***
22. Kristin Minei (2011-2012) The purpose of this study was to identify if admission Rapid-TEG (r-TEG) could identify patients at risk of developing pulmonary embolism (PE) during their hospital stay. Patients admitted between 10/09-09/10 who met criteria for our highest-level trauma activation and were transported directly from the scene were included in the study. PE defined as clinically suspected and CT-angiography confirmed pulmonary embolic. We evaluated r-TEG values with particular attention to the maximal amplitude (mA) parameter that is indicative of overall clot strength. Presented at the 2011 Scientific Assembly of the American Association for the Surgery of Trauma. ***Manuscript published in the Journal of Trauma 2012.***
23. Brian L. Miller (2011-present) The purpose of this multicenter study was to evaluate the prehospital

course of gunshot wound (GSW) patients with patient outcomes. Our five-year study (2006-2010) plans to examine in greater detail a subpopulation of these GSW patients sustaining traumatic brain injury (TBI) secondary to cranial gunshot wounds. The key items of the prehospital time course to be examined will be specific prehospital procedures performed, transport mode, and distance and time traveled to arrival at the ED. With the results of this study we seek to help further define the optimal prehospital treatment of patients sustaining cranial GSWs.

24. Mark M. Mims (2011-2012) This project is designed to review the outcomes of patients who undergo damage control laparotomy (DCL) and receive hypertonic saline within the first twenty-four hours of care. Primary fascial closure within seven days of the DCL will be the primary measurement of efficacy. Outcomes will also be reviewed with respect to in-hospital fluid requirements, blood transfusions, and mortality. We hypothesize that the use of hypertonic saline in DCL will (1) significantly increase the percentage of primary fascial closure within seven days, (2) decrease the need for in-hospital fluids, (3) decrease the need for in-hospital blood transfusions, and (4) decrease in-hospital mortality in DCL patients. Presented at the 2012 Scientific Assembly of the American Association for the Surgery of Trauma. ***Manuscript published in the Journal of Trauma and Acute Care Surgery 2013.***
25. Jeff Skanchy (2012-present) Through a robust and ongoing performance improvement (PI) process, we evaluated our institution's massive transfusion protocol (MTP). All trauma MTP activations were reviewed, 01/06 to 09/12. Four individual PI initiatives were assessed. PI #1 – 06/07: Change to plasma:RBC from 1:3 to 1:1; PI #2 – 09/2008: Addition of platelets to the MTP in 1:1:1 fashion; PI #3 – 02/10: Place 4 RBC & 4 thawed plasma to the ED fridge whose use triggers MTP activation; PI #4- 08/11: Addition of 2 RBC & 2 thawed plasma to each of our 6 helicopters. Findings presented at the Abstract was submitted to the 2013 Annual Meeting of the Western Trauma Association, Steamboat Springs, CO. ***Manuscript submitted to the Journal of Trauma.***
26. Andrew Berry (2012-2013) This project was designed to evaluate the incidence of and predictors for development of surgical site infections (SSI). Primary outcome was development of SSI, either superficial, deep or organ space. We evaluated the incidence of these complications by first comparing those who underwent emergent laparotomy versus those undergoing damage control laparotomy (DCL). We then examined the impact of early fascial closure and the association of colorectal injuries and the subsequent development of SSIs. Our findings were presented in oral form at the 2013 Annual Meeting of the Surgical Infection Society. ***Manuscript published in the British Journal of Surgery 2014.***

27. Jacob Reynolds (2013-2014) This project was designed to evaluate the incidence of and risk factors for development of transfusion related acute lung injury (TRALI). This study was designed from an epidemiological standpoint, assessing the risk of TRALI at Memorial Hermann Hospital from 2002-2012. We described the numerators and denominators with respect to each blood product and their risk of TRALI. We also evaluated specific sub-populations (Trauma, OB/GYN, CV surgery) and the risk of TRALI among them. Our findings were presented at the Thrombosis and Hemostasis Summit of North America. Chicago, IL, April 10-12, 2014. ***Manuscript submitted to Anaesthesia and Analgesia.***
28. Ioannis Liras (2014-present) The purpose of this study was to identify the incidence of hyperfibrinolysis among severely injured pediatric patients. Admission using admission Rapid-TEG (r-TEG) were investigated to identify the risk factors for those pediatric patients who will be hyperfibrinolytic. Patients admitted between 10/09-12/13 who met criteria for our highest-level trauma activation and were transported directly from the scene were included in the study. Presented at the 2015 Society of University Surgeons 10th Annual Academic Surgical Congress. ***Manuscript published in the journal Surgery 2015.***
29. Ioannis Liras (2014-present) Based on previous works, we sought to identify when children become adults with respect to TEG mA values and whether this correlated with VTE risk. We found that while the likelihood of hypercoagulable admission mA value remained at 35-37% through age 30, significant increases were observed at ages 31-35 (45%) and 46-50 (49%). Beginning with age 1, VTE risk remained at 1.5% or less until age 13 at which point it increased to 2.3% and then again at age 15 (to 5.1%). Controlling for injury severity, gender, race and mA, logistic regression demonstrated a 3.4 fold increased risk for VTE among those aged 31-50 compared to those <30. This work was presented at the 2015 Annual Meeting of the Western Trauma Association, Telluride, CO. ***Manuscript published in the Journal of Trauma and Acute Care Surgery 2016.***
30. Rayce Yanney (2015-2016). Rapid thrombelastography (rTEG) is a whole blood assay that evaluates properties of clot formation. Its application to the injured and critically ill patient has expanded greatly among US civilian trauma centers in recent years. However, reference values for these patients have come primarily from small validation studies and/or healthy volunteers. Given the experience here at UTH with critical values that often fall within the manufacturer's "normal" reference range, we set out with a purpose to identify and evaluate rTEG reference values for critically injured children and adults at our trauma center. We presented the first description of references ranges for injured adults and children

among those patients who are not actively bleeding or coagulopathic on arrival. Very small differences exist between adults and children with respect to their reference values in injured patients.

31. Rayce Yanney (2015-2016). Fibrinolysis is a physiologic process that attempts to maintain microvascular patency by breaking down excessive fibrin clot. Previous data in both adults and children has shown that hyperfibrinolysis (HF) is associated with a doubling in mortality. Recently, data in adults has demonstrated that fibrinolysis shutdown (SD), an acute impairment of fibrinolysis, is also associated with significant increases in mortality. The purpose of the current study was to assess (1) the incidence and presentation of fibrinolysis phenotypes in pediatric trauma patients and (2) the impact of SD on mortality among these patients. Pediatric trauma patients (0-17 years of age) who (1) were admitted 2010-2014, (2) met highest-level trauma activation and (3) had severe anatomic injury were included in this analysis. Severe anatomic injury was defined as an injury severity score (ISS) >15. Admission fibrinolysis phenotypes were defined by the clot lysis at 30 minutes (LY30): SD ≤0.8%, physiologic 0.9-2.9%, HF ≥3%. **Presented at the 11th Annual Academic Surgical Congress in Jacksonville, FL. February 2-4, 2016.**
32. Samuel Leonard (2016-present) We performed a prospective study identifying all blunt traumatic brain injury patients with CT evidence of injury requiring ICU admission (≤18 years old) between 01/2016 and 08/2016. We excluded transfer patients with an injury time greater than 12 hours prior to MHH admission. We focused on in-hospital mortality with secondary analysis of sepsis, pneumonia, and hospital length of stay. Our data was combined with the AAST Multicenter Study of Beta-Blockers and TBI. We demonstrated that 50% of adult TBI patients admitted to an ICU receive beta blockers beta blockers and that the medications are started early in the hospital stay. Beta-blocker use predicts lower mortality and propranolol was associated with lower mortality when compared to other beta blockers. Presented at the 2017 Scientific Assembly of the American Association for the Surgery of Trauma. ***Manuscript submitted to the Journal of Trauma and Acute Care Surgery***
33. Ioannis Liras (2016-2018) The purpose of this study was to assess the prevalence and impact of arrival coagulopathy, determined by viscoelastic hemostatic testing, in severely injured children. Patients <18 years of age who were admitted January 2010 to May 2016 and met highest-level trauma activation were included. Patients were divided into 2 groups (coagulopathy and controls) based on arrival rapid thrombelastography values. 956 patients met inclusion criteria, 57% of which were coagulopathic. We found that the presence of admission coagulopathy is associated with high mortality in children,

especially among those with head injuries. **Presented at the 128th Meeting of the Southern Surgical Association. Manuscript published in the *Journal of the American College of Surgeons* 2017.**

34. Victoria Morris (2017-2019) The purpose of this project was to evaluate the incidence of both DVT and PE at Memorial Hermann Hospital, considering current screening practices for VTE post-trauma. The specific aim was to evaluate Memorial Hermann Hospital's DVT/PE rate and rate of screening tests order per patient. This was a retrospective cohort study, examining VTE events, screening Duplex ultrasound, and screening CT-angiograms (CTA) of the chest per patient. Highest level-trauma activations over the age of 15 years admitted between 1/1/2016 – 12/31/2016. Excluded those who died in the first 24 hours, those who were pregnant, and those with >20% TBSA burns. Controlling for age, male gender, and injury severity, the number of CTAs was independently associated with an OR of 2.6 for finding a PE, while the number of Duplex ultrasounds was associated with an OR of 4.6 for finding a DVT. The rate of VTE events in trauma centers is dependent on the intensity of screening for these events. An adjustment should be made for intensity of screening for these significant events when assigning scores for hospital performance and for reimbursement, least government, insurance, and quality organization discourage physicians and their hospitals from searching for these morbid and sometimes fatal events.
35. James Williams (2017-2018) The purpose of this study was to evaluate the safety profile, transfusion reactions events, and impact of low-titer group O whole blood (LTO-WB) at our center. In November 2017, we added LTO-WB to each of our helicopters and to our emergency department (ED) refrigerator, alongside that of existing RBCs and plasma. We evaluated all trauma patients receiving prehospital or ED transfusion of uncrossed, emergency release blood products between 11/17 and 05/18. Patients were divided into those who received any LTO-WB and those who only received RBC and/or plasma (COMP). Serial hemolysis panels and PaO₂/FiO₂ ratios were obtained at 3-hrs, 24-hrs, and 48-hrs. 161 patients received LTO-WB and 95 patients received COMP. While LTO-WB patients arrived with worse base excess and lactate, they ended up receiving less post-ED blood products than the COMP patients. There was no difference in hemolysis panel values at different time points. Controlling for age, ISS< and prehospital physiology, LTO-WB was associated with a 80% reduction in post-ED blood product transfusion. Presented at the 2019 Scientific Assembly of the Eastern Association for the Surgery of Trauma. ***Manuscript accepted and in press in the Journal of Trauma and Acute Care Surgery.***
36. James Williams (2017-2018) There has been an increase in mass casualty events (MCE) worldwide over the past two decades. These events can overwhelm a responding hospital's supply of blood products.

Using a computerized model, this study investigated the ability of US trauma centers (TCs) to meet the blood product requirements of MCEs. Cross-sectional survey data of on-hand blood products were collected from 16 US level-1 TCs. A discrete event simulation model of a TC was developed based on historic data of blood product consumption during MCEs. Each hospital's blood bank was evaluated across increasingly more demanding MCEs using modern MTPs to guide resuscitation efforts in massive transfusion (MT) patients. A total of 9,000 simulations were performed on each TC's data. Under the least demanding MCE scenario, the median size MCE in which TCs failed to adequately meet blood product demand was 50 patients (IQR 20-90), considering platelets. 10 TCs exhaust their supply of platelets prior to RBCs or plasma. Disregarding platelets, five TCs exhausted their supply of O- packed red blood cells (RBCs), six exhausted their AB plasma supply, and five had a mixed exhaustion picture. Presented at the 2019 Scientific Assembly of the Eastern Association for the Surgery of Trauma.

Manuscript submitted to the Journal of Trauma and Acute Care Surgery.

Residents

1. Dorsha James (2006-2008). Emergency Medicine Resident. Defining patterns and community standards for emergency airway management in the pre-hospital setting by aero-medical transport teams. Presented at the 2008 Southeastern Surgical Congress. **Manuscript published in the journal *Resuscitation* 2009.**
2. Megan Jack (2006-2008). Emergency Medicine Resident. Evaluating the impact of neuromuscular blockade and sedative use by aero-medical personnel on initial Glasgow Coma Scale (GCS), Revised Trauma Score (RTS), and Trauma Related Injury Severity Scores (TRISS). **Manuscript published in the *Journal of Surgical Research* 2009.**
3. Lesly Dossett (2007-2010). General Surgery Resident. Cost-effectiveness analysis of obtaining routine intra-operative radiographs to detect retained surgical sponges versus using sponge counts and *prn* radiographs in trauma and emergency surgery cases. Presented as an Oral Presentation at the Society of University Surgeons 2008 Academic Surgical Congress. **Manuscript published in *Surgery* 2008.**
4. Lesly Dossett (2007-2010). General Surgery Resident. Evaluation of the burden of warfarin use and it's associated complications among patients entered into the National Trauma Data Bank. Presented as an Oral Presentation at the American College of Surgeons 2009 Clinical Congress. **Manuscript published in the *Archives of Surgery* 2011.**
5. Lesly Dossett (2007-2010). General Surgery Resident. Evaluation of the regional variation, indications, and potential overuse of prophylactic inferior vena cava filter placement among trauma entered into the

National Trauma Data Bank. **Manuscript published in the *Journal of Trauma* 2011.**

6. John A. Harvin (2011-2012) The purpose of this study was to identify the incidence of hyperfibrinolysis on admission using admission Rapid-TEG (r-TEG). Moreover, we sought to identify the risk factors for those who will be hyperfibrinolytic. Patients admitted between 10/09-09/10 who met criteria for our highest-level trauma activation and were transported directly from the scene were included in the study. What we found was that hyperfibrinolysis on admission is an uncommon but highly lethal event associated with shock and pre-hospital fluid administration. Presented at the Twenty-fifth Annual Scientific Meeting of Eastern Association for the Surgery of Trauma, Lake Buena Vista, Florida January 11-15, 2012. **Manuscript published in the *Journal of Trauma and Acute Care Surgery*.**
7. John A. Harvin (2011-2012) The purpose of this study was to analyze, from an epidemiological standpoint, the timing of femoral fracture fixation at a single academic center over the last ten years for quality improvement purposes. Second, we want to compare outcomes of patients who undergo early (<24 hours) or late (>24 hours) femoral fracture fixation. This was a retrospective review of all trauma patients with diaphyseal femur fractures was performed from January 2000 through December 2010 at an academic Level 1 trauma center. Controlling for anatomic and physiologic severity of injury, early femoral IMN is associated with an almost 70% reduction in odds of developing pulmonary complications. Early fixation was also associated with a reduction ventilator days, hospital LOS, and overall hospital charges. Presented at the 2012 Annual Scientific Meeting of the Western Trauma Association. **Manuscript published in the *Journal of Trauma and Acute Care Surgery* 2013.**
8. Matthew Pommerening (2012-2014) T32 sponsored fellow. Primary project is the assessment and comparison of direct observation, electronic health record, and trauma registry data with respect to their (1) integrity and (2) completeness of datapoint collections in trauma patients during the acute resuscitation. These include prehospital, emergency department and operating room vitals, fluids, blood products and life-saving interventions.
9. Matthew Pommerening (2012-2014) T32 sponsored fellow. Secondary project designed to evaluate the incidence of and predictors for development of surgical site infections (SSI). Primary outcome was development of SSI, either superficial, deep or organ space. We evaluated the incidence of these complications by first comparing those who underwent emergent laparotomy versus those undergoing damage control laparotomy (DCL). We then examined the impact of early fascial closure and the association of colorectal injuries and the subsequent development of SSIs. Presented at the

Annual Meeting of the Surgical Infection Society. **Manuscript published in the *British Journal of Surgery*.**

10. Matthew Pommerening (2012-2014) T32 sponsored fellow. Secondary project aim from the ten-center, prospective observational PROMTTT study. We hypothesized that even among experienced trauma surgeons, the clinical gestalt of identifying patients who will require MT is unreliable. Within the first ten minutes of arrival, trauma faculty at ten (10) US level-1 trauma centers were queried from July 2009–October 2010. The primary question (“Is this patient likely to receive a MT?”) was asked at ten minutes after arrival. Patients were included in the current analysis if a response to this gestalt question was recorded. Presented at the 2013 Annual Meeting of the American Association for the Surgery of Trauma. **Manuscript published in the journal *Injury* 2015.**
11. Matthew Pommerening (2012-2014) T32 sponsored fellow. Secondary project aim from the three-center, prospective observational study evaluating serial thrombelastography in severely injured patients. We hypothesized that rapid thrombelastography (rTEG) coagulation profiles differ by gender and menopausal status. Adult trauma patients were prospectively followed at three Level-1 trauma centers over a 14-month period. rTEG was obtained upon arrival and serially at several time points during the hospital stay. Female patients were stratified into premenopausal (≤ 50 years) and postmenopausal (> 50 years) age groups with age-matched male cohorts. Values were analyzed using a repeated-measures multilevel linear model to evaluate the effect of gender on coagulation. This study demonstrates that premenopausal females are relatively hypercoagulable compared to age-matched males early after injury. However, this did not translate into higher thromboembolic complications. Our findings were presented at the Ninth Annual Academic Surgical Congress, San Diego, CA. February 4-6, 2014. **Manuscript published in the journal *Surgery* 2014.**
12. Matthew Pommerening (2012-2014) T32 sponsored fellow. Secondary project aim from a 14-center, prospective, observational study conducted by the AAST Open Abdomen Study Group. We hypothesized that time from the initial laparotomy to the first take back surgery would correlate with the ability to achieve primary fascial closure (PFC). Patients were included if they were 18 years or older and had non-closure of their abdominal fascia following the initial trauma laparotomy. Time, in hours, from the completion of the initial laparotomy to the first take back was compared among patients with PFC and those without PFC. Multilevel logistic regression was used to estimate the odds of PFC for each hour increase in time to the first take back. Data demonstrated that delays in returning to the operating room in patients with OA are associated with reductions in achieving definitive fascial closure; 1.1% reduction

in likelihood of closure per hour. Our results were presented at the Ninth Annual Academic Surgical Congress, San Diego, CA. February 4-6, 2014. **Manuscript published in the journal *Surgery* 2014.**

13. Matthew Pommerening (2012-2014) T32 sponsored fellow. In this study, we examined whether the parametric velocity curves that generate standard r-TEG values, could be used to predict transfusion patterns and early, hemorrhage-related mortality. Animal and healthy volunteer data has suggested that the rate and amount of thrombin generation and lysis may be predictive of the risk of hemorrhage. The purpose of this study was to investigate if often-overlooked Velocity Curve parameters are more predictive of hemorrhage and early death than standard r-TEG values. Patients admitted between 08/09-11/10 who met criteria for our highest-level trauma activation and were transported directly from the scene were included in the study. We assessed the prediction of RBC, plasma, platelet and cryoprecipitate transfusions in the first three hours and the incidence of substantial bleeding and hemorrhage-related mortality based on the velocity curve cut-offs. Presented at the 99th Annual Clinical Congress of the American College of Surgeons, Washington, DC, October 2014. **Manuscript published in the *Journal of the American College of Surgeons* 2014.**
14. Matthew Pommerening (2012-2014) T32 sponsored fellow. We evaluated the impact of supplemental energy drinks on the coagulation system as detected by Thrombelastography and Multiplate platelet aggregometry assay. 34 healthy volunteers were randomized to a 12-ounce energy supplement drink or 12-ounce bottle of water. The study subjects then served as their own controls (cross-over design) by consuming the alternate product one week later. Coagulation tests were drawn before and after consumption of each product. No statistically significant differences in coagulation were detected using kaolin or rapid TEG. However, compared to water controls, energy drink consumption resulted in a significant increase in platelet aggregation via arachidonic acid-induced activation (AUC 72.4 vs. 66.3; $p=0.018$). Our findings were presented at the Thrombosis and Hemostasis Summit of North America. Chicago, IL, April 10-12, 2014. **Manuscript published in the *Journal of Surgical Research* 2015.**
15. Matthew Pommerening (2012-2014) T32 sponsored fellow. Secondary project aim from the three center, prospective observational study evaluating serial thrombelastography in severely injured patients. we hypothesized that rapid thrombelastography (rTEG) coagulation profiles would differ by splenectomy status and would be more hypercoagulable in patients with splenic injury who undergo splenectomy compared to those who do not undergo splenectomy. Adult trauma patients were prospectively followed at three Level-1 trauma centers over a 14-month period. rTEG was obtained

upon arrival and serially at several time points during the hospital stay. This study demonstrated that splenectomy patients are relatively hypercoagulable compared to matched non-splenectomy cohorts early after injury. Moreover, this translated into higher thromboembolic complications. Our findings were presented at the Tenth Annual Academic Surgical Congress, Las Vegas, NV. February 3-5, 2015.

Manuscript published in the journal *Surgery* 2015.

16. Michelle Scerbo (2014-2016) T32 sponsored fellow. We examined the use of tourniquets in the civilian setting. The purpose of this study was to assess whether tourniquets are safely applied to the appropriate civilian patient. 105 patients arriving to a level-1 trauma center between 10/2008 and 05/2013 with a pre-hospital (PH) or emergency department (ED) tourniquet were reviewed. Cases were assigned the following designations: absolute indication (operation within 2 hours for extremity injury, vascular injury requiring repair/ligation, or traumatic amputation), relative indication (major musculoskeletal/soft-tissue injury requiring operation >2 hours after arrival, documented large blood loss), non-indicated. Patients with absolute or relative indications for tourniquet placement were defined as indicated, while the remaining patients were designated as non-indicated. 94 patients (90%) had tourniquet placements that were indicated. No complications were a result of tourniquet use. Our findings were presented at the Tenth Annual Academic Surgical Congress, Las Vegas, NV. February 3-5, 2015. **Manuscript published in the journal *Prehosp Emerg Care* 2016.**

17. Michelle Scerbo (2014-2016) T32 sponsored fellows. The objective of this study was to assess whether a recently conducted randomized trial performed under EFIC reached relevant and affected communities through the community consultation (CC) process. A randomized transfusion trial at our center was conducted under EFIC. We carried out CC at 15 separate sites across the area that our trauma center serves. There are over 200 zip codes in our catchment area. Zip codes where CC was performed and the zip codes *immediately* surrounding those areas were defined as CC ZIPCODE. We then identified which zip codes the patients were injured in and the home address zip codes for all patients. We found that one-quarter of patients were injured or lived in areas where CC was performed. While CC alone cannot reach all potential patients in emergency research settings, we have demonstrated that high-risk areas can be identified and targeted to cover patients likely to be screened and enrolled for such studies. In addition, we demonstrated that populations where disparity concerns are most likely receive equal (or greater) coverage through the CC process. Presented at the 2015 Academic Surgical Congress.

Manuscript submitted to the *Journal of Surgical Research*.

18. Derek Roberts (2017-present) The study was set at three American College of Surgeons-verified, level-1 trauma centers over a 14-month period. Serial rapid thrombelastography (rTEG) measures, including clot lysis at 30-minutes (LY30), were obtained. We used LY30 values and previously published definitions to divide patients into the following fibrinolysis phenotypes: SD (LY30 \leq 0.8%), physiologic fibrinolysis, PHYS, (LY30 $>$ 0.8% to $<$ 3%), and HF (LY30 \geq 3%). We found that almost 70% of major trauma patients who present with SD remain in the shutdown phenotype up to 120-hours post-injury. Patients presenting with HF, on the other hand, transition to SD/PHYS phenotypes or die within 24 hours. While early mortality remains greatest with HF phenotype, persistent SD at 24-hours predicted late mortality. Presented at the 2017 Annual Meeting of the American Association for the Surgery of Trauma. **Manuscripts submitted to the *Journal of Trauma and Acute Care Surgery*.**
19. Derek Roberts (2017-2018) A prospective study was conducted on consecutive trauma patients admitted directly to an ICU between 05/2015 and 12/2016. Blunt trauma patients with CT-evidence of brain injury who were 18 years of age and older were included. Patients were dichotomized by ICU to which they were admitted; Trauma-ICU or Neuro-ICU. 548 patients were included with 207 admitted to the Trauma-ICU and 341 admitted to the Neuro-ICU. While patients admitted to the Trauma-ICU were younger (median 44 vs. 57) and less likely to have comorbidities (13 vs. 22%), they were more likely to have sustained high-speed mechanism (71 vs. 34%) and have higher ISS (median 25 vs. 16) when compared to Neuro-ICU admissions; all $p < 0.05$. On admission, Trauma-ICU patients were more likely to have already been intubated (46 vs. 28%), have fixed or unequal pupils, and lower GCS-motor exam (median 3 vs. 6); $p < 0.05$. While univariate analysis also noted that 30-day mortality was higher in the Trauma-ICU (22% vs 12%; $p < 0.001$). However, multivariate regression analysis demonstrated that Trauma-ICU admission was associated with a 70% reduction in mortality. Presented at the 31st Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma. **Manuscript submitted to the *Journal of Trauma and Acute Care Surgery*.**
20. James Turbett (2017-2018) A prospective study was conducted on consecutive trauma patients predicted to receive MT. Both rTEG and kTEG were obtained on arrival. Pearson and Spearman's rank correlation coefficients, along with Bland-Altman plots, were determined for matching TEG parameters (rTEG ACT was compared to kTEG R-value). Area under the receiver operating characteristics curve (AUROC) of each kTEG parameter was assessed at published rTEG thresholds. Optimal kTEG cut-offs were determined by maximum Youden's index and minimum distance to the upper left of ROC space. 113

patients were included with median age 36, 58% white, 65% blunt, and 82% male. The median ISS was 29, with median ABC score of 2, and 24-hour and 30-day mortalities of 14% and 25%, respectively. There were strong linear correlations for MA (0.70) and LY30 (0.86), and moderate correlations for ACT/kTEG R-value (0.31), K-time (0.49) and alpha-angle (0.52); all $p < 0.001$. kTEG AUROC ranged from 0.67 for R-value (at ACT ≥ 128 s) to 0.86 for LY30 (at rTEG LY30 $\geq 5\%$). Optimal kTEG cut-points were: R ≥ 4.5 min, K ≥ 2.1 min, alpha $\leq 66.7^\circ$, MA ≤ 59.8 mm and LY30 $\geq 5.2\%$. Presented at the 31st Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma. **Manuscript submitted to the *Journal of Trauma and Acute Care Surgery*.**

21. Scott Assen (2019-present) Cold-stored low-titer whole blood (WB) is becoming increasingly used as the preferred product for initial hemorrhagic shock resuscitation. The purpose of this study was to identify whether the current 21-day shelf-life is the optimal duration for storage of WB, maintaining hemostatic efficacy. Five units of fresh low-titer group O WB (non-leukoreduced) were acquired from our regional blood center. Hemostatic parameters were measured in vitro at 0, 7, 14, and 21 days. Assessments of hemostatic potential included cell count, rapid (r-TEG) and kaolin thrombelastography (TEG), Multiplate impedance aggregometry, and calibrated automated thrombogram (CAT). While the platelet function of WB degrades significantly at 7 days (and again at 14-days), clot initiation remains stable over time and thrombin generation appears to be improved at 7 days. This study supports a current storage limit for cold-stored, low-titer WB of 14-days. **To be presented in Oral Format at the 33rd Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma, Orlando, FL January 2020.**

Fellows

1. Oliver D. Gunter (2005-2007). Trauma-Surgical Critical Care Fellow. Development of a Performance Improvement process for and evaluation of the impact of implementation of a Trauma Exsanguination Protocol on patient outcomes and blood product utilization. Presented at the 2007 and 2008 Annual Meeting of the American Association for the Surgery of Trauma. **Manuscripts published in the *Journal of Trauma* 2008 and 2010.**
2. Nathan Mowery (2007-2008). Trauma-Surgical Critical Care Fellow. Evaluation of the hospital's Trauma Exsanguination Protocol on patient outcomes based on predefined blood product ratios. To be presented at the 2008 Annual Scientific Meeting of the Eastern Association for the Surgery of Trauma. **Manuscript published in the *Journal of Trauma* 2008.**
3. Timothy Nunez (2007-2009). Trauma-Surgical Critical Care Fellow. Evaluation of the incidence of

ventilator dependent respiratory failure, systemic inflammatory response syndrome, sepsis, multiple organ dysfunction syndrome, and abdominal compartment syndrome following TEP implementation.

Presented at the 2008 Annual Meeting of the American Association for the Surgery of Trauma. **Manuscript published in the *Journal of Trauma* 2009.**

4. Timothy Nunez (2007-2009). Trauma-Surgical Critical Care Fellow. Multicenter retrospective analysis of transfusion practices correlated with injury severity and outcomes in trauma patients. This study is being conducted and sponsored by the U.S. Army Institute of Surgical Research. The purpose of this study is to correlate the current individual transfusion practices and ratios at 25 of the leading trauma centers in the US with standard clinical outcomes.
5. Timothy Nunez (2007-2009). Trauma-Surgical Critical Care Fellow. Critical evaluation of a newly developed predictor of need for “massive transfusion.” The score was developed to rapidly identify patients at risk of requiring >10 units packed red blood cells in the initial 12-24 hours. Presented at the 2008 and 2009 Annual Meeting of the American Association for the Surgery of Trauma. **Manuscript published in the *Journal of Trauma* 2009 and 2010.**
6. William D. Dutton (2008-2009). Trauma-Surgical Critical Care Fellow. Assessment of the prevalence of massive transfusion in non-trauma surgical ICU patients, the timing of the delivery of these products, the optimal ratios of PRBC: plasma: platelets, and the risk factors for requiring a massive transfusion in this setting. Presented at the Society of Critical Care Medicine Annual Critical Care Congress 2010.
7. Chadi T. Abouassaly (2008-2009). Trauma-Surgical Critical Care Fellow. Evaluation of the impact that neuro-muscular blocking agents have on the ability to achieve primary fascial closure in patients who are left open at initial trauma laparotomy. Presented at the 2009 Annual Meeting of the American Association for the Surgery of Trauma. **Manuscript published in the *Journal of Trauma* 2010.**
8. David Hamilton (2009-2010). Evaluation of the impact of co-syntropin testing on the diagnosis and treatment of patients with relative adrenal insufficiency in a surgical ICU. **Manuscript published in the *journal of Clinical Pharmacology: Advances and Applications* 2010.**
9. Adam Vogel (2010-2012). Assessment of the use of rapid thrombelastography in pediatric trauma patients. Specifically, we evaluated the relationship of rTEG to conventional coagulation tests (CCT) and early lifesaving interventions (LSI) in pediatric trauma. Our study noted that admission rTEG correlated with CCT but was superior in predicting early transfusion and early LSI in pediatric trauma. rTEG also provided valuable data for goal directed hemostatic resuscitation of critically injured children. Presented

at American Association of Pediatrics. **Manuscript published in the *Journal of Pediatric Surgery* 2013.**

10. Sherry Sixta (2011-2012). Acute coagulopathy of trauma (ACoT) is associated with a significant increase in mortality. The mechanisms behind ACoT appear multi-factorial, but have not yet been clearly defined. The purpose of this study was to evaluate the influence and association of multiple variables, including base deficit and injury severity, on developing ACoT. This was a review of all emergent laparotomies from a Level 1 trauma center. ACoT(+) was defined by arrival INR ≥ 1.5 , while ACoT(-) had INR < 1.5 . Presented at the 2011 Annual Meeting of the American Society of Hematology. **Manuscript published in the *International Journal of Burns and Trauma* 2013.**
11. Sherry Sixta (2011-2012). Conflicting data exist regarding the association of traumatic brain injury (TBI) with coagulopathy as measured by conventional coagulation testing (CCT). This study is intended to determine the prevalence of coagulopathy in TBI patients by CCT and rapid thrombelastography (r-TEG) and to determine the relationship between these laboratory tests and mortality. Over an 18-month period, the admission r-TEG values and CCTs were recorded on the highest-level trauma activations admitted directly from the injury scene. Patients were categorized as non-TBI (Head AIS 0-2) or isolated TBI (Head AIS > 2 and all other AIS scores ≤ 2). No difference in coagulopathy prevalence was observed between TBI and non-TBI patients by CCT, but a higher prevalence of coagulopathy by r-TEG values was found in isolated TBI patients and was predictive of mortality. Presented at the 2012 Academic Surgical Congress. **Manuscript published in the *Journal of Neurology and Neurophysiology* 2015.**
12. Diane Schwartz (2011-2012). We hypothesized that smokers admitted with major trauma would present with a hypercoagulable profile and be at increased risk for complications as a result. We also hypothesized that nicotine replacement therapy would not affect short-term outcomes or mitigate hypercoagulability. The control group was comprised of non-smokers and patients who reported no social history, while smokers made up the study group. Hypercoagulability was defined as $mA > 65$ mm by an admission TEG. This pilot study found that injured patients who smoke were significantly more likely to present with hypercoagulability (as evidenced by elevated TEG mA values). Additionally, injured patients who smoke had increased length of stay and resource utilization, more wound complications, and higher hospital charges. While we did not find statistically significant differences, smokers who received NRT had psychiatric consultations and complication rates similar to those of non-smokers. Presented at the 2012 Academic Surgical Congress. **Manuscript published in the *Journal of Surgical***

Research.

13. Michael D. Goodman (2012-2013). Prehospital use of the ABC score to predict patients who will receive massive transfusion and emergent operative intervention. With the addition of the FAST to all hospital-based helicopters, we set out to assess whether a positive ABC score would help us alert the MT protocol prior to arrival and to mobilize OR/Anesthesia teams to allow direct transport of patients to the operating room from the helipad. Presented at the 2013 Annual Meeting of the American Association for the Surgery of Trauma. **Manuscript submitted to *Injury*.**
14. Michael D. Goodman (2012-2013). In this study, we examined whether the parametric velocity curves that generate standard r-TEG values, could be used to predict transfusion patterns and early, hemorrhage-related mortality. Animal and healthy volunteer data has suggested that the rate and amount of thrombin generation and lysis may be predictive of the risk of hemorrhage. The purpose of this study was to investigate if often overlooked Velocity Curve parameters are more predictive of hemorrhage and early death than standard r-TEG values. . Patients admitted between 08/09-11/10 who met criteria for our highest-level trauma activation and were transported directly from the scene were included in the study. We assessed the prediction of RBC, plasma, platelet and cryoprecipitate transfusions in the first three hours and the incidence of substantial bleeding and hemorrhage-related mortality based on velocity curve cut-offs. Presented at the 99th Annual Clinical Congress of the American College of Surgeons, Washington, DC, October 2014. **Manuscript published in the *Journal of the American College of Surgeons*.**
15. Ethan A. Taub (2013-2015). A retrospective study was performed on all adult trauma patients with severe, blunt splenic injury admitted to our center between 01/2005-12/2012. Severe splenic injury was defined as AAST grade IV or V. Our center adopted and employed DCR principles in 2009. Patients were stratified into two groups: pre-DCR (2005-2008) and DCR (2009-2012). Patients who died before leaving the emergency department (ED) were excluded. Outcomes (resuscitation products used and survival) were then compared by univariate analysis. A purposeful regression model was then constructed to identify independent predictors of mortality. Splenectomy rates were higher, but not statistically significant, in DCR patients (58 vs. 47%; p=0.103). In patients with severe splenic injury, implementation of DCR was associated with a 95% reduction in mortality at our facility. Presented at the 2015 Academic Surgical Congress. **Manuscript submitted to the *Journal of Surgical Research*.**
16. William C. Beck (2014-2015) The objective of this study was to assess whether a recently conducted

randomized trial performed under EFIC reached relevant and affected communities through the community consultation (CC) process. A randomized transfusion trial at our center was conducted under EFIC. We carried out CC at 15 separate sites across the area that our trauma center serves. There are over 200 zip codes in our catchment area. Zip codes where CC was performed and the zip codes *immediately* surrounding those areas were defined as CC ZIPCODE. We then identified which zip codes the patients were injured in and the home address zip codes for all patients. We found that one-quarter of patients were injured or lived in areas where CC was performed. While CC alone cannot reach all potential patients in emergency research settings, we have demonstrated that high-risk areas can be identified and targeted to cover patients likely to be screened and enrolled for such studies. In addition, we demonstrated that populations where disparity concerns are most likely receive equal (or greater) coverage through the CC process. Presented at the 2015 Academic Surgical Congress. **Manuscript submitted to the *Journal of Surgical Research*.**

17. David E Meyer (2015-2017). A prospective secondary analysis of a randomized, controlled, multicenter trial. While the protocolization of massive transfusion (MT) product delivery has been extensively studied and included in ACS-TQIP Best Practices, most of this research and its efforts have focused on identifying optimal blood products and ratios. TQIP recommends that the initial MT cooler be delivered within 15 minutes of protocol activation, with a goal of 10 minutes. The current study sought to examine the impact of timing of first cooler delivery on patient outcomes in a recently completed randomized trial of blood product ratios. We hypothesized that delays in cooler delivery would be associated with increased mortality. 680 severely injured patients predicted to receive a massive transfusion at 12 North American level-1 trauma centers were randomized to two separate transfusion ratios as described in the PROPPR trial. The study goal was delivery of all blood products to the bedside within 10 minutes of calling the blood bank. In this planned sub-analysis, the time to MT protocol activation and time to delivery of the initial cooler were evaluated. We found that delayed identification of patients in need of MT activation and delay in the initial cooler arrival was associated with prolonged time to achieve hemostasis and increased mortality. Independent of ratios, every minute from time of MT protocol activation to time of initial cooler arrival increases odds of mortality by 5%. Presented at the Raymond H. Alexander, MD Resident Paper Competition during the 30th Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma. **Manuscript published in the *Journal of Trauma and Acute Care Surgery* 2017.**

18. Jonathan R Taylor, III (2015-2017). Post hoc analysis of a randomized, controlled, multicenter trial. Among bleeding patients, we hypothesized that the hyperfibrinolytic (HF) phenotype would be associated with the highest mortality, while shutdown (SD) patients would have the greatest complication burden. Severely injured patients predicted to receive a massive transfusion at twelve level-1 trauma centers were randomized to one of two transfusion ratios as described in the PROPPR trial. Fibrinolysis phenotypes were determined based on admission clot lysis at 30 minutes (LY30): SD $\leq 0.8\%$, physiologic (PHYS) 0.9-2.9% and HF $\geq 3\%$. Univariate and multivariate analysis was performed. Logistic regression was used to adjust for age, gender, arrival physiology, shock, injury severity, center-⁴ effect and treatment arm. While previous data has shown that both the SD and HF phenotypes are associated with increased mortality and complications in the general trauma population, in a large cohort of bleeding patients, HF was confirmed to be a much more lethal and resource intense phenotype. These data suggest that further research into the understanding of SD and HF is warranted to improve outcomes in this patient population. Presented at the Raymond H. Alexander, MD Resident Paper Competition during the 30th Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma. **Manuscript published in the *Journal of Trauma and Acute Care Surgery* 2017.**
19. Shane D. Jensen (2015-2017). Retrospective evaluation of all severely injured children from January 2010 until December 2016, specifically evaluating extreme arrival laboratory data in conjunction with traumatic brain injury (TBI). 1292 patients met inclusion criteria, of which 90% survived and 10% died. Single extreme lab values were identified that predicted mortality perfectly (100% PPV): INR ≥ 3.0 , pH ≤ 6.95 , base value ≤ -22 , platelet count ≤ 30 K, hemoglobin ≤ 5.0 g/dL rTEG MA ≤ 30 mm, and rTEG lysis $\geq 50\%$. When the presence of TBI was added to single admission lab values, lower thresholds for 100% mortality were identified: INR ≥ 2.5 (100% PPV, 63% NPV) or rTEG lysis $\geq 20\%$ (100% PPV, 89% NPV). Even lower thresholds for futility were noted when admission values were combined. Presented at the 129th Meeting of the Southern Surgical Association. **Manuscript published in the *Journal of the American College of Surgeons* 2018.**
20. Kyle K. Kalkwarf(2016-2017). Trauma patients predicted to receive a MT at 12 level 1-trauma centers were randomized to one of two blood component transfusion ratios as described in the PROPPR trial. Fibrinolysis phenotypes were determined based on admission TEG clot lysis at 30 minutes (LY30): SD $< 0.9\%$; physiologic (PHYS) 0.9-2.9%; and HF $\geq 3\%$. Among the three phenotypes, penetrating mechanism was higher in PHYS (60%) compared to SD (48%) or HF (35%), $p < 0.001$. There were no differences in

pre-arrival physiology between the three groups. However, the SD group received more fluids (median 1.7 L) than either PHYS (1.1) or HF (1.0 L); The HF group received more pre-arrival blood products. Multivariate logistic regression demonstrated that each liter of pre-arrival fluids was associated with an increase the likelihood of SD by 15% (OR 1.15, 95% C.I. 1.03-1.28, p=0.010), while each unit of blood was associated with an increase the likelihood of HF by 15% (OR 1.15, 95% C.I. 0.99-1.35, p=0.078). Presented at the 2017 Scientific Assembly of the American Association for the Surgery of Trauma.

Manuscript submitted to the Journal of Trauma and Acute Care Surgery

Pharmacy Residents

1. Lindsay A. Dyer (2006-2007). Evaluation of the implementation of a High-dose Anti-oxidant protocol on trauma patient morbidity and mortality. Presented at the Southeastern Pharmacology Residency Congress 2007 and the American Society for Parenteral and Enteral Nutrition Annual Meeting 2008. **Manuscript published in the *Journal of Parenteral and Enteral Nutrition* 2008**
2. Kimberly B. Kelly (2005-2006). Investigation of the impact of beta-blocker exposure on survival in patients with traumatic brain injury. Presented at the Southeastern Pharmacology Residency Congress 2006, Annual Meeting of the American Association for the Surgery of Trauma 2006. **Manuscript published in the *Journal of Trauma* 2007.**
3. Shivani Patel (2004-2006). Evaluation of the pharmacological risk factors for developing adrenal insufficiency after severe injury. Specifically investigated the impact of etomidate. Presented at the Southeastern Pharmacology Residency Congress 2005 and the Society of Critical Care Medicine Annual Critical Care Congress 2006. **Manuscript published in the *Archives of Surgery* 2008**
4. Kimberly B. Kelly (2005-2006). Investigation of the impact of heart control and beta-receptor selectivity on survival in patients with traumatic brain injury. Presented at the Society of Critical Care Medicine Annual Critical Care Congress 2007. **Manuscript submitted to the *Journal of Critical Care*.**

Lectures by Invitation

Dec 2020 "A decade's work in radically transforming trauma resuscitation of hemorrhage"

Department of Surgery Grand Rounds

Brown University Alpert School of Medicine

Providence, RI (virtual presentation)

- Nov 2020 “Back to the Future: The Return of Whole Blood for Hemorrhagic Shock”
Joint Departments of Surgery and Emergency Medicine Grand Rounds
George Washington University
Washington, D.C. (Virtual presentation)
- Nov 2020 “Five critical exposures for vascular injury: Tips and tricks for the non-vascular surgeon”
The British Journal of Surgery Trauma Lecture Series
Association of Surgeons of Great Britain and Ireland (Virtual Presentation)
- Oct 2020 “Resuscitation of the Exsanguinating Trauma Patient: The Memorial Hermann Red Duke Trauma
Institute’s Experience and Practice”
Keynote Address
National Trauma Symposium
Wellington, New Zealand (Virtual presentation)
- Oct 2020 “Should resuscitative thoracotomy be performed in blunt poly-trauma patients?”
Trauma Plenary Session
European Society of Trauma and Emergency Surgery Annual Meeting
Oslo, Norway (Virtual presentation)
- Sept 2020 “Prehospital use of whole blood is associated with improved survival compared to 1:1 component
therapy”
79th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery.
Virtual Meeting
- Sept 2020 “The prehospital use of younger age whole blood is associated with improved arrival coagulation
profile”
79th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery.
Virtual Meeting
- Sept 2020 “TXA as a useful adjunct or necessary for those who don’t know how to resuscitate?”
Plenary session: Pro-Con Debate
79th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery.
Virtual Meeting
- Jan 2020 “Hemostatic potential of cold-stored whole blood over time: an assessment of platelet function
and thrombin generation for optimal shelf-life”

- Eastern Association for the Surgery of Trauma
Thirty-third Annual Scientific Meeting
Orlando, FL
- Dec 2019 Age-Dependent Association of Occult Hypoperfusion and Outcome in Trauma
131st Annual Meeting of the Southern Surgical Association.
The Homestead, Hot Springs, VA.
- Oct 2019 “Whole (Blood) is greater than the sum of its parts”
Blood Product Transfusion: The Sum of the Parts Is Greater Than the Whole, or Is It?
American College of Surgeons 2019 Clinical Congress
San Francisco, CA
- Oct 2019 “Optimal Resuscitation of Hemorrhage in Medical-Surgical Patients: Lessons Learned from the Last
Decade of Trauma Research”
Joint Medical-Surgical Grand Rounds
Virginia Tech Carilion School of Medicine
Roanoke, VA
- Oct 2019 “A decade’s work in radically transforming trauma resuscitation of hemorrhage”
Timothy A. Johnson Medical Scholar Seminar series
Virginia Tech Carilion School of Medicine
Roanoke, VA
- Oct 2019 “Back to the Future: The resurgence of whole blood for civilian trauma”
Key Note Address
Trauma Anesthesia Society Annual Meeting
Orlando, FL
- Sept 2019 “A decade’s work in radically transforming trauma resuscitation of hemorrhage”
City-wide Medical-Surgical Grand Rounds
University of Calgary
Calgary, AB
- Aug 2019 “The End of Damage Control Laparotomy in Trauma”
Tennessee Committee on Trauma Symposium
Annual Meeting of the Tennessee American College of Surgeons

- Chattanooga, TN
- June 2019 “The History of Trauma Resuscitation, the Return of Whole Blood, and Current Best Practice”
Keynote Address
12th Annual Erlanger Trauma Symposium
Chattanooga, TN
- June 2019 “TEG and Trauma Induced Coagulopathy: an Evidence Based Approach”
Hospital-based Resuscitation Plenary Session
The First Annual Damage Control Resuscitation Symposium
Campinas, Brazil
- Feb 2019 “Glasgow Special: Penetrating buttock injuries and their sequelae”
The Sixth Annual Glasgow Emergency Surgery and Trauma Symposium (GESTS)
The Royal College of Surgeons and Physicians of Glasgow
Glasgow, Scotland
- Feb 2019 “Blunt head injury management in the hypotensive patient”
The Sixth Annual Glasgow Emergency Surgery and Trauma Symposium (GESTS)
The Royal College of Surgeons and Physicians of Glasgow
Glasgow, Scotland
- Feb 2019 “Damage Control Resuscitation”
First Annual LIMiT Course and Lecture Series
University of Glasgow
Glasgow, Scotland
- Feb 2019 “Fibrinolysis in Trauma: A Summary of the Denier’s Handbook”
Master’s of Science in Trauma, Grand Rounds
Queen Mary’s Hospital
London, UK
- Feb 2019 “Whole Blood: Greater than the sum of it’s parts”
Master’s of Science in Trauma, Grand Rounds
Queen Mary’s Hospital
London, UK
- Jan 2019 “Safety profile and impact of low-titer group O whole for emergency use in trauma.”

- 32nd Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma
Austin, TX.
- Nov 2018 “A decade’s work in radically transforming trauma resuscitation of hemorrhage”
Department of Surgery Grand Rounds
Rush University School of Medicine
Chicago, IL
- Oct 2018 “A bandage left on too long: The history of damage control laparotomy”
Plenary Session on Closing the Damage Control Abdomen
The American College of Surgeons 2018 Clinical Congress
Boston, MA
- Oct 2018 “Transfusion in the ICU and Operating Room: Current Best Practice”
Surgical Critical Care Updates
The American College of Surgeons 2018 Clinical Congress
Boston, MA
- Oct 2018 “A decade’s work in radically transforming trauma resuscitation of hemorrhage”
Department of Surgery Grand Rounds
Baylor-Scott & White and Texas A&M School of Medicine
Temple, TX
- Sept 2018 “The acute coagulopathy of trauma is NOT disseminated intravascular coagulopathy”
Plenary Session on Coagulopathy in Trauma
Annual Meeting of AAST and the 4th World Trauma Congress
San Diego, CA
- June 2018 “The damage control philosophy”
The Peter Roberts Memorial Lecture
Royal College of Surgeons
Manchester, UK
- Feb 2018 “The end of damage control laparotomy in trauma”
Department of Surgery Grand Rounds
Naval Medical Center
Portsmouth, VA

- Feb 2018 "A decade's work in radically transforming trauma resuscitation of hemorrhage"
Joint Command Grand Rounds
Naval Medical Center
Portsmouth, VA
- Dec 2017 "Can we identify futility in kids? An evaluation of admission parameters predicting 100% mortality in 1292 severely injured children."
The 131st Annual Meeting of the Southern Surgical Association
Hot Springs, VA
- Nov 2017 "A decade's work in radically transforming trauma resuscitation of hemorrhage"
Department of Surgery Grand Rounds
Tulane University School of Medicine
New Orleans, LA
- Oct 2017 "Current evidence, best practice, and what's to come in management of trauma coagulopathy"
The Authur KC Li Distinguished Lecture in Emergency and Trauma Surgery
The Chinese University of Hong Kong Surgical Symposium
Sha Tin, Hong Kong
- Oct 2017 "Competing priorities: Multi-cavitary injuries in the unstable patient"
The Chinese University of Hong Kong Surgical Symposium
Sha Tin, Hong Kong
- Sept 2017 "Time course and outcomes associated with transient versus persistent fibrinolytic phenotypes: A nested, prospective, multicenter cohort study."
Annual Meeting of AAST and Clinical Congress of Acute Care Surgery.
Baltimore, MD
- July 2017 "Sleep disturbances in the ICU"
25th Annual SWAN Trauma, Emergency Surgery, and Critical Care Conference
Sydney, Australia
- July 2017 "Do TEG/ROTEM have a place in the Trauma Bay"
25th Annual SWAN Trauma, Emergency Surgery, and Critical Care Conference
Sydney, Australia
- July 2017 "What's new in Damage Control Laparotomy?"

- 25th Annual SWAN Trauma, Emergency Surgery, and Critical Care Conference
Sydney, Australia
- July 2017 “Implementing goal-directed transfusion to clinical practice”
Department of Emergency Medicine Grand Rounds
The Alfred Hospital and Monash University School of Medicine
Melbourne, Australia
- Apr 2017 “Current best treatment strategies for patients requiring massive transfusion”
18th Annual Harris Methodist- Dallas/Fort Worth Trauma Symposium
Fort Worth, Texas
- Feb 2017 “Diagnosis and Management of Coagulopathy in Trauma: Experience from Over 1000 Severely Injured Children and Adolescents”
Trauma Grand Rounds
Los Angeles Children’s Hospital
Los Angeles, CA
- Feb 2017 “Implementation and Maturation of a Viscoelastic Hemostatic Assay at a Level-1 Trauma Center “
Department of Surgery Grand Rounds
Harbor-UCLA
Los Angeles, CA
- Dec 2016 “The Prevalence and impact of admission coagulopathy on treatment intensity, resource utilization and mortality: An evaluation of 956 severely injured children and adolescents.”
130th Annual Meeting of the Southern Surgical Association.
The Breakers, Palm Beach, FL.
- Dec 2016 “A decade’s work in radically transforming trauma resuscitation of hemorrhage”
Department of Surgery Grand Rounds
University of Texas Health Science Center
Houston, TX
- Nov 2016 “The implementation of damage control resuscitation and the decreased need for damage control surgery”
Annual Congress of the Danish Society of Blood Banking (DSKI)
Aarhus, Denmark

- Nov 2016 “Surgical and resuscitation management of pediatric hemorrhage in trauma”
Annual Congress of the Danish Society of Blood Banking (DSKI)
Aarhus, Denmark
- Oct 2016 “Blood product and fluid resuscitation”
Annual Update in Surgical Critical Care
American College of Surgeon’s Clinical Congress
Washington, D.C.
- Oct 2016 “What did we learn from the PROPPR trial?”
Hemostatic Resuscitation: Update 2016
American College of Surgeon’s Clinical Congress
Washington, D.C.
- Oct 2016 “TEG/ROTEM in Trauma - Benefits and Pitfalls”
Annual Update in Trauma
American College of Surgeon’s Clinical Congress
Washington, D.C.
- Aug 2016 “A decade’s work in radically transforming trauma resuscitation of hemorrhage”
6th Annual Peter Mucha , Jr. Visiting Professor of Trauma and Acute Care Surgery
Department of Surgery
The Mayo Clinic
Rochester, MN
- Aug 2016 “Competing priorities: Multi-cavitary injuries in the unstable patient”
The Acute Care Surgeon Lecture
Department of Surgery
The Mayo Clinic
Rochester, MN
- May 2016 “Viscoelastic testing in the trauma and emergency surgery setting”
Department of Surgery Grand Rounds
University of Florida-Jacksonville School of Medicine
Jacksonville, FL
- May 2016 “TEG is indispensable in trauma coagulopathy measurement and transfusions”

- 4th John P. Pryor, M.D. Annual Trauma Symposium
 University of Pennsylvania School of Medicine
 Philadelphia, PA
- Feb 2016 “FAST and other emergent imaging in the trauma bay.”
 The Third Annual Glasgow Emergency Surgery and Trauma Symposium (GESTS)
 The Royal College of Surgeons and Physicians of Glasgow
 Glasgow, Scotland
- Feb 2016 “Multi-cavity trauma: Triaging cavities, injuries and priorities.”
 The Third Annual Glasgow Emergency Surgery and Trauma Symposium (GESTS)
 The Royal College of Surgeons and Physicians of Glasgow
 Glasgow, Scotland
- Feb 2016 “The smashed pelvis: IR, pelvic packing, both, other?”
 The Third Annual Glasgow Emergency Surgery and Trauma Symposium (GESTS)
 The Royal College of Surgeons and Physicians of Glasgow
 Glasgow, Scotland
- Feb 2016 “Improvement of patient outcomes by the use of coagulation testing in the acute coagulopathy
 of trauma (ACoT)”
 Annual Meeting of the Japanese Society of Intensive Care Medicine
 Kobe, Japan
- Feb 2016 “The use of viscoelastic testing in the trauma and emergency setting.”
 Department of Surgery Grand Rounds
 Senri Trauma Center
 Osaka, Japan
- Jan 2016 “Engage the Masters”
 Eastern Association for the Surgery of Trauma
 Twenty-ninth Annual Scientific Meeting
 San Antonio, TX
- Dec 2015 “Acute Fibrinolysis Shutdown Following Injury Occurs Frequently and Increases Mortality: A
 Multicenter Evaluation of 2570 Severely Injured Patients”
 The 129th Annual Meeting of the Southern Surgical Association

Hot Springs, VA

- Nov 2015 “Plasma as the ideal resuscitation fluid in trauma”
Danish Association of Anesthesia and Intensive Care Medicine (DASAIM) Annual Congress
Copenhagen, Denmark
- Aug 2015 “Optimal fluid resuscitation of acute care surgery patients in 2015”
American Association for the Surgery of Trauma
North American Webcast Grand Rounds
- Aug 2015 “The use of viscoelastic testing in the trauma and emergency setting.”
Department of Surgery Grand Rounds
University of Texas Health Science Center
Houston, TX
- May 2015 “Tranexamic acid, prothrombin complex concentrated and fibrinogen concentrates for trauma”
17th Annual Warren Wetzel M.D. Trauma and Emergency Medicine Symposium
Jacobi Medical Center and Albert Einstein College of Medicine
New York, NY
- Apr 2015 “Implementation of viscoelastic testing into trauma, critical care and emergency settings”
Department of Surgery Grand Rounds
Christiana Hospital
Wilmington, DE
- Apr 2015 “Current evidence and best practice in trauma resuscitation”
2015 Annual Delaware Trauma Symposium
Wilmington, DE
- Apr 2015 “Current evidence, best practice, and what’s to come in management of trauma coagulopathy”
3rd John P. Pryor, M.D. Annual Trauma Symposium
University of Pennsylvania School of Medicine
Philadelphia, PA
- Mar 2015 “The implementation of viscoelastic testing in the trauma and emergency surgery setting”
Department of Surgery Grand Rounds
Kansas University Medical Center
Kansas City, KS

- Mar 2015 “Reversing the irreversible: Management of bleeding in the era of new oral anticoagulants”
Kansas University Trauma Symposium
Kansas City, KS
- Feb 2015 “Green plasma has a superior hemostatic profile to standard color plasma”
10th Annual Academic Surgical Congress
Las Vegas, Nevada
- Dec 2014 “Viscoelastic testing in the trauma and emergency setting.”
The Australian College of Emergency Medicine Annual Meeting
Melbourne, Australia
- Oct 2014 “A dissection of the most recent studies in hemorrhagic shock”
Department of Surgery Grand Rounds
The University of Kentucky Medical Center
Lexington, KY
- Oct 2014 “The evolution of TQIP best practices for massive transfusion”
26th Annual Kentucky Trauma and Emergency Medicine Symposium
Lexington, KY
- Oct 2014 “The latest and greatest in hemorrhagic shock research”
4th Annual Northern Ohio Trauma Symposium
Cleveland, OH
- Sept 2014 “Viscoelastic testing in the trauma and emergency surgery setting.”
Nebraska Trauma Symposium
Lincoln, Nebraska
- Sept 2014 “Death, dying and futile care in the operating room- What have we learned?”
American Association for the Surgery of Trauma
Seventieth Annual Scientific Meeting
Philadelphia, PA
- Sept 2014 “What is the best location for a viscoelastic testing device in a trauma center and who should operate the equipment?”
Consensus Conference on TEM based transfusion guidelines for early trauma resuscitation
Philadelphia, PA

- July 2014 “Tranexamic acid, prothrombin complex concentrated and fibrinogen concentrates for trauma: Absolutes or adjuncts?”
Department of Surgery Grand Rounds
University of Texas Health Science Center
Houston, TX
- June 2014 “Tranexamic acid, prothrombin complex concentrated and fibrinogen concentrates for trauma: Absolutes or adjuncts?”
American Association for the Surgery of Trauma
North American Webcast Grand Rounds
- June 2014 “Implementation of thrombelastography or thromboelastometry at an academic medical center”
Department of Surgery Grand Rounds
Lyndon B. Johnson Hospital and Harris County Hospital District
Houston, Texas
- June 2014 “The use of viscoelastic testing in the resuscitation of the acutely injured patient”
Department of Surgery and Anesthesia Joint Grand Rounds
Scott & White Memorial Hospital and Texas A&M Health Science Center
Temple, Texas
- May 2014 “Current best evidence and recommendations in haemorrhagic shock resuscitation”
The Royal College of Anaesthetists Annual Congress
Cardiff National Museum, Cardiff, England
- April 2014 “TQIP best practices for massive transfusion”
16th Annual Harris Methodist- Dallas/Fort Worth Trauma Symposium
Fort Worth, Texas
- Feb 2014 “Resuscitation room surgery of the chest”
The Glasgow Emergency Surgery and Trauma Symposium (GESTS)
The Royal College of Surgeons and Physicians of Glasgow
Glasgow, Scotland
- Feb 2014 “Surgery and coagulopathy-A lethal combination”
The Glasgow Emergency Surgery and Trauma Symposium (GESTS)
The Royal College of Surgeons and Physicians of Glasgow

- Glasgow, Scotland
- Feb 2014 “Houston, we have a problem- Damage control laparotomy and resuscitation”
The Glasgow Emergency Surgery and Trauma Symposium (GESTS)
The Royal College of Surgeons and Physicians of Glasgow
Glasgow, Scotland
- Feb 2014 “Training the emergency general and trauma surgeon of the future: The US perspective”
The Glasgow Emergency Surgery and Trauma Symposium (GESTS)
The Royal College of Surgeons and Physicians of Glasgow
Glasgow, Scotland
- Jan 2014 “Trauma papers that should have changed your practice”
Eastern Association for the Surgery of Trauma
Twenty-seventh Annual Scientific Meeting
Naples, FL
- Dec 2013 “Reversing the irreversible: The challenge of the new anticoagulants in the emergency setting”
Advances in Trauma Meeting
36th Annual American College of Surgeons Committee on Trauma
Kansas City, MO
- Dec 2013 “The acute coagulopathy of trauma: How to best diagnose and treat using viscoelastic testing”
Advances in Trauma Meeting
36th Annual American College of Surgeons Committee on Trauma
Kansas City, MO
- Nov 2013 “Conventional or adjunct therapy for treatment of coagulopathy?”
Annual Meeting of the Trauma Quality Improvement Program and
The American College of Surgeons
Phoenix, AZ
- Nov 2013 “Beyond 1:1 – Where we are and where we are heading with transfusion therapy in trauma”
The 61st Annual Detroit Trauma Symposium
Detroit, MI
- Nov 2013 “The use of viscoelastic testing to guide the early resuscitation of trauma patients”
The 61st Annual Detroit Trauma Symposium

- Detroit, MI
- Nov 2013 “Reversing the irreversible: Management of anticoagulants in emergency surgery and trauma”
Trauma Surgery Grand Rounds
Boonshoft School of Medicine-Wayne State University
Dayton, OH
- Nov 2013 “Evolution and maturation of Damage Control Resuscitation”
Mary C. McCarthy Visiting Professor Lecture
Boonshoft School of Medicine-Wayne State University
Dayton, OH
- Oct 2013 “Development of TQIP best practices for massive transfusion”
Michigan Trauma Quality Improvement Project 2013 Annual Meeting
Ann Arbor, MI
- Oct 2013 “Management and reversal of anticoagulants for emergency surgery”
Ten Hot Topics in General Surgery
American College of Surgeons 2013 Clinical Congress
Washington, D.C.
- Sept 2013 “Critical bleeding in patients on anti-thrombotics: Warfarin versus dabigatran
International Symposium of Critical Bleeding
Copenhagen, Denmark
- Sept 2013 “Clinical findings of a randomized controlled trial of whole blood versus component therapy”
International Symposium of Critical Bleeding
Copenhagen, Denmark
- May 2013 “Thrombelastography as an adjunct to trauma resuscitation”
The 2013 Annual Austin Trauma and Critical Care Symposium
Austin, Texas
- May 2013 “The latest and greatest in trauma resuscitation research: PROMMTT, PROPPR and EWB”
The 2013 Annual Austin Trauma and Critical Care Symposium
Austin, Texas
- April 2013 “A randomized controlled trial of modified whole blood versus component therapy in severely injured patients requiring large volume transfusions”

- 133rd Annual Scientific Meeting of the American Surgical Association
Indianapolis, IN
- Mar 2013 “Impact of an active performance improvement process on blood utilization and patient survival: An assessment of 334 massive transfusion protocol activations.”
Annual Meeting of the Western Trauma Association
Snowmass, Colorado
- Feb 2013 “Protocolization of the Massive Transfusion process”
2013 Annual Meeting of the Trauma Quality Improvement Program of the American College of Surgeons
Philadelphia, PA
- Jan 2013 “Advocacy strategies for the busy trauma surgeon: Bring them to you!”
Advocacy 2013: Getting in, staying involved, and being prepared after the Affordable Care Act
Eastern Association for the Surgery of Trauma
Twenty-sixth Annual Scientific Meeting
Scottsdale, AZ
- Jan 2013 “Best practices for fluid resuscitation of the damage control laparotomy patient”
Eastern Association for the Surgery of Trauma
Twenty-sixth Annual Scientific Meeting
Scottsdale, AZ
- Jan 2013 “Current best practice for diagnosis and management of the acute coagulopathy of trauma”
Trauma Anesthesiology Society
First Annual Scientific Meeting
Scottsdale, AZ
- Dec 2012 “Current best practice for diagnosis and management of the acute coagulopathy of trauma”
Department of Surgery Grand Rounds
George Washington University School of Medicine
Washington, D.C.
- Nov 2012 “The Acute Coagulopathy of Trauma: How early, how lethal, and how best to diagnose?”
Department of Surgery Grand Rounds
University of North Carolina School of Medicine

- Chapel Hill, NC
- Nov 2012 "Back to the future: The evolution and implementation of damage control resuscitation."
 Department of Surgery Grand Rounds
 Duke University School of Medicine
 Durham, NC
- Oct 2012 "Mechanisms, Protocols and Management of the Acute Coagulopathy of Trauma"
 American College of Chest Physicians (ACCP)
 Chest 2012 Annual Meeting
 Atlanta, GA
- Oct 2012 "Working with and using your surgeons in advocacy"
 American Association of Surgical Administrators
 Twenty-fifth Annual Meeting
 Chicago, IL
- Sept 2012 "Chasing 100%: The use of hypertonic saline to improve early fascial closure rates following
 damage control laparotomy"
 American Association for the Surgery of Trauma
 Sixty-eighth Annual Scientific Meeting
 Kauai, HI
- Aug 2012 "The use of viscoelastic testing in trauma and emergency surgery"
 Department of Surgery Grand Rounds
 University of Texas Health Science Center
 Houston, TX
- May 2012 "The most important and influential articles in resuscitation research: 2002-2012"
 The Annual Penn Trauma Symposium
 Philadelphia, PA
- April 2012 "Implementing the tenets of damage control resuscitation in the pre-hospital setting"
 Annual Meeting of the Texas College of Emergency Physicians
 San Antonio, TX
- April 2012 "Rapid reversal of the acquired coagulopathy"
 Colorado Springs Trauma Symposium

- Colorado Springs, CO
- April 2012 "Identifying trauma patients at risk for massive transfusion on admission"
Colorado Springs Trauma Symposium
Colorado Springs, CO
- April 2012 "The evolution and maturation of damage control resuscitation"
Department of Surgery Grand Rounds
Hackensack University Medical Center
Hackensack, NJ
- Feb 2012 "The role of antioxidants in the critically injured patient"
Plenary Session- Recent Developments in Nutrition Support and Clinical Applications
Society of Critical Care Medicine's 41st Critical Care Congress
Houston, Texas
- Feb 2012 "Hemostatic Resuscitation- The evidence is mounting"
Plenary Session-Damage Control Resuscitation
Society of Critical Care Medicine's 41st Critical Care Congress
Houston, Texas
- Jan 2012 "The importance of Advocacy in Trauma"
Plenary Session-Advocacy
Eastern Association for the Surgery of Trauma
Twenty-fifth Annual Scientific Meeting
Orlando, Florida
- Jan 2012 "Hyperfibrinolysis is an uncommon but highly lethal phenomenon associated with shock and volume of crystalloid administration"
Eastern Association for the Surgery of Trauma
Twenty-fifth Annual Scientific Meeting
Orlando, Florida
- Oct 2011 "Increasing ratios, removing hurdles, and improving availability of plasma for resuscitation."
Plenary Session: Reassessing the role of plasma
Annual Meeting of the American Association of Blood Bankers
San Diego, CA

- Sept 2011 "Admission rapid thromboelastography (r-TEG) predicts development of pulmonary embolism in severely injured patients"
American Association for the Surgery of Trauma
Sixty-seventh Annual Scientific Meeting
Chicago, IL
- August 2011 "Implementation of damage control resuscitation in a naïve trauma system"
Keynote Address at Swedish Surgical Week
Visby, Sweden
- August 2011 "Back to the future of trauma resuscitation: The history, and evolution and implementation of damage control resuscitation."
Department of Surgery Grand Rounds
University of Missouri School of Medicine
Columbia, MO
- June 2011 "Best practice for rapid reversal of patients resending with the acute coagulopathy of trauma"
Managing the Acute Coagulopathy of Trauma
Annual Meeting of the Society of Academic Emergency Medicine
Boston, MA.
- June 2011 "Can we identify trauma patients at risk for massive transfusion on admission?"
Massive Transfusion Consensus Conference
National Advisory Committee on Blood and Blood Products
Toronto, Canada. June 9-11, 2011
- April 2011 "Damage control resuscitation reduces resuscitation volumes and improves survival in 390 damage control laparotomy patients."
131st Annual Scientific Meeting of the American Surgical Association.
Boca Raton Resort & Club in Boca Raton, Florida. April 11-13, 2011.
- April 2011 "The rapid identification and management of the acute coagulopathy of trauma"
13th Annual Harris Methodist- Dallas/Fort Worth Trauma Symposium
Will Rogers Coliseum, Fort Worth, Texas
- Jan 2011 "The impact of antioxidant supplementation in critically ill patients"
Plenary Session: Pharmaconutrition- does it work?

- American Society of Parenteral and Enteral Nutrition's Clinical Nutrition Week 2011
Vancouver, BC
- Jan 2011 "Rapid determination and detection of the acute coagulopathy of trauma"
Plenary Session: Coagulopathy diagnosis and management
24th Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma
Naples, FL
- Jan 2011 "Quality and performance indicators in the acute resuscitative phase of trauma"
Plenary Session: Are we as good as they say we are?
24th Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma
Naples, FL
- Dec 2010 "Defining endpoints and surrogates in evaluating clinical trials"
FDA Workshop on Product Development for Intervention in Patients with Severe Bleeding
National Institutes of Health
Bethesda, MD
- Oct 2010 "Bringing it all together: Developing and implementing a massive transfusion protocol"
American College of Surgeons Symposium- New Paradigms in Fluid and Blood Resuscitation
for Patients with Acute Hemorrhage
American College of Surgeons Ninety-sixth Annual Clinical Congress
Washington, D.C.
- Sept 2010 "Rapid thromboelastography (r-TEG) delivers real-time results that predict transfusion
within one hour of admission"
American Association for the Surgery of Trauma
Sixty-seventh Annual Scientific Meeting
Boston, MA
- Sept 2010 "The use of whole blood in critical bleeding- What is the evidence?"
International Symposium on Critical Bleeding
Copenhagen, Denmark
- Sept 2010 "Resuscitation in critical bleeding: How we do it in Houston"
International Symposium on Critical Bleeding
Copenhagen, Denmark

- Aug 2010 “Assessment of blood transfusion requirements and early coagulopathy in trauma using Rapid Thromboelastography”
Advanced Technology Applications for Combat Casualty Care (ATACCC) 2010 Conference
St.Petersburg, FL
- May 2010 “Assessment and management of life-threatening intra-abdominal hemorrhage.”
17th Annual Turkish Surgical Congress.
Ankara, Turkey, May 26-29, 2010.
- May 2010 “Damage control resuscitation and its impact on outcomes after severe injury.”
Key Note Address at the 17th Annual Turkish Surgical Congress.
Ankara, Turkey, May 26-29, 2010.
- May 2010 “Appropriate use of emergent left antero-lateral thoracotomy in trauma.”
17th Annual Turkish Surgical Congress.
Ankara, Turkey, May 26-29, 2010.
- May 2010 “Prevention and management of entero-atmospheric fistulae in the open abdomen.”
17th Annual Turkish Surgical Congress.
Ankara, Turkey, May 26-29, 2010.
- Jan 2010 “Novel resuscitation fluids for the prehospital setting: Pharmacologic resuscitation.”
Prehospital Resuscitation Conference-U.S. Army’s Institute of Surgical Research
Dallas, TX
- Jan 2010 “Why your hospital should have a massive transfusion protocol”
Massive Transfusion, What's Old Is New, Is What's Old, New?
Society of Critical Care Medicine’s 39th Critical Care Congress
Miami Beach, FL
- Oct 2009 “Cardiac and neurovascular management with severe traumatic brain injury”
Cardiovascular protection with beta-receptor antagonist in critically ill patients
Critical Care Canada Forum 2009
Toronto, CA
- Oct 2009 “Early goal directed therapy is NOT important-But it sure is harmful”
Evidence based medicine in the ICU: What’s in and what’s out.
American College of Surgeons 95th Annual Clinical Congress

- Chicago, IL
- Sept 2009 “The cellular, metabolic and systemic consequences of aggressive crystalloid resuscitation”
Department of Surgery Grand Rounds
University of Texas Health Science Center
Houston, TX
- Aug 2009 “Multicenter validation of a non-weighted, non-laboratory based algorithm to predict massive transfusion”
Advanced Technology Applications for Combat Casualty Care (ATACCC) 2009 Conference
St.Petersburg, FL
- April 2009 “Predefined transfusion protocols to address acute trauma-related coagulopathy”
Intervention strategies in managing the acute coagulopathy of trauma
Trauma/Critical Care 2009
Las Vegas, NV
- March 2009 “Changing strategies in acute trauma resuscitation: Paradigm shift or back to the future?”
Sewell Family Lecture
11th Annual Harris Methodist- Dallas/Fort Worth Trauma Symposium
Will Rogers Coliseum, Fort Worth, Texas
- March 2009 “Antioxidants for all critically ill patients?”
Plenary Session: Antioxidants in the ICU
International Symposium on Intensive Care and Emergency Medicine
Brussels, Belgium
- March 2009 “Indications for beta-blocker use in the injured patient”
Plenary Session: Advances in treatment of the critically injured patient
International Symposium on Intensive Care and Emergency Medicine
Brussels, Belgium
- Feb 2009 “Prehospital fluid resuscitation guidelines”
Plenary Session: Prehospital fluid resuscitation
Society of Critical Care Medicine’s 38th Annual Clinical Congress
Nashville, TN
- Feb 2009 “The use of antioxidant supplementation in critically injured patients”

- The London and Barts Hospital
Surgery Grand Rounds
London, England
- Feb 2009 “Incorporating a massive transfusion protocol into damage control surgery”
Specialty Skills in Trauma and Emergency Surgery
The Royal College of Surgeons
London, England
- Jan 2009 “Room for (performance) improvement: provider factors associated with poor
outcomes in massive transfusion.”
Eastern Association for the Surgery of Trauma
Twenty-second Annual Scientific Meeting
Orlando, Florida
- Oct 2008 “Reducing post-injury complications with a high-dose antioxidant protocol”
The American College of Surgeons' 94th Annual Clinical Congress
San Francisco, California
- Sept 2008 “Predefined massive transfusion protocols are associated with a reduction in organ failure
and post-injury complications”
American Association for the Surgery of Trauma
Sixty-seventh Annual Scientific Meeting
Maui, Hawaii
- Mar 2008 “Exsanguination Protocols- Impact on Patient Outcomes”
Keynote Address: The Annual Symposium on Trauma
Colorado Springs, Colorado
- Mar 2008 “Pre Hospital Fluid Resuscitation Guidelines”
The Annual Symposium on Trauma
Colorado Springs, Colorado
- Feb 2008 “Impact of early coagulopathy on outcomes in critically injured patients”
National Trauma Institute Symposium: *Endpoints Initiative*
Dallas, Texas

- Jan 2008 "Practice management guidelines for pre-hospital fluid resuscitation."
Eastern Association for the Surgery of Trauma
Twenty-first Annual Meeting, Oral Presentations
Amelia Island, Florida
- Jan 2008 "Optimizing outcomes in damage control resuscitation: Identifying blood product ratios associated with improved survival."
Eastern Association for the Surgery of Trauma
Twenty-first Annual Meeting, Oral Presentations
Amelia Island, Florida
- Oct 2007 "Damage control resuscitation reduces overall blood component wastage."
American Association of Blood Bank Medicine.
Annual Scientific Meeting, Anaheim, CA
- Oct 2007 "Innovative life-saving treatments to correct massive bleeding in trauma"
American College of Surgeons' 93rd Annual Clinical Congress Meeting,
New Orleans, LA
- Sept 2007 "Impact of an established exsanguination protocol on mortality"
American Association for the Surgery of Trauma
Sixty-sixth Annual Scientific Meeting, Oral Presentation
Las Vegas, NV
- June 2007 "Translating military resuscitation experience to the civilian bedside and back"
4203rd U.S. Army Hospital
12th Annual Medical Conference
- Mar 2007 "Turning off the faucet: Putting an end to aggressive resuscitation strategies"
Medical-Surgical Grand Rounds
Penrose-St. Francis Health Center
Colorado Springs, Colorado
- Mar 2007 "The hyper-adrenergic state following TBI: Is there a role for beta-blockers?"
The Annual Symposium on Trauma
Colorado Springs, Colorado
- Mar 2007 "Delirium in the surgical and trauma population."

- Keynote Address: The Annual Symposium on Trauma
Colorado Springs, Colorado
- Dec 2006 “The impact of aggressive fluid resuscitation strategies”
Department of Surgery Grand Rounds
Vanderbilt University Medical Center
- Oct 2006 “Impact of non-neurological dysfunction on mortality following TBI”
American College of Surgeons' 92nd Annual Clinical Congress Meeting,
Chicago, Illinois
- Sept 2006 “Beta-blocker exposure is associated with improved survival following traumatic brain
injury”
American Association for the Surgery of Trauma
Sixty-fifth Annual Scientific Meeting, Oral Presentation
New Orleans, Louisiana
- July 2006 “Donor conversion and yield in traumatic brain injury patients”
World Transplant Congress, Biennial International Meeting
Boston, MA
- Apr 2006 “Fluid resuscitation injuries: Re-thinking our current resuscitation strategies”
The Annual Symposium on Trauma
Colorado Springs, Colorado
- Aug 2005 “How much is enough: Excluding intra-abdominal injury in children”
Pediatric Emergency Medicine Grand Rounds
Departments of Pediatrics and Pediatric Emergency Medicine
Monroe Carrell Jr. Children's Hospital
- Jan 2005 “Respiratory complications & mortality risk after thoracic spine injury”
Eastern Association for the Surgery of Trauma
Eighteenth Annual Meeting, Oral Presentations
Fort Lauderdale, Florida
- Dec 2004 “Put all the crystalloid in the (trash) bag and nobody gets hurt”
Department of Surgery Grand Rounds
Vanderbilt University Medical Center

- Nov 2004 "Pitfalls, pearls, and patterns of injury"
4th Annual Vanderbilt University Emergency Care Conference
Nashville, Tennessee
- June 2004 "Improving outcomes with strict patient selection in ED thoracotomy"
2003-2004 Trauma Lecture Series
Pennsylvania Hospital, Philadelphia, Pennsylvania
- January 2004 "A critical analysis of emergency department thoracotomy"
General Surgery Grand Rounds, Guest Lecture Series
University of Missouri, Columbia, Missouri
- October 2003 "The same, only different: Pediatric trauma essentials"
Special Populations Trauma Nursing Symposium
University of Pennsylvania School of Nursing
Philadelphia, Pennsylvania
- September 2003 "Goniometry predicts inadequate flexion-extension radiographs and identifies patients at high risk for cervical spine injury"
American Association for the Surgery of Trauma
Sixty- Second Meeting, Poster Presentations
Minneapolis, Minnesota
- September 2003 "Evaluation & treatment of penetrating neck injuries in 2003"
2003-2004 Trauma Lecture Series
Pennsylvania Hospital, Philadelphia, Pennsylvania
- April 2003 "Penetrating neck injury in 2003"
General Surgery Grand Rounds, Guest Lecture Series
University of Missouri, Columbia, Missouri
- December 2002 "High velocity penetrating torso & extremity injuries"
Annual Day of Trauma: A Surgery/Critical Care Symposium
The Union League of Philadelphia, Philadelphia, Pennsylvania
- November 2002 "Use of goniometry to limit inadequate flexion-extension radiographs in the trauma patient"
Pennsylvania Committee on Trauma
Harrisburg, Pennsylvania

- June 2002 “An unusual cause of Pneumo-peritoneum: Oro-vaginal insufflation”
 American College of Surgeons-Missouri Chapter
 Lake of the Ozarks, Missouri
- July 2000 “Evaluation & management of intra-abdominal injury in the pediatric trauma patient”
 Symposium on Pediatric Emergencies
 Department of Pediatrics & Emergency Medicine
 University of Missouri School of Medicine
- June 2000 “Screening parameters for intra-abdominal injury in the pediatric blunt trauma patient”
 American College of Surgeons-Missouri Chapter
 Lake of the Ozarks, Missouri

Bibliography

Manuscripts

1. Losanov J, **Cotton BA**, Metzler M, Jones J. Necrotizing chest wall infection after blunt trauma. *Journal of Trauma* 2002; 53:787-789
2. **Cotton BA**, Beckert B, Smith MK, Burd RS. The utility of clinical and laboratory data for predicting intra-abdominal injury among children. *Journal of Trauma* 2004; 55: 931-934.
3. **Cotton BA**, Nance ML. Penetrating trauma in children. *Seminars in Pediatric Surgery*. 2004, 13:87-97.
4. **Cotton BA**, Lieber K, Metzler M. Pneumoperitoneum from oro-vaginal insufflation resulting in non-therapeutic laparotomy. *Journal of Trauma*. 2005:58; 406-409.
5. **Cotton BA**, Liao JG, Burd RS. The utility of clinical and laboratory data for predicting intra-abdominal injury among children. *Journal of Trauma* 2005; 58:1306-7.
6. **Cotton BA**, Gracias VH, Insko ER, Gupta R, Born C, Schwab CW. Goniometry predicts inadequate flexion-extension radiographs and identifies patients at high risk for cervical spine injury. *Journal of Trauma* 2005: 59; 396-401.
7. **Cotton BA**, Pryor JP, Chinwalla I, Wiebe DJ, Reilly PM, Schwab CW. Respiratory complications and mortality risk associated with thoracic spine injury. *Journal of Trauma* 2005: 59; 1400-1409.
8. **Cotton BA**, Guy JS, Morris JA Jr, Abumrad NN. The cellular, metabolic, and systemic consequences of aggressive fluid resuscitation. *Shock* 2006; 26: 111-116.
9. Kemp CD, Johnson JC, Weaver K, **Cotton BA**. How we die: impact of non-neurological dysfunction on

- mortality following traumatic brain injury. *J Am Coll Surg* 2006; 203: S36.
10. Biswas S, Gray KD, **Cotton BA**. Intestinal obstruction in pregnancy: a case of small bowel volvulus and review of the literature. *American Surgeon* 2006; 72: 1218-1221.
 11. Snodgrass KB, Fleming SB, **Cotton BA**. Survival benefit of beta-blockers in severe TBI is associated with a reduction in heart rate. *Crit Care Med*. 2006;34:A53.
 12. **Cotton BA**, Girard T, Ely EW. Brain injury in critically ill patients – Broadening our understanding. *Shock* 2007; 27: 338-42.
 13. **Cotton BA**, Kemp CD, Johnson JC, Pinson CW. Donor conversion and yield in traumatic brain injury patients. *Am J Transplant* 2006; 6: 473.
 14. **Cotton BA**, Snodgrass KB, Fleming SB, Carpenter RO, Morris JA Jr, Kemp CD, Arbogast PG. Beta-blocker exposure is associated with improved survival following severe traumatic brain injury. *J Trauma* 2007; 62: 26-35.
 15. Jackson JC, Obremskey WT, Bauer R, Greevey R, **Cotton BA**, Anderson V, Song Y, Ely EW. Long-term cognitive, emotional and functional outcomes in trauma intensive care unit survivors without intracranial hemorrhage. *J Trauma* 2007; 62: 80-88.
 16. Pandharipande P, **Cotton BA**, Shintani A, Thompson J, Costabile S, Pun BT, Dittus R, Ely EW. Motoric subtypes of delirium in mechanically ventilated surgical and trauma intensive care unit patients. *Intensive Care Med* 2007; 33:1726-1731.
 17. **Cotton, BA**. Adrenergic mechanisms, brain trauma, and blood-brain barrier permeability. *J Trauma* 2007; 62: 1537-39.
 18. Burda T, **Cotton BA**. Straight for the jugular! Pre-hospital management of penetrating and blunt injuries to the neck. *J Emerg Medical Services* 2007; 32: 40-49.
 19. Riordan WP, **Cotton BA**, Norris PR, LR Waitman, Morris JA Jr. Exposure to beta-blockers is associated with improved survival in severe TBI patients with early cardiac uncoupling. *J Trauma* 2007; 63:503-511.
 20. Collier BR, Guillaumondegui OD, **Cotton BA**, Donahue R, Conrad A, Richman J, Vogel TR, Diaz JJ. Feeding the open abdomen. *J Parenter Enteral Nutr* 2007; 31 (5): 410-415.
 21. Au BK, Gunter OL, Isbell, J, **Cotton BA**. Damage control hematology: Impact of an exsanguination protocol delivered in a continuous manner with predefined blood component therapy. *J Am Coll Surg* 2007. 205 (3): S33-34.
 22. **Cotton BA**, Gunter OL, Robertson A, St. Jacques P, Young PP. Damage control resuscitation with a Trauma

- Exsanguination Protocol reduces overall blood component usage. *Transfusion* 2007; 47: 39A.
23. **Cotton BA**, Pryor JP. Respiratory complications and mortality following thoracic spine injury. *Yearbook Respiratory Care Clinics and Applied Technology* 2008; 679-682.
 24. **Cotton BA**, Guillamondegui OD, Patel S, Fleming S, Carpenter RO, Morris JA Jr. Etomidate use in the critically injured patient is associated with increased risk of adrenal insufficiency. *Arch Surg* 2008; 143(1): 62-67.
 25. Madigan MC, Kemp CD, Johnson JC, **Cotton BA**. Secondary abdominal compartment syndrome in patients with severe extremity injuries: are aggressive resuscitation strategies to blame? *J Trauma* 2008; 64:280-285.
 26. Soja SL, Pandharipande PP, Fleming SB, **Cotton BA**, Miller LR, Weaver SG, Lee BT, Ely EW. Implementation, reliability testing, and compliance monitoring of the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) in trauma patients *Intensive Care Med* 2008; 34: 1263-1268.
 27. **Cotton BA**, Gunter OL, Isbell J, Au BK, Robertson A, Morris JA, St. Jacques P, Young PP. *J Trauma* 2008; 64:1177-118.
 28. Kemp CD, **Cotton BA**, Johnson JC, Ellzey M, Pinson CW. Donor conversion and organ yield in traumatic brain injury: Missed opportunities and missed organs. *J Trauma* 2008; 64: 1573-158.
 29. Pandharipande P, **Cotton BA**, Shintani A, Thompson J, Pun BT, Morris JA, Dittus R, Ely EW. Prevalence and risk factors for development of delirium in surgical and trauma patients. *J Trauma* 2008; 63: 34-41.
 30. Dossett LA, Dittus R, Speroff T, May AK, **Cotton BA**. Cost-effectiveness of routine intra-operative radiographs in emergent open cavity procedures. *Surgery* 2008; 144: 317-321.
 31. Collier BR, Giladi A, Dossett LA, Fleming SB, Dyer L, **Cotton BA**. Impact of high-dose anti-oxidants on outcomes in acutely injured patients. *J Parenter Enteral Nutr* 2008; 32:384-88.
 32. **Cotton BA**, Guillamondegui OD Evidence for adrenal insufficiency after single-dose etomidate. *Arch Surg* 2008 143: 808-809.
 33. Kemp CD, Johnson JC, Riordan WP, **Cotton BA**. How we die: impact of non-neurological dysfunction on mortality following traumatic brain injury. *Am Surg* 2008; 74: 866-872.
 34. Idowu R, Guy JS, **Cotton BA**. CDC diagnostic criteria do not identify burn patients at risk for ventilator-acquired pneumonia. *J Burn Care Resear* 2008; 29(2): S51
 35. Gunter OL, Au BK, Isbell JA, Mowery NT, Young PP, **Cotton BA**. Optimizing outcomes in damage control resuscitation: Identifying blood product ratios associated with improved survival. *J Trauma* 2008; 63:

527-534.

36. Brywczyński JJ, Barrett TW, **Cotton BA**. Management of penetrating neck injury in the emergency department: a structured literature review. *Emerg Med J* 2008; 25:711–715.
37. Voskresensky I, Rivera-Tyler T, Dossett LA, Riordan WP, **Cotton BA**. Use of scene vital signs improves the ability of TRISS to predict survival in intubated trauma patients. *J Surg Research* 2009; 154: 105-11.
38. **Cotton BA**, Au BK, Nunez TC, Gunter OL, Robertson A, Young PP. Predefined massive transfusion protocols are associated with a reduction in organ failure and post-injury complications. *J Trauma* 2009; 66:41-49.
39. Nunez TC, Voskresensky IV, Dossett LA, Shinall R, **Cotton BA**. Prediction of massive transfusion in trauma: Simple as ABC? *J Trauma* 2009; 66: 346-352.
40. Guillamondegui OD, Gunter OL, Patel S, Fleming SB, **Cotton BA**, Morris JA. Acute adrenal insufficiency may affect outcome in the trauma patient. *Am Surg* 2009; 75: 287-290
41. James DN, Voskresensky IV, Jack M, Guy JS, **Cotton BA**. Emergency airway management in critically injured patients: A survey of U.S. aero-medical transport programs. *Resuscitation* 2009; 80: 650-657.
42. Morris JA Jr, Francois C, Olson PK, **Cotton BA**, Summar M, Jenkins JM, Norris PR, Moore JH, Williams AE, McNew BS, Canter JA. Genetic Variation in Complement Component 2 of the Classical Complement Pathway is Associated with Increased Mortality and Infection: A Study of 627 Trauma Patients. *J Trauma* 2009; 66: 1265-70.
43. **Cotton BA**, Jerome R, Collier BR, Khetarpal S, Holevar M, Kurek S, Mowery NT, Riordan WP Jr, Shah K, Bromberg W, Gunter OL. Practice management guidelines for pre-hospital fluid resuscitation of the injured patient. *J Trauma* 2009; 67:389-402.
44. **Cotton BA**, Dossett LA, Collier BR. Antioxidant dosing and interactions. *J Parenter Enteral Nutr* 2009; 33:449.
45. Au BK, Dutton WD, Zaydfudim V, Young PP, **Cotton BA**. Hyperkalemia following massive transfusion in trauma. *J Surg Research* 2009; 157: 284-289.
46. Collier B, Dossett L, Mann M, **Cotton BA**, Guillamondegui O, Diaz J, Fleming SB, May A, Morris J. Vasopressin use is associated with death in acute trauma patients with shock. *J Crit Care* 2010; 173: 9-14.
47. Nunez TC, **Cotton BA**. Transfusion therapy in hemorrhagic shock. *Curr Opin Crit Care* 2009; 15: 536-541.
48. **Cotton BA**, Dossett LA, Au BK, Nunez TC, Robertson AM, Young PP. Room for (performance) improvement: provider related factors associated with poor outcomes in massive transfusion. *J Trauma*

- 2009; 67: 1004-1012.
49. Zaydfudim V, Dutton W, Feurer ID, Au BK, Pinson CW, **Cotton BA**. Exsanguination Protocol Improves Survival After Major Hepatic Trauma. *Injury* 2010; 41:30-34.
 50. Levy JH, Kessler C, Dutton R, Hemphill JC, Holcomb J, Lawson J, Shander A, Aird B, **Cotton BA**, Dworkin G, Hess JR, Hoffman M, Key N, Mazer D, Paidas MJ, Wolfe RS, Smith P, Steiner M, Urban MK, Wade C, Zabramski J. Multidisciplinary approach to the challenge of hemostasis. *Anesth Analg*. 2010; 110(2):354-64.
 51. Girard TD, Pandharipande PP, Carson SS, Schmidt GA, Wright PE, Canonico AE, Pun BT, Thompson JL, Shintani AK, Meltzer HY, Bernard GR, Dittus RS, Ely EW; **MIND Trial Investigators**. Feasibility, efficacy, and safety of antipsychotics for intensive care unit delirium: the MIND randomized, placebo-controlled trial. *Crit Care Med*. 2010 ;38(2):428-37
 52. Zaydfudim V, **Cotton BA**, Kim B. Pancreatic transection after sports injury. *J Trauma* 2010; 69: E33.
 53. **Cotton BA**, Haut EH, Dossett LA, Shafi S, Au BK, Nunez TC, Johnston M, Arbogast P, Young PP. Multicenter validation of a simplified score to predict massive transfusion. *J Trauma* 2010; 69: S33-39.
 54. Hamilton DH, **Cotton BA**. Cosyntropin as a diagnostic agent in the screening of patients suspected of adrenocortical insufficiency. *Clinical Pharmacology: Advances and Applications* 2010; 2: 77-82.
 55. Riordan WP, **Cotton BA**. All bleeding stops: How we can help. *Critical Care* 2010, 14:146.
 56. Nunez TC, Young PP, Holcomb, **Cotton BA**. Creation, implementation, and maturation of a trauma exsanguination protocol. *J Trauma* 2010, 68: 1498-1505.
 57. Marshall GT, Landman MP, **Cotton BA**, O'Neill PJ, Hansen EK, Morris JA Jr, May AK. Pentobarbital coma for refractory intracranial hypertension: Indications and one-year outcomes in 55 trauma patients. *J Trauma* 2010;69: 275-283.
 58. Nunez TC, Dutton WD, Young PP, Holcomb JB, May AK, **Cotton BA**. Emergency department blood transfusion predicts early massive transfusion and early blood component requirement. *Transfusion* 2010; 50:1914-1920.
 59. Agarwal V, O'Neill PJ, **Cotton BA**, Pun BT, Haney S, Thompson J, Kassebaum N, Shintani A, Guy JS, Ely EW, Pandharipande,P. Prevalence and risk factors for development of delirium in burn ICU patients. *J Burn Care Research* 2010; 31:706-15
 60. Abouassaly CT, Dutton WD, Zaydfudim V, Dossett LA, Nunez TC, Fleming SF, **Cotton BA**. Neuromuscular blocker use is associated with higher primary closure rates following damage control laparotomy. *J*

Trauma 2010; 69: 557-561.

61. Duchesne JC, McSwain NS, **Cotton BA**, Dellavolpe J, Lafaro K, Marr AB, Gonzalez EA, Hunt JP, Phelan HA, Bilski T, Greiffenstein P, Barbeau JM, Baker CC, Brohi K, Jenkins DH, Rotondo M. Damage control resuscitation: The new face of damage control. *J Trauma* 2010; 69: 976-990.
62. Heffernan D, Inaba K, Arbabi S, **Cotton BA**. Sympathetic hyperactivity following traumatic brain injury and the role of beta-blocker therapy. *J Trauma* 2010; 69: 1602-1609.
63. Zaydfudim V, **Cotton BA**. From Pringle, to packing, to pyruvate: The search for hemorrhage control after hepatic injury. *J Trauma* 2010; 69: 1421-1422.
64. Giladi AM, Dossett LA, Fleming SB, Abumrad NA, **Cotton BA**. High-dose anti-oxidant administration is associated with a reduction in post-injury complications. *Injury* 2011; 42(1): 78-82.
65. Dossett LA, Riesel JN, Griffin MG, **Cotton BA**. Prevalence and implications of pre-injury warfarin use: An analysis of the National Trauma Databank (NTDB). *Arch Surg.* 2011; 146:565-570.
66. Muellner SK, Haut EH, Streiff M, Holcomb JB, **Cotton BA**. ABO blood group as a potential risk factor for venous thromboembolism in acutely injured patients. *Thrombosis and Haemostasis* 2011; 105: 5-13.
67. Haut EH, Kalish B, **Cotton BA**, Chang DC, Haider AH, Efron DT, Cornwell EE III. Pre-hospital intra-venous fluid (IVF) administration is associated with decreased survival in severely injured trauma patients: An NTDB analysis. *Ann Surg* 2011; 253 (2): 371–37.
68. Holcomb JB, Weiskopf R, Champion H, Gould SA, Sauer RM, Brasel K, Bochicchio G, Bulger E, **Cotton BA**, Davis D, Dutton R, Hauser CJ, Hess JR, Hides GA, Knudson P, MacKenzie E, McGinnis RL, Michalek J, Moore FA, Omert L, Pollock B, Tortella B, Sugarman J, Schreiber MA, Wade CE. Challenges to effective research in acute trauma resuscitation : consent and endpoints. *Shock* 2011; 35(2): 107-13
69. **Cotton BA**. Alternative Fluids for Prehospital Resuscitation: "Pharmacological" Resuscitation Fluids. *J Trauma* 2011; 70(5): S30-31.
70. Dossett LA, Adams RC, **Cotton BA**. Unwarranted national variation in the use of prophylactic inferior vena cava filters after trauma: An analysis of the National Trauma Databank (NTDB). *J Trauma* 2011;70: 1066–1071.
71. Wade CE, **Cotton BA**. Physiological data in the trauma intensive care: Data, data everywhere and not a drop for patient care. *J Healthcare Engineering* 2011; 2 (1): 117-120.
72. Hatch QM, Podbielski J, Wade C, Kozar RA, Holcomb JB, **Cotton BA**. Current use of damage control laparotomy, closure rates and predictors of early fascial closure at first take back. *J Trauma* 2011; 70:

1429–1436.

73. Young PP, **Cotton BA**, Goodnough LT. Massive transfusion protocols for patients with substantial hemorrhage. *Transfusion Med Rev* 2011; 25:293-303
74. Bechtel BF, Nunez TC, Lyon JA, **Cotton BA**, Barrett TW. Therapeutic management of acute intra-cranial hemorrhage in emergency department patients on anti-coagulation: A structured literature review. *Intl J Emerg Med J* 2011; 4: 40-8.
75. **Cotton BA**, Kao LS, Kozar RA, Holcomb JB. Cost-effectiveness analysis of phenytoin and levetiracetam in prevention of post-traumatic seizures. *J Trauma* 2011; 71(2): 375-379.
76. **Cotton BA**. Something old, something new. Something borrowed, something...occlusive? *J Trauma* 2011; 71(3):720-726.
77. **Cotton BA**, Faz G, Hatch Q, Radwan ZA, Podbielski J, McCarthy J, Bai Y, Wade C, Kozar RA, Holcomb JB. Rapid thromboelastography (r-TEG) delivers real-time results that predict transfusion within one hour of admission. *J Trauma* 2011; 71(2): 407-417.
78. Young PP, **Cotton BA**. A Window of Opportunity: The Aggressive Use of Plasma in Early Resuscitation. *Transfusion* 2011; 51(9): 1880-1882.
79. **Cotton BA**, Reddy N, Hatch QM, Podbielski J, McNutt MK, Albarado R, Gill BS, Wade C, Kozar RA, Holcomb JB. Damage control resuscitation reduces resuscitation volumes and improves survival in 390 damage control laparotomy patients. *Ann Surg* 2011; 254:598-605.
80. Holcomb JB, Wade CE, and the **Trauma Outcomes Group**. Defining present blood component transfusion practices in trauma patients. *J Trauma* 2011; 71: S315-317
81. Holcomb JB, Zarzabal LA, Michalek JE, Kozar RA, and the **Trauma Outcomes Group**. Increased platelet: RBC ratios are associated with improved survival after massive transfusion. *J Trauma* 2011; 71: S318-328.
82. Sambasivan CN, Kunio NR, Nair PK, Zink KA, Michalek JE, Holcomb JB, Schreiber MA, and the **Trauma Outcomes Group**. High ratios of plasma and platelets to packed red blood cells do not affect mortality in non-massively transfused patients. *J Trauma* 2011; 71: S329-336.
83. Brown LM, Call MS, Knudson MM, Cohen MJ and the **Trauma Outcomes Group**. A normal platelet count may not be enough: The impact of admission platelet count on mortality and transfusion in severely injured trauma patients. *J Trauma* 2011; 71: S337-342.
84. Spinella PC, Wade CE, Blackbourne L, Borgman MA, and the **Trauma Outcomes Group**. The association of

- blood component use ratios with the survival of massively transfused trauma patients with and without severe brain injury. *J Trauma* 2011; 71: S343-352.
85. Rowell SE, Barbosa RR, Diggs BS, Schreiber MA and the **Trauma Outcomes Group**. Effect of high product ratio massive transfusion on mortality in blunt and penetrating trauma patients. *J Trauma* 2011; 71: S353-357.
86. Brown LM, Aro SO, Cohen MJ and the **Trauma Outcomes Group**. A high fresh frozen plasma: packed red blood cell transfusion ratio decreases mortality in all massively transfused patients regardless of admission international normalized ratio. *J Trauma* 2011; 71: S358-363.
87. Barbosa RR, Rowell SE, Diggs, Schreiber MA, and the **Trauma Outcomes Group**. Profoundly abnormal initial physiological and biochemical data cannot be used to determine futility in massively transfused trauma patients. *J Trauma* 2011; 71: S364-369.
88. Barbosa RR, Rowell SE, Sambasivan CN, Diggs BS, Spinella PC, Schreiber MA, and the **Trauma Outcomes Group**. A predictive model for mortality in massively transfused trauma patients. *J Trauma* 2011; 71: S370-374.
89. Rowell SE, Barbosa RR, Allison CE, Van PY, Schreiber MA, and the **Trauma Outcomes Group**. Gender-based in mortality in response to high product ratio massive transfusion. *J Trauma* 2011; 71: S375-379.
90. Spoerke N, Michalek JE, Schreiber MA, and the **Trauma Outcomes Group**. Crystalloid resuscitation improves survival in trauma patients receiving low ratios of fresh frozen plasma to packed red blood cells. *J Trauma* 2011; 71: S380-383.
91. Rowell SE, Barbosa RR, Diggs BS, Schreiber MA and the **Trauma Outcomes Group**. Specific abbreviated injury scale values are responsible for the underestimation of mortality in penetrating trauma patients by the injury severity score. *J Trauma* 2011; 71: S384-388.
92. Wade CE, del Junco DJ, Holcomb JB, and the **Trauma Outcomes Group**. Center variations between level-1 trauma centers in 24-hour mortality in severely injured patients requiring a massive transfusion. *J Trauma* 2011; 71: S389-393
93. Schöchl H, **Cotton BA**, Inaba K, Nienaber U, Fischer H, Voelckel W, and Solomon C. FIBTEM provides early prediction of massive transfusion in trauma. *Crit Care* 2011; 15: R265-71.
94. **Cotton BA**, McCarthy J, Holcomb JB. The (irreversible) harm of dabigatran etexilate in acutely injured patients. *N Eng J Med* 2011, 365; 21:2039-40.
95. Hatch QM, Podbielski J, Wade C, Kozar RA, Holcomb JB, **Cotton BA**. The impact of closure at the first

- take-back: Complication burden and potential over-utilization of damage control laparotomy. *J Trauma* 2011;71: 1503–1511.
96. Montella D, Brown SH, Elkin PL, Jackson JC, Rosenbloom ST, Wahner-Roedler D, Welsh G, **Cotton BA**, Guillaumondegui OD, Lew H, Taber KH, Tupler LA, Vanderploeg R, Speroff T. Comparison of SNOMED CT versus Medcin Terminology Concept Coverage for Mild Traumatic Brain Injury. *AMIA Annu Symp Proc*. 2011;2011:969-78.
 97. Rahbar MH, Fox EE, del Junco DJ, **Cotton BA**, Podbielski J, Matijevic N, Zhang J, Mirhaji P, Reynolds R, Duran S, Benjamin-Garner R, Holcomb JB. Coordination and management of multicenter clinical studies in trauma: Experience from the Prospective Observational Multicenter Massive Transfusion sTudy (PROMMTT). *Resuscitation* 2012; 83: 459– 464.
 98. Martin M, Hatch Q, **Cotton BA**, Holcomb BA. Damage control laparotomy in less injured patients: Harmful or helpful? *J Trauma* 2012; 72:601–608.
 99. Krumrei NJ, Park MS, **Cotton BA**, Zielinski MD. Comparison of massive blood transfusion predictive models in the rural setting. *J Trauma* 2012; 72: 211-215.
 100. Adams S, **Cotton BA**, Dipasupil E, Podbielski J, Zaharia A, McGuire MF, Jastrow K, Ware DN, Gill BS, Albarado R, Kozar RA, Duke JR, Adams PR, Dyer CB, Holcomb JB. The unique pattern of complications in elderly trauma patients at a level 1 trauma center. *J Trauma* 2012; 72: 112-118
 101. Kostousov VV, Matijevic N, Wang YW, Wade CE, **Cotton BA**, Holcomb JB. Hemostatically distinct fresh frozen plasmas equally improve abnormal TEG variables in dilutional coagulopathy model *in vitro*. *Thrombosis Research* 2012; 130(3): 429-34.
 102. Goodnough LT, **Cotton BA**, Young P. Reply to letter re: Massive transfusion protocols for patients with substantial hemorrhage. *Transf Med Rev* 2012 (published ahead of print on-line).
 103. Reddell L, **Cotton BA**. Antioxidant and micronutrient supplements in critically ill trauma patients. *Curr Op Clinical Nutr Metabol Care* 2012; 15(2): 181-187.
 104. Glass NE, Kaltenbach LA, Arbogast P, **Cotton BA**. The impact of beta-blocker therapy on anemia after traumatic brain injury. *Transfusion* 2012; 52:2155-2160.
 105. **Cotton BA**, McCarthy JJ, Holcomb JB. Dabigatran in injured patients. *N Eng J Med* 2012 366;9: 863-864.
 106. Burman S, **Cotton BA**. Trauma patients at risk for massive transfusion (MT): The role of scoring systems and the impact of early identification on patient outcomes. *Expert Rev Hem* 2012 Apr;5(2):211-8.

107. Dossett LA, Fox EE, Del Junco D, Zaydfudim V, Kauffman R, Shelton J, Wang W, Cioffi WG, Holcomb JB, **Cotton BA**. Don't forget the posters! Quality and content variables associated with acceptance at a national surgical meeting. *J Trauma* 2012; 72: 1429-1434.
108. **Cotton BA**, Radwan ZA, Matijevic N, Pivalizza E, Podbielski J, Kozar RA, Wade CE, Holcomb JB. Admission rapid thromboelastography (rTEG) predicts development of pulmonary embolism in trauma patients. *J Trauma* 2012; 72(6): 1470-7.
109. Bukur M, Lustenberger T, **Cotton BA**, Arbabi S, Talving P, Ley EJ, Inaba K. Beta-blockade in severely injured patients: Not just for the head injured. *Am J Surg* 2012; 204(5): 697-703.
110. Wade CE, **Cotton BA**. Editorial Critique of "The impact of plasma preparations and their storage time on short-term post-transfusion mortality." *J Trauma* 2012; 72(4): 960-961.
111. **Cotton BA**, Harvin JA, Kostousouv V, Minei KM, Radwan ZA, Schöchl H, Wade CE, Holcomb JB, Matijevic N. Hyperfibrinolysis on admission is an uncommon but highly lethal event associated with shock and pre-hospital fluid administration. *J Trauma* 2012; 72(2): 365-370.
112. Holcomb JB, Minei KM, Scerbo ML, Radwan ZA, Wade CE, Kozar RA, Gill BS, Albarado R, McNutt MK, McCarthy JJ, **Cotton BA**. Admission Rapid Thrombelastography (r-TEG) Can Replace Conventional Coagulation Tests in the Emergency Department: Experience with 1974 Consecutive Trauma Patients. *Ann Surg* 2012; 256(3): 476-86.
113. Duchesne JC, Simms E, Guidry C, Duke M, Beeson E, McSwain NE, **Cotton BA**. Damage control immunoregulation: Is there a role for low-volume hypertonic resuscitation in patients managed with damage control surgery? *Am Surg* 2012; 78(9): 962-8.
114. Harvin JA, Harvin WA, Camp E, Wade CE, Burgess A, Holcomb JB, **Cotton BA**. Early femur fracture fixation is associated with a reduction in pulmonary complications and hospital charges: A decade's experience with 1376 diaphyseal femur fractures. *J Trauma* 2012; 73(6): 1440-7.
115. Sixta SL, Moore FO, Ditillo MF, Fox AD, Garcia AJ, Jarolimek A, Joseph B, Tyrie L, **Cotton BA**. Practice Management Guidelines: Screening for Thoracolumbar Spinal Injuries In Blunt Trauma (2012 Update). *J Trauma* 2012; 73(5): S326-S332.
116. Sixta S, Hatch Q, Matijevic N, Wade CE, Holcomb JB, **Cotton BA**. Mechanistic determinates of the acute coagulopathy of trauma (ACoT) in patients requiring emergent laparotomy. *Intl J Burn Trauma* 2012; 2(3): 158-66.
117. Callcutt R, **Cotton BA**, Muskat P, Fox E, Wade CE, Holcomb JB, Schreiber M, Rahbar M, Cohen MJ, Brasel

- KJ, Bulger EM, Robinson B on behalf of the PROMMTT Study Group. Defining when to initiate massive transfusion: A validation study of individual massive transfusion triggers in PROMMTT patients. *J Trauma Acute Care Surg.* 2013;74: 59-68.
118. Matijevic N, Wang YW, **Cotton BA**, Hartwell E, Barbeau J, Holcomb JB. Better hemostatic profiles of never frozen liquid plasma compared to thawed fresh frozen plasma. *J Trauma Acute Care Surg.* 2013;74: 84-91.
119. Harvin JA, Mims MM, Wade CE, Cox CS, Holcomb JB, **Cotton BA**. Chasing 100%: The use of hypertonic saline to improve early fascial closure rates following damage control laparotomy *J Trauma Acute Care Surg.* 2013; 74(2): 426-32.
120. Holcomb JB, del Junco DJ, Fox EE, Wade CE, Cohen MJ, Schreiber MA, Alarcon LH, Brasel KJ, Bulger EM, **Cotton BA**, Matijevic N, Muskat P, Myers JG, Phelan HA, White CE, Zhang J, Rahbar MH for the PROMMTT Study Group. The Prospective, Observational, Multicenter, Massive Transfusion Study, PROMMTT: Comparative Effectiveness of a Time-varying Treatment and Competing Risks. *JAMA Surg* 2013; 148(2):127-136.
121. Radwan ZA, Matijevic N, Podbielski J, Del Junco D, McCarthy JJ, Bai Y, Wade CE, Holcomb JB, **Cotton BA**. An emergency department thawed plasma protocol decrease blood component utilization and improves survival in severely injured patient. *JAMA Surg* 2013; 148(2):170-175.
122. Spinn MP, **Cotton BA**, Lukens FJ. Successful endoscopic therapy of traumatic bile leaks: Report of fourteen cases. *Case Rep Gastroenterol* 2013; 7(1): 56-62.
123. Kostousouv V, Wang YW, **Cotton BA**, Wade CE, Holcomb JB Matijevic N. The influence of resuscitation fluids, fresh frozen plasma, and anti-fibrinolytics on fibrinolysis in a TEG-based *in vitro* whole blood model. *Blood Coag Fibrinolysis* 2013 (available on-line Feb 11, 2013)
124. Adams SD, **Cotton BA**, Dipasupil E, Kozar RA, Wade CE, Holcomb JB. Do not resuscitate (DNR) status, but not age, affects outcomes in 15,227 trauma patients. *J Trauma Acute Care Surg* 2013; 74(5): 1327-30
125. Lee TH, McCully BH, Underwood SJ, **Cotton BA**, Cohen MJ, Schreiber MA. Correlation of conventional thrombelastography and rapid thrombelastography in trauma. *Am J Surg* 2013; 205(5): 521-7.
126. Napolitano L, Cohen MJ, **Cotton BA**, Schreiber MA, Moore EE. Tranexamic acid in trauma: How should we use it? *J Trauma Acute Care Surg* 2013; 74(6):1575-86.

127. Duchesne JC, Heaney J, Guidry C, McSwain N, Meade P, Cohen MJ, Schreiber MA, Inaba K, Skiada D, **Cotton BA**. Diluting the benefits of hemostatic resuscitation: A multi-institutional analysis. *J Trauma Acute Care Surg* 2013; 75 (1): 76-82.
128. Trickey AW, Fox EE, del Junco DJ, Ning J, Holcomb JB, Brasel KJ, Cohen MJ, Schreiber MA, Bulger EM, Phelan HA, Alacorn LA, Myers JG, Muskat P, **Cotton BA**, Wade CE, Rahbar MH on behalf of the PROMMTT Study Group. The impact of missing trauma data on predicting massive transfusion. *J Trauma Acute Care Surg* 2013; 75:S68-S74.
129. Hampton DA, Fabricant LJ, Differding J, Diggs B, Underwood S, De La Cruz D, Holcomb JB, Brasel KJ, Cohen MJ, Fox EE, Alacorn LA, Rahbar MH, Phelan HA, Bulger EM, Muskat P, Myers JG, del Junco DJ, Wade CE, **Cotton BA**, Schreiber MA on behalf of the PROMMTT Study Group. Prehospital intravenous fluid confers a survival benefit in trauma patients. *J Trauma Acute Care Surg* 2013;75:S9-S15.
130. Hubbard A, Munoz ID, Decker A, Holcomb JB, Schreiber MA, Bulger EM, Brasel KJ, Fox EE, del Junco DJ, Wade CE, Rahbar MH, **Cotton BA**, Phelan HA, Myers JG, Alacorn LH, Muskat P, Cohen MJ on behalf of the PROMMTT Study Group. Time-Dependent Prediction and Evaluation of Variable Importance Using SuperLearning in High Dimensional Clinical Data. *J Trauma Acute Care Surg* 2013;75:S53-S60.
131. Barbosa RR, Rowell SE, Fox EE, Holcomb JB, Bulger EM, Phalen HA, Alacorn LH, Myers JG, Brasel KJ, Muskat PC, del Junco DJ, **Cotton BA**, Wade CE, Rahbar MH, Cohen MJ, Schreiber MA on behalf of the PROMMTT Study Group. Increasing time to operation is associated with decreased survival in patients with a positive FAST exam requiring emergent laparotomy. *J Trauma Acute Care Surg* 2013;75:S48-S52.
132. Rahbar E, Harvin JA, Fox E, Wade CE, Holcomb JB, del Junco DJ, Schreiber MA, Rahbar MH, Bulger EM, Phelan HA, Brasel KJ, Alarcon LA, Myers JG, Cohen MJ, Muskat PC, and **Cotton BA** on behalf of the PROMMTT Study Group. Early resuscitation intensity (RI) as a surrogate for bleeding severity and early mortality in The PRospective, Observational, Multicenter, Major Trauma Transfusion (PROMMTT) Study. *J Trauma Acute Care Surg* 2013;75:S16-S23.
133. Robinson BR, **Cotton BA**, Muskat P, Fox E, Wade CE, Holcomb JB, Schreiber M, Rahbar M, Cohen MJ, Brasel KJ, Bulger EM on behalf of the PROMMTT Study Group. Application of the Berlin definition in PROMMTT patients: The impact of resuscitation on the incidence of hypoxemia. *J Trauma Acute Care Surg* 2013;75:S61-S67.

134. Fuchs PA, del Junco DJ, Fox E, Wade CE, Holcomb JB, Schreiber M, Rahbar M, Cohen MJ, Brasel KJ, Bulger EM, and **Cotton BA** on behalf of the PROMMTT Study Group. Purposeful Variable Selection and Stratification to Impute Missing FAST Data in Trauma Research. *J Trauma Acute Care Surg* 2013;75:S75-S81.
135. Cohen MJ, Kutcher M, Redick B, Nelson M, Call M, Knudson MM, Schreiber MA, Bulger EM, Muskat P, Alarcon LH, Myers JG, Rahbar MH, Brasel KJ, Phelan HA, del Junco DJ, Fox EE, Wade CE, Holcomb JB, **Cotton BA**, N Matijevic, on behalf of the PROMMTT Study Group. Clinical and mechanistic drivers of acute traumatic coagulopathy. *J Trauma Acute Care Surg* 2013;75:S40-S47.
136. Wade CE, del Junco DJ, Fox EE, **Cotton BA**, Cohen MJ, Muskat PC, Schreiber MA, Rahbar MH, Sauer M, Brasel KJ, Bulger EM, Myers JG, Phelan HA, Alarcon LH, JB Holcomb, on behalf of the PROMMTT Study Group. Do Not Resuscitate Orders in Trauma Patients May Bias Mortality-Based Effect Estimates: an evaluation utilizing the PROMMTT study. *J Trauma Acute Care Surg* 2013;75:S89-S96.
137. Holcomb JB, Fox EE, Zhang X, White N, Wade CE, **Cotton BA**, del Junco DJ, Bulger EM, Cohen MJ, Schreiber MA, Myers JG, Brasel KJ, Phelan HA, Alarcon LH, Muskat P, Rahbar MH, on behalf of the PROMMTT Study Group. Cryoprecipitate use in the Prospective Observational Multicenter Major Trauma Transfusion (PROMMTT) study. *J Trauma Acute Care Surg* 2013;75:S31-S39.
138. Rahbar MH, del Junco DJ, Huang H, Ning J, Fox EE, Zhang X, Schreiber MA, Brasel KJ, Bulger EM, Wade CE, **Cotton BA**, Phelan HA, Cohen MJ, Myers JG, Alarcon LH, Muskat P, White C, Holcomb JB, on behalf of the PROMMTT Study Group. A latent class model for defining severe hemorrhage: Experience from the Prospective Observational Multicenter Major Trauma Transfusion (PROMMTT) study. *J Trauma Acute Care Surg* 2013;75:S82-88.
139. del Junco DJ, Holcomb JB, Fox EE, Brasel KJ, Phelan HA, Bulger EM, Schreiber MA, Muskat P, Alarcon LH, Cohen MJ, **Cotton BA**, Wade CE, Myers JG, and Rahbar MH, on behalf of the PROMMTT Study Group. Resuscitate early with plasma and platelets or balance blood products gradually: Findings from the Prospective, Observational, Multicenter, Major Trauma Transfusion (PROMMTT). *J Trauma Acute Care Surg* 2013;75:S24-S30.

140. Fox EE, Bulger EM, Dickerson AS, del Junco DJ, Klotz P, Podbielski J, Matijevic N, Brasel KJ, Holcomb JB, Schreiber MA, **Cotton BA**, Phelan HA, Cohen MJ, Myers JG, Alarcon LH, Muskat P, Wade CE, Rahbar MH, on behalf of the PROMMTT Study Group. Waiver of consent in non-interventional, observational emergency research: the PROMMTT experience. *J Trauma Acute Care Surg* 2013;75:S3-S8.
141. Rahbar MH, Huang H, Ning J, del Junco DJ, Fox EE, Holcomb JB **on behalf of the PROMMTT Study Group**. A latent class model for defining massive hemorrhage. *Joint Statistical Meetings Proceedings, Statistics in Epidemiology Section*. 2012; Alexandria, VA: American Statistical Association. 3252-3264.
142. del Junco DJ, Fox EE, Camp EA, Rahbar MH, Holcomb JB, **on behalf of the PROMMTT Study Group**. Seven Deadly Sins in Trauma Outcomes Research: An Epidemiologic Post-Mortem for Major Causes of Bias. *J Trauma Acute Care Surg*. 2013;75:S97-103.
143. Vogel AM, Radwan ZA, Cox CS, **Cotton BA**. Admission rapid thrombelastography delivers real-time “actionable” data in pediatric trauma. *J Pediatr Surg* 2013; 48:1371–1376.
144. **Cotton BA**, Podbielski J, Camp E, Welch T, del Junco DJ, Bai Y, Hobbs R, Scroggins J, Hartwell B, Kozar RA, Wade CE, and Holcomb JB on behalf of the Early Whole Blood Investigators. A randomized controlled trial of modified whole blood versus component therapy in severely injured patients requiring large volume transfusions. *Ann Surg* 2013;258:527–533.
145. Moisey L, Mourtzakis M, **Cotton BA**, Premji T, Heyland DK, Wade CE, Bulger E, Kozar RA. Skeletal muscle mass predicts ventilator-free days, ICU-free days, and mortality in elderly ICU patients. *Crit Care* 2013; 17(5): 206-12.
146. Haut ER, Kalish BT, **Cotton BA**, Efron DT, Haider AH, Stevens KA, Kieninger AN, Cornwell EE, Chang DC. Reply to Champion H letter re: Pre-hospital intra-venous fluid (IVF) administration is associated with decreased survival in severely injured trauma patients: An NTDB analysis. *Ann Surg* 2014; 259(2): e17-18.
147. Haut ER, Kalish BT, **Cotton BA**, Efron DT, Haider AH, Stevens KA, Kieninger AN, Cornwell EE, Chang DC. Reply to Niven DJ et al letter re: Pre-hospital intra-venous fluid (IVF) administration is associated with decreased survival in severely injured trauma patients: An NTDB analysis. *Ann Surg* 2014; 259(2): e20-21.
148. Haut ER, Kalish BT, **Cotton BA**, Efron DT, Haider AH, Stevens KA, Kieninger AN, Cornwell EE, Chang DC.

- Reply to Rivkind A et al letter re: Pre-hospital intra-venous fluid (IVF) administration is associated with decreased survival in severely injured trauma patients: An NTDB analysis. *Ann Surg* 2014; 259(2): e20-21.2014; 259(2): e23.
149. Schwartz DA, Medina M, **Cotton BA**, Rahbar E, Wade CE, Cohen A, Burgess A, Holcomb JB. Are we delivering two standards of care for pelvic trauma? Availability of angio-embolization after-hours and on weekends increases time to therapeutic intervention. *J Trauma Acute Care Surg* 2014; 76(1): 134-9.
150. Rahbar E, Baer LA, **Cotton BA**, Holcomb JB, Wade CE. Plasma colloid osmotic pressure is an early indicator of injury and hemorrhagic shock. *Shock* 2014; 41(3): 173-266.
151. Pettersson AS, Meyer MA, Sorensen AM, Rasmussen LS, Hansen MB, **Cotton BA**, Wade CE, Ostrowski SR, Johansson PI. TEG and ROTEM early amplitudes in assessing trauma-induced coagulopathy and transfusion requirements in 182 severely injured patients. *J Trauma Acute Care Surg* 2014; 76(3): 682-690.
152. Holcomb JB, Fox EE, Scalea TM, Napolitano LM, Albarado R, Gill B, Dunkin BJ, Kirkpatrick AW, **Cotton BA**, Inaba K, DuBose JJ, Cohen AM, Azizzadeh A, Brenner M, Cohen MJ, Wade CE, Hoyt DB, Rasmussen TE. Current opinion on catheter-based hemorrhage control in trauma patients. *J Trauma Acute Care Surg* 2014; 76(3): 888-893.
153. Scerbo M, Radhakrishnan H, **Cotton BA**, Dua A, del Junco D, Wade CE, Holcomb JB. Pre-Hospital triage of trauma patients using the Random Forest computer algorithm. *J Surg Res* 2014; 187(2): 371-6.
154. Cardenas JC, Matijevic N, **Cotton BA**, Holcomb JB, Wade CE. Elevated tissue plasminogen activator and reduced plasminogen activator inhibitor promote hyperfibrinolysis in trauma patients. *Shock* 2014; 41(6): 514-21.
155. Karri J, Cardenas JC, Wade CE, **Cotton BA**, Holcomb JB. Assessing the Concentration and In-Vitro Efficacy of Human Fibrinogen Concentrate RiaSTAP® after Rapid Reconstitution. *J Surg Research* 2014; 190(2):655-61.
156. Baraniuk S, Tilley BC, Del Junco DJ, Fox EE, van Belle G, Wade CE, Podbielski JM, Beeler AM, Hess JR, Bulger EM, Schreiber MA, Inaba K, Fabian TC, Kerby JD, Cohen MJ, Miller CN, Rizoli S, Scalea TM, O'Keefe T, Brasel KJ, **Cotton BA**, Muskat P, Holcomb JB and the PROPPR Study Group. Pragmatic Randomized Optimal Platelet and Plasma Ratios (PROPPR) Trial: Design, rationale and implementation. *Injury* 2014; 45(9): 1287-95.

157. Lee TH, Hampton DA, Diggs B, McCully SP, Kutcher M, Redick BJ, Podbielski J, Welch T, **Cotton BA**, Cohen MJ, Schreiber MA. Traumatic brain injury is not associated with coagulopathy out of proportion to injury in other body regions. *J Trauma Acute Care Surg* 2014; 77(1): 67-72.
158. Feinman M, **Cotton BA**, Haut ER. Optimal fluid resuscitation in trauma: Type, timing and total. *Curr Opin Crit Care* 2014; 20(4): 366-72.
159. Pommerening MJ, Schwartz DA, Cohen MJ, Schreiber MA, Del Junco DJ, Camp EA, Wade CE, Holcomb JB, **Cotton BA**. Hypercoagulability After Injury in Premenopausal Females - A Prospective, Multicenter Study. *Surgery* 2014; 156(2): 439-47.
160. Pommerening MJ, DuBose JJ, Zielinski MD, Phelan HA, Scalea TM, Inaba K, Velmahos G, Wade CE, Whelan JF, Holcomb JB, **Cotton BA**. Time to first take back surgery predicts successful primary fascial closure in patients undergoing damage control surgery. *Surgery* 2014; 156(2): 431-38.
161. Solbeck S, Meyer MM, Johansson PI, Meyer AS, **Cotton BA**, Stensballe J, Schött U, Ostrowski SR. Monitoring of dabigatran anticoagulation and its reversal *in vitro* by thrombelastography. *Int J Cardiology* 2014; 176(3): 794-9.
162. Matijevic N, Wang Y-W, Wade CE, Holcomb JB, **Cotton BA**, Schreiber MA, Muskat P, Fox EE, del Junco DJ, Cardenas JC, Rahbar MH and Cohen MJ on behalf of the PROMMTT Study Group. Cellular microparticle and thrombogram phenotypes in the PROspective Observational Multicenter Major Trauma Transfusion (PROMMTT) Study: correlation with coagulopathy. *Thrombosis Res* 2014; 134(3): 652-8.
163. Pommerening M, Goodman MD, Farley DL, Cardenas JC, Podbielski J, Matijevic N, Wade CE, Holcomb JB, **Cotton BA**. Thrombelastography velocity curve values more accurately predict clinically significant fibrinolysis. *J Am Coll Surg* 2014; 219: 1157-1166.
164. Zielinski MD, Jenkins D, **Cotton BA**, Inaba K, Vercruysse G, Coimbra R, Brown CV, Allen L, DuBose JJ, Scalea TM and the AAST Open Abdomen Study Group. Acute Respiratory Distress Syndrome Risk Factors for Injured Patients Undergoing Damage Control Laparotomy: AAST Multicenter, Prospective, Observational Trial. *J Trauma Acute Care Surg* 2014; 77: 886-891.
165. Cardenas JC, Rahbar E, Pommerening MJ, Baer LA, Matijevic N, **Cotton BA**, Holcomb JB, Wade CE. Measuring thrombin generation as a tool for predicting hemostatic potential and transfusion requirements following trauma. *J Trauma Acute Care Surg* 2014; 77: 839-845.
166. Pommerening M, Kao LS, Sowards K, Wade CE, Holcomb JB, **Cotton BA**. Primary skin closure after

- damage control laparotomy. *Brit J Surg* 2015; 102(1): 67-75.
167. McNutt MK, Pommerening M, Chinapuvvula NR, Beckmann NM, Camp EA, Laney RW, West OC, Gill BJ, Kozar RA, **Cotton BA**, Wade CE, Adams PR, Holcomb JB. Early surgical intervention for blunt bowel Injury: The bowel injury prediction score (BIPS). *J Trauma Acute Care Surg* 2015; 78(1): 105-111.
168. Holcomb JB, Donathan DP, **Cotton BA**, del Junco DJ, Brown G, von Wenckstern T, Podbielski JM, Camp EA, Hobbs R, Bai Y, Brito M, Hartwell E, Duke JR, Wade CE. Prehospital transfusion of plasma and RBCs in trauma patients. *Prehosp Emerg Care* 2015; 19 (1): 1-9.
169. Holcomb JB, Tilley BC, Baraniuk S, Fox EE, Wade CE, Podbielski JM, del Junco DJ, Brasel KJ, Bulger EM, Callcut RA, Cohen MJ, **Cotton BA**, Fabian TC, Inaba K, Kerby JD, Muskat P, O'Keeffe T, Rizoli S, Robinson BRH, Scalea TM, Schreiber MA, Stein DM, Weinberg JA, Callum J, Hess JR, Matijevic N, Miller CN, Pittet JF, Pearson GD, Leroux B, van Belle and the PROPPR Study Group. Safety and Effectiveness of Damage Control Resuscitation: Results of the Pragmatic, Randomized Optimal Platelet and Plasma Ratios (PROPPR) Trial. *JAMA* 2015; 313(5): 471-82.
170. Shrestha B, Camp E, Cotton BA, Wade CE, Holcomb JB. Damage control resuscitation increases successful non-operative management rates and survival after severe blunt hepatic trauma. *J Trauma Acute Care Surg* 2015; 78(2): 336-341.
171. Bogert JN, Harvin JA, **Cotton BA**. Damage control resuscitation. *J Intens Care Med* 2015; 31(3):177-86.
172. Harvin JA, Peirce CA, Mims MM, Hudson J, Podbielski J, Wade CE, Holcomb JB, **Cotton BA**. The impact of tranexamic acid on mortality in injured patients with hyperfibrinolysis. *J Trauma Acute Care Surg* 2015; 78(5): 1105-11.
173. Maerz LL, Mosenthal AC, Miller RS, **Cotton BA**, Kirton OC. Futility and the Acute Care Surgeon. *J Trauma Acute Care Surg* 2015; 78(6):1216-19.
174. Novak DJ, Bai Y, Cooke RK, Marques MB, Fontaine MJ, Gottschall JL, Carey PM, Scanlan RM, Fiebig EW, Shulman IA, Nelson JM, Flax S, Duncan V, Daniel-Johnson JA, Callum JL, Holcomb JB, Fox EE, Baraniuk S, Tilley BC, Schreiber MA, Inaba K, Rizoli S, Podbielski J, **Cotton BA**, and Hess JR on behalf of the PROPPR Study Group. Making thawed universal donor plasma available rapidly for massively bleeding trauma patients: the experience of the PROPPR trial centers. *Transfusion* 2015; 55(6):1331-9.
175. Cook MR, Holcomb JB, Rahbar MH, Fox EE, Alarcon LH, Bulger E, Brasel KJ, Schreiber MA on behalf of the **PROMMTT study group**. An abdominal computed tomography may be safe in selected hypotensive trauma patients with positive Focused Assessment with Sonography in Trauma examination. *Am J Surg*

- 2015; 209(5): 834-40.
176. Pommerening M, Goodman M, Bulger EM, Phalen HA, Alacorn LH, Myers JG, Brasel KJ, Muskat PC, del Junco DJ, Rahbar MH, Cohen MJ, Schreiber MA, Wade CE, Holcomb JB, **Cotton BA**. Trauma attending gestalt is an unreliable predictor of massive transfusion. *Injury* 2015; 46(5): 807-13.
 177. Holcomb JB, Fox EE, Wade CE and the **PROPPR Study Group**. Mortality and ratio of blood products used in patients with severe trauma--reply. *JAMA* 2015; 313(20):2078-9.
 178. Mesar T, Martin D, Lawless R, Podbielski J, Cook M, Underwood S, Larentzakis A, **Cotton BA**, Fagenholz P, Schreiber M, Holcomb JB, Marini J, Sharma U, Rago AP, King DR. Human dose confirmation for self-expanding intra-abdominal foam: A translational, adaptive, multicenter trial in recently deceased human subjects. *J Trauma Acute Care Surg* 2015; 79(1):39-47.
 179. Folkerson LE, Sloan D, **Cotton BA**, Holcomb JB, Tomasek JS, Wade CE. Predicting progressive hemorrhagic injury from isolated traumatic brain injury and coagulation. *Surgery* 2015; 158(3): 655-661.
 180. Liras I, **Cotton BA**, Cardenas J, Harting MT. Prevalence and impact of admission hyperfibrinolysis in severely injured pediatric trauma patients. *Surgery* 2015; 158(3): 812-18.
 181. Schreiber MA, McCully B, Holcomb JB, Robinson B, Minei J, Stewart R, Kiraly L, Gordon NT, Martin DT, Rick EA, Dean RK, Wiles C, Anderson N, Sosnovske D, Houser B, Lape D, **Cotton BA**, Goma D, Cripps MW, DeRosa M, Underwood S. Transfusion of cryopreserved packed red blood cells is safe and effective after trauma: A prospective, randomized trial. *Ann Surg* 2015; 262(3):426-33.
 182. Pommerening M, Rahbar E, Minei KM, Holcomb JB, Schreiber MA, Cohen MA, Underwood S, Nelson M, **Cotton BA**. Splenectomy is associated with hypercoagulable TEG values and increased risk of thromboembolism. *Surgery* 2015; 158 (3): 618-626
 183. Moore SE, Decker A, Hubbard A, Callcut R, Fox EE, del Junco DJ, Holcomb JB, Rahbar M, Wade CE, **Cotton BA**, Muskat P, Myers JG, Cohen MJ. Statistical machines for trauma hospital outcomes research: application to the PRospective, Observational, Multi-center Major Trauma Transfusion (PROMMTT) study. *PLOS Medicine* 2015; 10(8): e0136438.
 184. Wright AP, Wade CE, Camp E, Caga-Anan Z, Radwan ZA, Minei KM, Rahbar E, Del Junco DJ, Podbielski JM, **Cotton BA**, Holcomb JB. Pulmonary contusion on admission chest x-ray is associated with coagulopathy and mortality in trauma patients. *J Emerg Med Trauma Surg Care* 2015; 2(2): 1-7.

185. Sixta SL, Cardenas JC, Kitagawa R, Wade CE, Holcomb JB, **Cotton BA**. Coagulopathy after head injury: Hypocoagulability in traumatic brain Injury as measured by traditional means and thrombelastography. *J Neurology and Neurophysiol* 2015; 6(5): 1000316.
186. Alawadi Z, LeFebvre E; Fox EE; del Junco DJ, **Cotton BA**, Wade CE, Holcomb JB. Alternative endpoints for trauma studies: An academic trauma surgeons survey. *Surgery* 2015; 158(5): 655-61.
187. Pommerening M, Cardenas JC, Radwan ZA, Wade CE, Holcomb JB, **Cotton BA**. Hypercoagulability after energy drink consumption. *J Surg Research* 2015; 199(2): 635-40.
188. Rahbar E, Cardenas J, Matijevic N, del Junco DJ, Podbielski J, Cohen MJ, **Cotton BA**, Holcomb JB, and Wade CE on behalf of The Early Whole Blood Investigators. Trauma, Time, and Transfusions: A longitudinal analysis of coagulation markers in severely injured trauma patients. *Shock* 2015; 44(5):417-25.
189. Cardenas JC, Cap AP, Swartz MD, Huby MP, Baer LA, Matijevic N, **Cotton BA**, Holcomb JB, Wade CE. Plasma resuscitation promotes coagulation hemostasis following shock-induced hypercoagulability. *Shock* 2016; 45(2): 166-73.
190. McDermott FD, Kelly ME, Warwick A, Arulampalam T, Brooks AJ, Gaarder T, **Cotton BA**, Winter DC. Problems and solutions in delivering global surgery in the 21st century. *Br J Surg* 2016; 103(3):165-9.
191. Harvin JA, **Cotton BA**, Brocker J, Stein DM, Dilektasli E, Inaba K, Vella MA, Guillamondegui OD, Kodadek LM, Haut ER, Evans CR, Weinberg JA, Goodman MD, Robinson BR, Holcomb JB. Airway management following repair of cervical tracheal injuries: A retrospective, multicenter study. *J Trauma Acute Care Surg* 2016; 80(3): 366-71.
192. Gary JL, Schneider PM, Galpin M, Radwan ZA, Munz JW, Achor TS, Prasarn ML, **Cotton BA**. Can Thromboelastography Predict Venous Thromboembolic Events in Patients with Severe Extremity Trauma? *J Ortho Trauma* 2016; 30(6):294-8.
193. Moore HB, Sauia A, Liras I, Gonzalez E, Holcomb JB, Moore EE, **Cotton BA**. Acute fibrinolytic shutdown following injury occurs frequently and increase mortality: A multicenter study of 2570 severely injured patients. *J Am Coll Surg* 2016; 222(4):347-55.
194. Harvin JA, Wray CJ, Steward J, Lawless RA, McNutt MK, Love JD, Moore LJ, Wade CE, **Cotton BA**, Holcomb JB. Control the damage: Morbidity and mortality after emergent trauma laparotomy. *Am J Surg* 2016; 212(1): 34-9.
195. Undurraga VJ, Leroux B, Cook MR, Watson J, Fair K, Martin DT, Kerby JD, Williams C, Inaba K, Wade CE,

- Cotton BA**, del Junco DJ, Fox EE, Scalea TM, Tiley BC, Holcomb JB, Schreiber MA. Damage control resuscitation and emergent laparotomy: Findings from the PROPPR study. *J Trauma Acute Care Surg* 2016; 80(4): 568-74.
196. Liras I, Rahbar E, Harting MT, Holcomb JB, **Cotton BA**. When children become adults and adults become hypercoagulable after trauma: An assessment of admission hypercoagulability by TEG and venous thromboembolic risk. *J Trauma Acute Care Surg* 2016; 80(5):778-82.
197. Scerbo M, Mumm JP, Gates KS, Love J, Holcomb JB, **Cotton BA**. Safety and effectiveness of pre-hospital tourniquet use in 105 patients with extremity injury. *Prehosp Emerg Care* 2016; 20(6): 712-22.
198. Bai Y, Castillo BS, Tchakarov A, Escobar MA, **Cotton BA**, Holcomb JB, Brown RE. Providing Hemostatic and Blood Conservation Options for Jehovah's Witness Patients In a Large Medical System. *Annals of Clinical & Laboratory Science*. 2016; 46(6): 654-661.
199. Henriksen HH, Rahbar E, Baer LA, Holcomb JB, **Cotton BA**, Steinmetz J, Ostrowski SR, Stensballe J, Johansson PI, Wade CE. Pre-hospital transfusion of plasma in hemorrhaging trauma patients independently improves hemostatic competence and acidosis. *Scand J Trauma Resusc Emerg Med* 2016; 24(1):145, 1-6.
200. Wade CE, Baer LA, Cardenas JC, Folkerson LE, Nutall K, **Cotton BA**, Matijevic N, Holcomb JB, Cross JM, Huzar T. Upon Admission Coagulation and Platelet Function in Patients with Thermal and Electrical Injuries. *Burns* 2016; 42(8):1704-1711.
201. Hamilton E, Miller CC, **Cotton BA**, Cox Jr CS, Kao LS, Austin MT. The influence of insurance status on the probability of transfer for pediatric trauma patients. *J Pediatr Surg* 2016; 51(12): 2048-2052.
202. Zhu H, Fox EE, Baraniuk S, Holcomb JB, Wade CE, del Junco DJ, Tiley BC and the **PROPPR Study Group**. Assessing protocol adherence in a clinical trial with ordered treatment regimens: Quantifying the pragmatic, randomized optimal platelet and plasma ratios (PROPPR) trial experience. *Injury* 2016; 47(10): 2131-37.
203. Cantle P, **Cotton BA**. Prediction of massive transfusion. *Critical Care Clinics* 2017; 33(1): 71-84.
204. Johansson PI, Henriksen HH, Stensballe J, Gybel-Brask M, Cardenas JC, Baer LA, **Cotton BA**, Holcomb JB, Wade CE, Ostrowski SR. Traumatic endotheliopathy: A prospective observational study of 424 severely injured patients. *Ann Surg* 2017; 265(3): 597-603.
205. Ostrowski SR, Henriksen HH, Stensballe J, Gybel-Brask M, Cardenas JC, Baer L, **Cotton BA**, Holcomb JB, Wade CE, Johansson P. Sympathoadrenal activation and endotheliopathy are drivers of

- hypocoagulability and hyperfibrinolysis in trauma: A prospective observational study of 404 severely injured patients. *J Trauma Acute Care Surg* 2017; 82(2): 293-301.
206. Cannon J, Khan MA, Raja AS, Cohen MJ, Como JJ, **Cotton BA**, Dubose JJ, Fox EE, Inaba K, Rodriguez CJ, Holcomb JB, Duchesne JC. Damage control resuscitation in patients with severe traumatic hemorrhage: A practice management guideline from the Eastern Association for the Surgery of Trauma. *J Trauma Acute Care Surg* 2017; 82(3): 605-617.
207. Liras IN, Caplan CW, Stensballe J, Wade CE, Cox CS, **Cotton BA**. The prevalence and impact of admission coagulopathy on treatment intensity, resource utilization and mortality: An evaluation of 956 severely injured children and adolescents. *J Am Coll Surg* 2017; 224(4): 625-632.
208. Jensen SD, **Cotton BA**. Damage control laparotomy in trauma. *Brit J Surg* 2017; 104(8): 959-961.
209. Watson JJ, Nielsen J, Hart K, Srikanth P, Yonge JD, Connelly CR, Kemp PM, Sosnovske H, Tilley BC, van Belle G, **Cotton BA**, O’Keeffe TS, Bulger EM, Brasel KJ, Holcomb JB, Schreiber MA. Damage control laparotomy utilization rates are highly variable among Level-1 trauma centers: PROPPR findings. *J Trauma Acute Care Surg* 2017; 82(3): 481-488.
210. McCully BH, Connelly CR, Fair KA, Holcomb JB, Fox EE, Wade CE, Bulger EM, Schreiber MA, **On behalf of the PROPPR Study Group**. Onset of coagulation function recovery is delayed in severely injured trauma patients with venous thromboembolism. *J Am Coll Surg* 2017; 225(1): 42-51.
211. Fox EE, Holcomb JB, Wade CE, Bulger EM, Tilley BC, **On behalf of the PROPPR Study Group**. Earlier endpoints are required for hemorrhagic shock trials among severely injured patients. *Shock* 2017; 47(5): 567-573.
212. Meyer DE, Vincent L, Fox EE, O’Keeffe T, Inaba K, Bulger E, Holcomb JB, **Cotton BA**. Every minute counts: Time to delivery of the initial massive transfusion cooler and its impact on mortality. *J Trauma Acute Care Surg* 2017; 83(1): 19-24.
213. Henriksen HH, Grand A, Viggers S, Baer LA, Solbeck S, **Cotton BA**, Matijevic N, Ostrowski SR, Stensballe J, Holcomb JB, Johansson PI, Cardenas JC, Wade CE. Impact of blood products on platelet function in patients with traumatic injuries: A translation study. *J Surg Res* 2017; 214: 154-161.
214. Naumann DN, Vincent LA, Pearson N, Beaven A, Smith IA, Smith K, Toman E, Dorrance HR, Porter K, Wade CE, **Cotton BA**, Holcomb JB, Midwinter MJ. An adapted Clavien-Dindo scoring system in trauma as a clinically meaningful non-mortality endpoint. *J Trauma Acute Care Surg* 2017; 83(2):241-248.
215. Karri J, Cardenas JC, Matijevic N, Wand YQ, Choi S, Zhu L, **Cotton BA**, Kitagwa R, Holcomb JB, Wade CE.

- Early fibrinolysis associated with hemorrhage progression following traumatic brain injury. *Shock* 2017; 48(6): 644-50. .
216. Harvin JA, Kao LS, Liang MK, Adams SD, McNutt MK, Love JD, Moore LJ, Wade CE, **Cotton BA**, Holcomb JB. Decreasing the utilization of damage control laparotomy in trauma: A quality improvement project. *J Am Coll Surg* 2017; 225(2): 200-209.
217. Galvagno SM, Fox EE, Appana SN, Baraniuk S, Bosarge PL, Bulger EM, Callcutt RA, **Cotton BA**, Goodman M, Inaba K, O'Keefe T, Schreiber MA, Wade CE, Scalea TM, Holcomb JB, Stein DM. Outcomes following concomitant traumatic brain injury and hemorrhagic shock: A secondary analysis from the PROPPR trial. *J Trauma Acute Care Surg* 2017; 83(4): 668-674.
218. Gonzalez E, Ostrowski SR, Cardenas JC, Baer L, Stensballe J, **Cotton BA**, Holcomb JB, Johansson PI, Wade CE. Syndecan-1: A quantitative marker for the endotheliopathy of trauma. *J Am Coll Surg* 2017; 225(3): 419-427.
219. Cantle PM, **Cotton BA**. Balanced resuscitation in trauma management. *Surg Clin North Am* 2017; 97(5): 999-1014.
220. Kalkwarf KJ, **Cotton BA**. Resuscitation for hypovolemic shock. *Surg Clin North Am* 2017; 97(6): 1307-1321.
221. Scerbo MH, Holcomb JB, Gates K, Mumm J, Wade CE, Love JD, **Cotton BA**. The trauma center is too late: Severe extremity injuries without a pre-hospital tourniquet have increase death from hemorrhage. *J Trauma Acute Care Surg* 2017; 83(6): 1165-1172.
222. Moore HB, Moore EE, Liras IN, Wade CE, Huebner BR, Burlew CC, Pieracci FM, Sauaia A, **Cotton BA**. Targeting Resuscitation to Normalization of Coagulating Status: Hyper and Hypocoagulability After Severe Injury are Both Associated with Increased Mortality. *Am J Surg* 2017; 214(6): 1041-1045.
223. McNutt MK, Kale AC, Kitagawa RS, Turkmani AH, Fields DW, Baraniuk S, Gill BS, **Cotton BA**, Moore LJ, Wade CE, Day AL, Holcomb JB. Management of blunt cerebrovascular injury (BCVI) in the multisystem injury patient with contraindications to immediate anti-thrombotic therapy. *Injury* 2018;49(1):67-74.
224. Folkerson LE, Sloan D, Davis E, Kitagawa RS, **Cotton BA**, Holcomb JB, Tomasek JS, Wade CE. Coagulopathy as a predictor of mortality after penetrating brain injury. *Am J Emerg Med* 2018; 36(1):38-42.
225. Taylor JR III, Fox EE, Holcomb JB, Rizoli S, Inaba K, Brasel K, Scalea TM, Wade CE, Bulger E, **Cotton BA**.

- The hyperfibrinolytic phenotype is the most lethal and resource intense presentation of fibrinolysis in massive transfusion patients. *J Trauma Acute Care Surg* 2018;84(1):25-30.
226. Ley EJ, Leonard S, Barmparas G, Inaba K, Rizoli S **on Behalf of the Beta-blocker in TBI Study Group**. Beta-blockers in critically ill patients with traumatic brain injury: Results from a multicenter AAST Trial. *J Trauma Acute Care Surg* 2018; 84(2):234-44.
227. McCully BH, Underwood SJ, Kiraly L, Holcomb JB, Robinson BR, Minei JP, Stewart RM, **Cotton BA**, Gordon NT, Martin DT, Rick EA, Dean RK, Wiles C, Anderson N, Schreiber MA. Transfusion of cryopreserved red blood cells improves tissue oxygenation in obese trauma patients. *J Trauma Acute Care Surg* 2018; 84(1):104-111.
228. Kalkwarf KJ, Jensen SD, Allukian M, Harting MT, Cox CS, Fox EE, Wade CE, **Cotton BA**. Can we identify futility in kids? An evaluation of admission parameters predicting 100% mortality in 1292 severely injured children. *J Am Coll Surg* 2018; 226(4): 662-7.
229. George MJ, Adams SA, McNutt MM, Love JD, Moore LJ, Wade CE, Holcomb JB, **Cotton BA**, Harvin JA. The effect of damage control laparotomy on major abdominal complications: A matched-analysis. *Am J Surg* 2018;216(1):56-59.
230. Harvin JA, Podbielski J, Vincent L, Fox EE, Moore LJ, **Cotton BA**, Wade CE, Holcomb JB. The Damage Control Laparotomy Trial: Design, Rationale, and Implementation of a Randomized Controlled Trial. *Trauma Surgery and Acute Care Open* 2017 ; 2(1): e000083.
231. Robinson BR, Cohen MJ, Holcomb JB, Pritts T, **Cotton BA**, Wade CE, Bulger E on behalf of the PROPPR Study Group. Risk factors for the development of acute respiratory distress syndrome following hemorrhage. *Shock* 18 (published on-line and in press).
232. Huzar TF, Martinez E, Love JD, George TC, Shah J, Baer L, Cross JM, Wade CE, **Cotton BA**. Admission rapid thrombelastography values predict resuscitation volumes and patient outcomes after thermal injury. *J Burn Care Research* 2018; 39(3): 345-52.
233. Gonzalez E, Cardenas JC, Lopez E, **Cotton BA**, Ostrowski SR, Baer LA, Tomasek JS, Stensballe J, Holcomb JB, Johansson PI, Wade CE. Early Identification of the Patient with Endotheliopathy of Trauma by Arrival Serum Albumin. *Shock* 2018; 50(1): 31-37.
234. Meyer DM, Reynolds J, Hobbs R, Bai Y, Hartwell B, Pommerening MJ, Wade CE, Holcomb JB, **Cotton BA**. The incidence of transfusion-related acute lung injury (TRALI) at a large, urban, tertiary medical center: A decade's experience. *Anesthesia Analg* 2018; 127(2): 444-449.

235. Pivalizza E, Stephens C, Sridhar S, Gumbert SD, Rossmann S, Bertholf MF, Bai Y, **Cotton BA**. Whole Blood for Resuscitation in Adult Civilian Trauma in 2017: A Narrative Review. *Anesthesia Analg* 2018; 127(1): 157-162.
236. Cardenas JC, Zhang X, Fox EE, **Cotton BA**, Hess JR, Wade CE, Holcomb JB, on behalf of the PROPPR Study Group. Platelet transfusions improve hemostasis and survival: A substudy of the prospective, randomized PROPPR Trial. *Blood Advances* 2018; 2(14): 1696-1704.
237. Hodgman EI, Cripps MW, Mina MJ, Bulger EM, Schreiber MA, Brasel KJ, Cohen MJ, Muskat P, Holcomb JB, **Cotton BA**, Fox EE, del Junco DJ, Wade CE, Phelan HA. External validation of a smartphone app model to predict the need for massive transfusion using five different definitions. *J Trauma Acute Care Surg* 2018; 84(2): 397-402.
238. Naumann DN, Doughty H, **Cotton BA**. No gains with plasma-first resuscitation in urban settings? *Lancet* 2018; 392: 255-256.
239. Meyer DE, **Cotton BA**, Fox EE, Stein D, Holcomb JB, Cohen MJ, Inaba K, Rahbar for the PROPPR Study Group. A comparison of resuscitation intensity (RI) and critical administration threshold (CAT) in predicting early mortality among bleeding patients: A multicenter validation in 680 major transfusion patients. *J Trauma Acute Care Surg* 2018; 85(4): 691-6.
240. Khan M, Jehan F, Bulger EM, O'Keeffe T, Holcomb JB, Wade CE, Schreiber MA, **on behalf of the PROPPR Study Group**. Severely Injured Trauma Patients With Admission Hyperfibrinolysis; Is There A Role Of Tranexemic Acid? Findings From The PROPPR Trial. *J Trauma Acute Care Surg* 2018; 85(5): 851-7.
241. Wei S, Gonzalez ER, Chang R, Holcomb JB, Kao LS, Wade CE, **on behalf of the PROPPR Study Group**. Elevated syndecan-1 after trauma and risks of sepsis: A secondary analysis of patients from the PROPPR trial. *J Am Coll Surg* 2018 227(6):587-95.
242. Lei R, Swartz MD, Harvin JA, **Cotton BA**, Holcomb JB, Wade CE, Adams SA. Stop the Bleed training empowers learners to act to prevent unnecessary hemorrhagic death. *Am J Surg* 2018; 217(2):368-72.
243. Roberts DJ, Kalkwarf KJ, Moore HB, Cohen MJ, Fox EE, Wade CE, **Cotton BA**. Time course and outcomes associated with transient versus persistent fibrinolytic phenotypes: A nested, prospective, multicenter cohort study. *J Trauma Acute Care Surg* 2019; 86(2): 206-13.
244. Lester EL, Fox EE, Holcomb JB, Brasel KJ, Bulger EM, Cohen MJ, **Cotton BA**, Inaba K, on behalf of the PROPPR Study Group. The impact of hypothermia on outcomes in massively transfused patients. *J Trauma Acute Care Surg* 2019; 86(3): 458-63.

245. Jones AR, Patel RP, Marques MB, Hess JR, Wang HE, **on behalf of the PROPPR Study Group**. Older blood is associated with increased mortality and adverse events in massively transfused trauma patients: Secondary analysis of the PROPPR trial. *Ann Emerg Med* 2019; 73(6):650-661.
246. Cardenas JC, Wade CE, **Cotton BA**, George MJ, Holcomb JB, Schreiber MA, White NJ on behalf of the PROPPR Study Group. TEG lysis shutdown represents coagulopathy in bleeding trauma patients: An analysis of the PROPPR cohort. *Shock* 2019; 51(3):273-83.
247. Wade CE, Matijevic N, Wang YW, Rodriguez EG, Lopez E, Ostrowski SR, Cardenas JC, Baer L, Stensballe J, **Cotton BA**, Holcomb JB, Johansson PI. Absences of endothelial microvesicle changes in the presence of the endotheliopathy of trauma. *Shock* 2019; 51(2):180-4.
248. McCrum ML, Leroux B, Fang T, Bulger E, Arbabi S, Wade CE, Fox EE, Holcomb JB, Robinson B, **on behalf of the PROPPR Study Group**. Sex-based differences in transfusion need after injury. *Surgery* 2019; 165(6): 1122-1127.
249. Roberts DJ, Leonard SD, Taylor JR, Stein DM, Williams G, Wade CE, **Cotton BA**. Can trauma surgeons keep up? A comparison of outcomes between patients cared for in a Trauma ICU versus a Neuro-ICU. *Trauma Surg Acute Care Open* 2019; 4(1): e000229.
250. DeSantis SM, Brown DW, Wade CE, Wang H, on behalf of the **PROPPR Study Group**. Characterizing red blood cell age exposure in massive transfusion therapy: The scalar age of blood index (SBI). *Transfusion* 2019; 59(8):2699-2708.
251. Dennis BM, Stonko DP, Callcut RA, Sidwell RA, Stassen NA, Cohen MJ, **Cotton BA**, Guillaumondegui OD. Artificial neural networks can predict trauma volume and acuity regardless of center size: A multicenter study. *J Trauma Acute Care Surg* 2019; 87(1); 181-187.
252. Chang R, Kerby JD, Kalkwarf KJ, Van Belle G, Fox EE, **Cotton BA**, Cohen MJ, Schreiber MA, Brasel K, Bulger EM, Holcomb JB. Earlier time to hemostasis is associated with decreased mortality and fewer post-traumatic complications: results from the PROPPR trial. *J Trauma Acute Care Surg* 2019; 87(2):342-349.
253. Moore HB, Moore EE, Neal MD, Cohen MJ, **Cotton BA**, Gaines BA, Sauaia A. Fibrinolysis shutdown in trauma: Historical review and clinical implications. *Anesth Analg* 2019; 129(3):762-773.
254. Myers SP, Brown J, Leeper CM, Kutcher ME, Wade CE, Neal MD on behalf of the **PROPPR Study Group**. Early versus late venous thromboembolism: A secondary analysis of data from the PROPPR trial. *Surgery* 2019; 166(3): 416-422.

255. Roberts DJ, Stelfox HT, Moore LJ, **Cotton BA**, Holcomb JB, Harvin JA. Accuracy of published indications for predicting use of damage control laparotomy for trauma. *J Surg Res* 2019; 248:45-55.
256. Puzio T, Murphy P, Gazzetta J, Phillips M, **Cotton BA**, Hartwell JL. Extracorporeal life support in pediatric trauma: A systematic review. *Trauma Surg Acute Care Open* 2019; 4(1): p.e000362.
257. Wei S, Green C, Howell J, Ugarte SM, **Cotton BA**, Wade CE, Holcomb JB, Harvin JA. Implementation of a multi-modal pain regimen to decrease inpatient opioid exposure after injury. *Am J Surg* 2019; 218(6): 1122-1127.
258. Williams J, Merutka N, Meyer D, Bai Y, Prater S, Wade CE, Love JD, **Cotton BA**. Safety profile and impact of low-titer group O whole for emergency use in trauma. *J Trauma Acute Care Surg* 2020; 88(1): 87-93.
259. George MJ, Prabhakara K, Toledano-Furman NE, Gill BS, Wade CE, **Cotton BA**, Cap AP, Olson SD, Cox CS. Procoagulant in vitro effects of clinical cellular therapeutics in a severely injured trauma population. *Stem Cells Transl Med* 2020; 9(4): 491-498.
260. Cardenas JC, Wand YW, Karri JV, Vincent S, Cap AP, **Cotton BA**, Wade CE. Supplementation with antithrombin III ex vivo optimizes enoxaparin responses in critically injured patients. *Thrombosis Research* 2020; 187: 131-8.
261. Hatton GE, McNutt MK, FACS, **Cotton BA**, Hudson JA, Wade CE, Kao LS. Age-Dependent Association of Occult Hypoperfusion and Outcome in Trauma. *J Am Coll Surg* 2020; 230(4): 417-25.
262. Wandling MW, **Cotton BA**. Pre-hospital care critical to improving major trauma outcomes. *Brit J Surg* 2020; 107(4): 329-331.
263. Duchesne J, Taghavi S, Houghton A, Khan M, Perreira B, **Cotton BA** and the Damage Control Resuscitation Committee. Prehospital mortality due to hemorrhagic shock remains and unchanged: A summary of current civilian EMS practices and new military changes. *Shock* 2020
264. Horer TM, Pirouzram A, Khan M, Brenner M, **Cotton BA** and the Damage Control Resuscitation Committee. Endovascular Resuscitation and Trauma Management (EVTM)- Practical aspects and implementation. *Shock* 2020
265. Tatum D, Duchesne J, Pereira B, **Cotton BA** and the Damage Control Resuscitation Committee. Time to hemorrhage control in a hybrid ER system: Is it time to change? *Shock* 2020
266. Callcut RA, Simpson KN, Baraniuk S, Fox EE, Tilley BC, Holcomb JB and the **PROPPR Study Group**. Cost-effectiveness evaluation of the PROPPR trial transfusion protocols. *Transfusion* 2020; 60(5): 922-31.
267. Assen S, Cardenas J, George M, Wang YW, Wade CE, Meyer DE, **Cotton BA**. Hemostatic potential of cold-

- stored whole blood over time: an assessment of platelet function and thrombin generation for optimal shelf-life. *J Trauma Acute Care Surgery* 2020; 89(3): 429-434.
268. Ortiz D, Barr JV, Harvin JA, McNutt MK, Kao LS, **Cotton BA**. A survey of trauma surgeon perceptions of resources for patients with psychiatric comorbidities. *J Surg Res* 2020; 256: 31-35.
269. Puzio TJ, Kalkwarf K, **Cotton BA**. Predicting the need for massive transfusion in the prehospital setting. *Expert Rev Hematol* 2020; 1-7
270. de Roulet A, Kerby J, Weinberg J, Lewis R, Hudgins J, Shulman I, Fox EE, Holcomb JB, Brasel K, Bulger E, Cohen M, **Cotton BA**, Fabian T, O’Keeffe T, Inaba K and the PROPPR Investigators. Group A emergency release plasma in trauma patients requiring massive transfusion. *J Trauma Acute Care Surgery* 2020;
271. Dixon AL, McCully BH, Rick EA, Dewey E, Farrell, DH, **Cotton BA**, Richmond NJ, Zielinski MD, Sopko, G; Witham, W. TXA Administration in the Field Does Not Affect Admission TEG after Traumatic Brain Injury. *J Trauma Acute Care Surgery* 2020
272. Rowell SE, Meier EN, McKnight B, Kannas D, May S, Sheehan K, Bulger EM, **Cotton BA**, Callum J, McMullan J, Sopko G, Witham W, Ferrara M, Schreiber MA. Effect of Out-of-Hospital Tranexamic Acid vs Placebo on 6-Month Functional Neurologic Outcomes in Patients With Moderate or Severe Traumatic Brain Injury. *JAMA*, 2020 vol. 324(10) pp. 961-974
273. McNutt MK, Slovacek C, Rosenbaum D, Indupuru HKR, Zhang X, **Cotton BA**, Harvin J, Wade CE, Savitz SI, Kao LS. Different strokes: differences in the characteristics and outcomes of BCVI and non-BCVI strokes in trauma patients. *Trauma surgery & acute care open*, 2020 vol. 5(1) p. e000457.
274. Zaza M, Meyer DE, Wang Y, George M, Wade CE, Cardenas JC, **Cotton BA**. Rapid Transfuser Impact on Whole Blood Platelet Count, Platelet Function, and Hemostatic Potential. *J Surg Res* 2021
275. Kalkwarf K, Goodman MJ, Wade CE, **Cotton BA**. Prehospital ABC Score Accurately Forecasts Patients Who Will Require Immediate Resource Utilization. *Southern Med J* 2021.

Abstracts

1. **Cotton BA**, Beckert B, Smith MK, Burd RS. Utility of clinical and laboratory data for predicting intra-abdominal injury in children. Presented at the Missouri Chapter-American College of Surgeons Annual Meeting. May 25, 2001.
2. **Cotton BA**, Lieber K, Metzler M. Pneumo-peritoneum from orovaginal insufflation resulting in non-therapeutic laparotomy. Presented at the American College of Surgeons-Missouri Chapter Annual Meeting.

- May 27, 2002. Lake of the Ozarks, Missouri.
3. **Cotton BA**, Gracias VH, Insko ER, Gupta R, Born C, Schwab CW. Goniometry Predicts Inadequate Flexion-Extension Radiographs and Identifies Patients at High Risk for Cervical Spine Injury. Presented at the American College of Surgeons-Committee on Trauma, Pennsylvania Chapter Annual Meeting. Nov 3, 2002. Harrisburg, PA.
 4. **Cotton BA**, Gracias VH, Insko ER, Gupta R, Born C, Schwab CW. Goniometry Predicts Inadequate Flexion-Extension Radiographs and Identifies Patients at High Risk for Cervical Spine Injury. Presented at the Sixty Second Annual Meeting of The American Association for the Surgery of Trauma. September 10-13.
 5. **Cotton BA**, Pryor JP, Chinwalla I, Wiebe DJ, Reilly PM, Schwab CW. Respiratory Complications and Mortality Risk Associated with Thoracic Spine Injury. Presented at the Eighteenth Annual Meeting of the Eastern Association for The Surgery of Trauma. January 11-15, 2005. Fort Lauderdale, Florida.
 6. Dolinak J, Guy JS, **Cotton BA**. Use of ideal body weight in the Parkland formula identifies the resuscitation threshold for the development of secondary abdominal compartment syndrome in burn patients. Presented at the Eighteenth Annual Southern Region Burn Conference. November 07-08, 2005. Nashville, TN.
 7. Pandharipande P, **Cotton BA**, Costabile S, Frizzell J, Renfrew JW, Shintani A, Fraley M, Truman-Pun B, Morris JA Jr, Ely EW. Prevalence and risk factors for delirium in trauma and surgical ICU patients using the confusion assessment method (CAM-ICU). Presented at the Society of Critical Care Medicine's 35th Annual Critical Care Congress. January 7-11, 2006. San Francisco, CA.
 8. **Cotton BA**, Guillamondegui OD, Patel S, Fleming S, Carpenter RO, Morris JA Jr. Etomidate use in the critically injured patient: The strongest risk factor for development of adrenal insufficiency. Presented at the Society of Critical Care Medicine's 35th Annual Critical Care Congress. January 7-11, 2006. San Francisco, CA.
 9. Guillamondegui OD, **Cotton BA**, Patel S, Fleming S, Carpenter RO, Morris JA Jr. Adrenal insufficiency in critically ill trauma patients. Presented at the Society of Critical Care Medicine's 35th Annual Critical Care Congress. January 7-11, 2006. San Francisco, CA.
 10. Kemp CD, Johnson JC, Weaver K, **Cotton BA**. How we die: impact of non-neurological dysfunction on mortality following traumatic brain injury. Presented at the American College of Surgeons' 92nd Annual Clinical Congress Meeting, October 8-12, 2006, in Chicago, Illinois.
 11. **Cotton BA**, Snodgrass KB, Fleming SB, Carpenter RO, Morris JA Jr, Kemp CD, Arbogast PG. Beta-blocker exposure is associated with improved survival following severe traumatic brain injury. Presented at the

- Sixty Fifth Annual Meeting of the AAST, September 28-30, 2006. New Orleans, Louisiana.
12. Obremskey WT, Bauer R, Jackson J, **Cotton BA**, Morris JA, Ely EW. Cognitive impairment in multiple trauma patients. Presented at the Sixty Fifth Annual Meeting of the AAST, September 28-30, 2006. New Orleans, Louisiana.
 13. **Cotton BA**, Kemp CD, Johnson JC, Pinson CW. Donor conversion and yield in traumatic brain injury patients. Presented at the World Transplant Congress, Biennial International Meeting, July 22-28, 2006. Boston, MA.
 14. Riordan WP, **Cotton BA**, Norris PR, LR Waitman, Morris JA Jr. Beta-blockers improve survival in TBI patients with cardiac uncoupling. Presented in oral form at the Twentieth Annual Scientific Meeting of the Eastern Association for the Surgery of Trauma, Fort Myers, Florida, January 16-20, 2007.
 15. Sojia S, Fleming SB, **Cotton BA**, Ely EW, Pandharipande P. Implementation and reliability testing of the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) in trauma patients. Presented at the Presented at the Society of Critical Care Medicine's 36th Annual Critical Care Congress, February 17-22, 2007. Orlando, FL.
 16. Snodgrass KB, Fleming SB, **Cotton BA**. Survival benefit of beta-blockers in severe brain injury patients is associated with a reduction of heart rate. Presented at the Society of Critical Care Medicine's 36th Annual Critical Care Congress, February 17-22, 2007. Orlando, FL.
 17. Marshall GT, Landman MP, **Cotton BA**, O'Neill PJ, Morris JA Jr, May AK. Pentobarbital coma for refractory intra-cranial hypertension. Presented at the Society of Critical Care Medicine's 36th Annual Critical Care Congress, February 17-22, 2007. Orlando, FL.
 18. Collier BR, Guillaumondegui OD, **Cotton BA**, et al. Feeding the open abdomen. Presented at the American Society for Parenteral and Enteral Nutrition's Annual Scientific Meeting. January 28-31, 2007. Dallas, TX.
 19. **Cotton BA**, Kemp CD, Johnson JC, Pinson CW. Missed organs and missed opportunities: Donor conversion and yield in traumatic brain injury patients. Presented at the American Society of Transplant Surgeons Annual Scientific Meeting, January 12-14, 2007. Marco Island, FL.
 20. Collier BR, Guillaumondegui OD, **Cotton BA**, Donahue R, Conrad A, Richman J, Vogel TR, Diaz JJ. Feeding the open abdomen is associated with quicker abdominal wall closure and less fistulae. Presented at the World Congress for Abdominal Compartment Syndrome. March 22-26, 2007. Antwerp, Belgium.
 21. **Cotton BA**, Gunter OL, Au BK, Isbell J, Robertson A, St. Jacques P, Young PP. Damage control hematology: impact of an established exsanguination protocol on mortality and blood utilization. Presented at the

- Sixty Sixth Annual Meeting of the AAST, September 27-29. Las Vegas, NV
22. Madigan MC, Kemp CD, Johnson JC, **Cotton BA**. Secondary abdominal compartment syndrome in patients with severe extremity injuries: unavoidable or unforgivable? Presented at the Sixty Sixth Annual Meeting of the AAST, September 27-29. 2007. Las Vegas, NV.
 23. Au BK, Isbell J, Gunter OL, **Cotton BA**. Improved survival and reduced blood product utilization following implementation of a trauma exsanguination protocol. Presented at the American College of Surgeons' 93rd Annual Clinical Congress Meeting, October 7-11, 2007. New Orleans, LA.
 24. **Cotton BA**, Gunter OL, Robertson A, St. Jacques P, Young PP. Damage control resuscitation with a Trauma Exsanguination Protocol reduces overall blood component usage. Presented as an oral presentation at Annual Scientific Meeting of the American Association of Blood Bank Medicine. October 20-23. 2007. Anaheim, CA.
 25. Gunter OL, Au BK, Isbell J, Mowery N, **Cotton BA**. Optimizing outcomes in damage control resuscitation: Identifying blood product ratios associated with improved survival. Presented at the Twenty-first Annual Scientific Meeting of EAST, Amelia Island Plantation, Florida January 15-19, 2008.
 26. Dossett LA, Dittus R, Speroff T, May AK, **Cotton BA**. Cost-effectiveness of routine intra-operative radiographs in emergent open cavity procedures. Presented as an Oral Presentation at the Third Annual Academic Surgical Congress-Society of University Surgeons, 2008. Huntington Beach, CA.
 27. Voskresensky I, Rivera-Tyler T, Carpenter RO, Riordan WP, **Cotton BA**. Use of scene vital signs improves the ability of TRISS to predict survival in intubated trauma patients. Presented as an Oral Presentation at the Third Annual Academic Surgical Congress, 2008. Huntington Beach, CA.
 28. James DN, Jack M, **Cotton BA**. Emergency airway management in critically injured patients: A survey of U.S. aero-medical transport programs. Presented at the Southeastern Surgical Congress' Annual Scientific Meeting, 2008. Birmingham, AL.
 29. Riordan WP, Gunter OL, Conquest AM, **Cotton BA**, Wu YC, Donahue RP, Diaz JJ. Traumatic Gastric Injury and Intra-abdominal Abscess: Review of 275 Patients. Presented at the Southeastern Surgical Congress' Annual Scientific Meeting, 2008. Birmingham, AL.
 30. **Cotton BA**, Giladi A, Dyer L, Fleming SB, Dossett LA, Collier BR. Impact of high-dose antioxidants on outcomes in acutely injured patients. American Society for Parenteral and Enteral Nutrition Annual Meeting 2008. Chicago, IL
 31. Idowu R, Guy JS, **Cotton BA**. CDC diagnostic criteria do not identify burn patients at risk for ventilator-

- acquired pneumonia. Oral presentation at the 40th Annual Meeting of the American Burn Association 2008. Chicago, IL
32. Girard T, Carson SS, Pandharipande PP, Schmidt GA, Wright PE, Pun BT, **Cotton BA**, Ely EW. Modifying the Incidence of Delirium (MIND) Trial: A Randomized Controlled Trial of the Feasibility, Efficacy, and Safety Of Antipsychotics for the Prevention and Treatment of ICU Delirium. The American Thoracic Society 2008 Annual Meeting. Toronto, Canada.
 33. Giladi A, Dyer L, Fleming SB, Dossett LA, Collier BR, **Cotton BA**. High-dose anti-oxidant supplementation is associated with a significant reduction in pulmonary failure, catheter-related infections, and abdominal wall complications. Presented at the American College of Surgeons' 94th Annual Clinical Congress Meeting, October 12-16, 2008. San Francisco, CA.
 34. Enker M, Au BK, Robertson A, **Cotton BA**. Impact of a trauma exsanguination protocol on vasoactive drug administration at a level trauma 1 center. Presented at the 34th Annual Gulf Atlantic Anesthesiology Research Conference, April 27-29, 2008. New Orleans, LA.
 35. Norris PR, Carnevale RJ, Miller RA, **Cotton BA**, Jenkins JM, Morris JA. Early loss of complexity is associated with ventilator-associated pneumonia in 2032 trauma patients. Presented at the Annual Shock Congress June 28-July2, 2008. Cologne, Germany.
 36. **Cotton BA**, Au BK, Isbell JA, Gunter OL, Nunez TC, Robertson A, Young PP. Predefined massive transfusion protocols are associated with a reduction in organ failure and post-injury complications. Presented in oral form at the Sixty-Seventh Annual Meeting of the American Association for the Surgery of Trauma. September 24-27, 2008. Maui, Hawaii.
 37. Nunez TC, Voskresensky IV, Dossett LA, Shinall R, Dutton WD, **Cotton BA**. Prediction of massive transfusion in trauma: Simple as ABC? Presented in oral at the Sixty-Seventh Annual Meeting of the American Association for the Surgery of Trauma. September 24-27, 2008. Maui, Hawaii.
 38. Robertson A, Enker M, **Cotton BA**. Impact of an exsanguination protocol on intra-operative fluid, blood product and vasopressor requirements. Presented at the Annual Meeting of the American Society of Anesthesiology October 18-22, 2008. Orlando, FL.
 39. **Cotton BA**, Au BK, Dossett LA, Kaltenbach L, Gunter OL, Robertson A, Arbogast P, Young PP. Room for (performance) improvement: provider related factors associated with poor outcomes in massive transfusion. Presented at the Twenty-second Annual Scientific Meeting of EAST, Disney Island Resort & Yacht Club, Florida January 15-19, 2009.

40. Haut EH, Kalish B, Chang DC, Haider AH, Efron DT, **Cotton BA**, Cornwell EE III. Pre-hospital intra-venous fluid (IVF) administration is associated with decreased survival in severely injured trauma patients: An NTDB analysis. Presented at the Twenty-second Annual Scientific Meeting of EAST, Disney Island Resort & Yacht Club, Florida January 15-19, 2009.
41. Au BK, Dutton WD, Zaydfudim V, Nunez TC, Young PP, **Cotton BA**. Hyperkalemia following massive transfusion in trauma. Presented in oral form at the 4th Annual Academic Surgical Congress; February 3-6, 2009, Fort Myers, Florida.
42. Glass NE, Kaltenbach LA, Arbogast P, **Cotton BA**. The impact of beta-blocker therapy on anemia after traumatic brain injury. Presented in oral form at the 4th Annual Academic Surgical Congress; February 3-6, 2009, Fort Myers, Florida.
43. Giladi AM, Dossett LA, Fleming SB, Abumrad NA, **Cotton BA**. High-dose anti-oxidant administration is associated with a reduction in infectious and abdominal wall complications in critically injured patients. Presented in oral form at the 4th Annual Academic Surgical Congress; February 3-6, 2009, Fort Myers, Florida.
44. Zaydfudim V, Dutton W, Feurer ID, Au BK, Pinson CW, **Cotton BA**. Exsanguination Protocol Improves Survival After Major Hepatic Trauma. Presented in oral form at the Fifteenth Annual Meeting of the American Hepato-Pancreato-Biliary Association. March 12 – 15, 2009, Miami Beach, Florida.
45. **Cotton BA**, Dossett LA, Nunez TC, Haut EH, Shafi S, Arbogast P, Young PP. Multicenter validation of a simplified score to predict massive transfusion. Oral presentation at the Annual Conference of Advanced Technology Applications for Combat Casualty Care (ATACCC). August 10-12, 2009, St.Pete Beach, Florida.
46. Dutton WD, Au BK, Zaydfudim V, Dossett LA, Nunez TC, **Cotton BA**. Impact of higher ratios of plasma and platelets in non-massively transfused patients. Poster presentation at the Annual Conference of Advanced Technology Applications for Combat Casualty Care (ATACCC). August 10-12, 2009, St.Pete Beach, Florida.
47. Abouassaly CT, Dutton WD, Zaydfudim V, Dossett LA, Nunez TC, Fleming SF, **Cotton BA**. Neuromuscular blocker use is associated with higher primary closure rates following damage control laparotomy. Poster presentation at the 68th Annual Meeting of the American Association for the Surgery of Trauma. Pittsburgh, Pennsylvania, October 1 - 3, 2009.
48. **Cotton BA**, Dossett LA, Nunez TC, Haut EH, Shafi S, Arbogast P, Young PP. A multi-center validation of the Assessment of Blood Consumption (ABC) score for predicting the need for massive transfusion. Poster presentation at the 68th Annual Meeting of the American Association for the Surgery of Trauma.

- Pittsburgh, Pennsylvania, October 1 - 3, 2009.
49. Dutton WD, Au BK, Zaydfudim V, Dossett LA, Nunez TC, **Cotton BA**. Higher plasma: RBC and platelet: RBC ratios are associated with a reduction in mortality among non-massively transfused trauma patients. Poster presentation at the 68th Annual Meeting of the American Association for the Surgery of Trauma. Pittsburgh, Pennsylvania, October 1 - 3, 2009.
 50. Dossett LA, Griffin MG, **Cotton BA**. Prevalence and outcomes associated with warfarin use in injured adults: An analysis of the National Trauma Databank (NTDB). Oral presentation at the Forum on Fundamental Surgical Problems, American College of Surgeons (ACS), 95th Annual Clinical Congress, Chicago, IL. October 11-15, 2009, Chicago, IL.
 51. Duchesne JC, **Cotton BA**, McSwain NE. Damage control immuno-regulation: Is there a role for low volume hypertonic resuscitation in patients managed with damage control surgery? Poster presentation at the 68th Annual Meeting of the American Association for the Surgery of Trauma. Pittsburgh, Pennsylvania, October 1 - 3, 2009.
 52. **Cotton BA**, Dossett LA, Nunez TC, Haut EH, Shafi S, Arbogast P, Johnston M, Zaydfudim V, Young PP. Validation of a score to predict massive transfusion in trauma. Oral presentation at the 55th Clinical Meeting of the Frederick A. Collier Society. Tampa, Florida, October 29 – November 1, 2009.
 53. Adams SD, **Cotton BA**, Dipasupil E. The unique pattern of complications in elderly trauma patients at a Level I trauma center. Oral presentation at the American College of Surgeons Committee on Trauma, Region VI Meeting. Dallas, Texas. November 6-7, 2009. (Winner Region VI)
 54. Dutton WD, Zaydfudim V, **Cotton BA**, Gunter OL, Wright K, May AK. Defining blood utilization and optimal plasma: red blood cell ratios in critically-ill surgical patients. Presented at the Society of Critical Care Medicine's 39th Critical Care Congress. Miami Beach, Florida. January 9-13, 2010.
 55. Adams SD, **Cotton BA**, Dipasupil E, Kozar RA, Gonzalez EA, Holcomb JB. The unique pattern of complications in elderly trauma patients at a Level I trauma center. Oral presentation at the 40th Annual Meeting of the Western Trauma Association. Telluride, Colorado. February 28-March 7, 2010
 56. **Cotton BA**, Faz G, Hatch Q, Podbielski J, McCarthy J, Bai Y, Wade C, Kozar RA, Holcomb JB. Rapid thromboelastography (r-TEG) delivers real-time results that predict transfusion within one hour of admission. Presented in oral form at the Sixty-ninth Annual Meeting of the American Association for the Surgery of Trauma, Boston, MA. September 22-25, 2010.
 57. Hatch Q, Podbielski J, Wade C, Kozar RA, Holcomb JB, **Cotton BA**. Current use of damage control

- laparotomy, closure rates and predictors of early fascial closure at first take back. Presented at the Sixty-ninth Annual Meeting of the American Association for the Surgery of Trauma, Boston, MA. September 22-25, 2010.
58. Blevins N, **Cotton BA**, KC Cole, Cohen A, Kozar RA. Blush characteristics on computerized tomography predict therapeutic angiography after blunt liver and splenic trauma. Presented at the Sixty-ninth Annual Meeting of the American Association for the Surgery of Trauma, Boston, MA. September 22-25, 2010.
59. LeFebvre E, Cotton BA, Radharikrishnan H, Oh BC, Kozar RA, Wade CE, Holcomb JB. Impact of coagulopathy on time to placement of intra-cranial pressure monitors in brain injured patients. Presented at the Mission Connect Annual Symposium, TIRR Foundation, Houston, Texas December 12-13, 2010.
60. Krumrei NJ, Park MS, **Cotton BA**, Zielinski MD. Comparison of massive blood transfusion predictive models: ABC, easy as 1, 2, 3. Presented in oral form at the Twenty-fourth Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma, Naples, FL. January 25-29, 2011.
61. **Cotton BA**, Kao LS, Kozar RA, Holcomb JB. Cost-effectiveness analysis of phenytoin and levetiracetam in prevention of post-traumatic seizures. Presented at the Twenty-fourth Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma, Naples, FL. January 25-29, 2011.
62. Kubota EA, Domerier R, **Cotton BA**, Ashraf A, Holcomb JB, Bradley R. Drug Assisted Intubation by Ground-Based Emergency Medical Services: A Cross-Sectional Survey. Presented at the National Association of EMS Physicians 2011 Annual Meeting, Bonita Springs, FL. January 13-15, 2011.
63. Hatch QM, Podbielski J, Wade C, Kozar RA, Holcomb JB, **Cotton BA**. The impact of closure at the first take-back: Complication burden and potential over-utilization of damage control laparotomy. Presented at the 41st Annual Scientific Meeting of the Western Trauma Association. Big Sky, Montana, February 27-March 5, 2011.
64. **Cotton BA**, Reddy N, Hatch QM, Podbielski J, McNutt MK, Albarado R, Gill BS, Wade C, Kozar RA, Holcomb JB. Damage control resuscitation reduces resuscitation volumes and improves survival in 390 damage control laparotomy patients. Presented at the 131st Annual Scientific Meeting of the American Surgical Association. Boca Raton Resort & Club in Boca Raton, Florida. April 11-13, 2011.
65. Radhakrishnan H, **Cotton BA**, LeFebvre E, Wade CE, Holcomb JB. A novel Bayesian algorithm to predict substantial transfusion requirements during the acute trauma resuscitation. Presented at the Thirty-Fourth Annual Conference on Shock to be held in Norfolk, VA June 11-14, 2011.

66. Kostousov V, Matijevic N, Wand YW, Holcomb JB, **Cotton BA**, Wade CE. Hyperfibrinolytic TEG pattern in diluted blood is provoked by tissue factor. Presented at the Thirty-Fourth Annual Conference on Shock, Norfolk, VA June 11-14, 2011.
67. **Cotton BA**, Radwan ZA, Matijevic N, Pivalizza E, Podbielski J, Kozar RA, Wade CE, Holcomb JB. Admission rapid thromboelastography (rTEG) predicts development of pulmonary embolism in trauma patients. Presented at the Seventieth Annual Meeting of the American Association for the Surgery of Trauma, Chicago, IL. September 14-17, 2011.
68. Radwan ZA, Matijevic N, Podbielski J, Del Junco D, McCarthy JJ, Bai Y, Wade CE, Holcomb JB, **Cotton BA**. An emergency department thawed plasma protocol decrease blood component utilization and improves survival in severely injured patient. Presented at the Seventieth Annual Meeting of the American Association for the Surgery of Trauma, Chicago, IL. September 14-17, 2011.
69. Matijevic N, Wang YW, Kostousov V, **Cotton BA**, Vijayan V, Holcomb JB. The prevalence of thrombogram-based APC-resistant phenotypes among FFP donors. Presented at the Seventieth Annual Meeting of the American Association for the Surgery of Trauma, Chicago, IL. September 14-17, 2011.
70. Adams SD, **Cotton BA**, Dipasupil E, Kozar RA, Holcomb JB. Do not resuscitate (DNR) status, but not age affects outcomes in 15,227 trauma patients. Presented at the Seventieth Annual Meeting of the American Association for the Surgery of Trauma, Chicago, IL. September 14-17, 2011.
71. Martin M, Hatch Q, **Cotton BA**, Holcomb BA. Damage control laparotomy in less injured patients: Harmful or helpful? Presented at the Seventieth Annual Meeting of the American Association for the Surgery of Trauma, Chicago, IL. September 14-17, 2011.
72. Radwan ZA, Matijevic N, Wade CE, Holcomb JB, **Cotton BA**. An emergency department thawed plasma protocol decrease blood component utilization and improves survival in severely injured patient. Presented at Annual Conference of Advanced Technology Applications for Combat Casualty Care (ATACCC). Ft. Lauderdale, FL. August 15-18, 2011.
73. **Cotton BA**, Kostousov V, Radwan ZA, Pivalizza E, Podbielski J, Matijevic N, Wade CE, Holcomb JB. Hyperfibrinolysis on admission is an uncommon but highly lethal event associated with shock and prehospital crystalloid administration. Presented at Annual Conference of Advanced Technology Applications for Combat Casualty Care (ATACCC). Ft. Lauderdale, FL. August 15-18, 2011.
74. Matijevic N, Kostousov V, Wang YW, Wade CE, **Cotton BA**, Holcomb JB. The prevalence of thrombogram-

- based APC-resistant phenotypes among FFP donors. Presented at Annual Conference of Advanced Technology Applications for Combat Casualty Care (ATACCC). Ft. Lauderdale, FL. August 15-18, 2011.
74. Wade CE, Holcomb JB, Eastridge BE, Jones J, del Junco DJ, Rahbar MH and the **PROMMTT investigators**. In-hospital mortality of civilian and military casualties receiving a blood transfusion. Presented at Annual Conference of Advanced Technology Applications for Combat Casualty Care (ATACCC). Ft. Lauderdale, FL. August 15-18, 2011.
75. Radhakrishnan H, **Cotton BA**, LeFebvre E, Wade CE, Holcomb JB. Prediction of substantial hemorrhage during the acute trauma resuscitation. Presented at Annual Conference of Advanced Technology Applications for Combat Casualty Care (ATACCC). Ft. Lauderdale, FL. August 15-18, 2011.
76. Radhakrishnan H, **Cotton BA**, LeFebvre E, del Junco DJ, Wade CE, Holcomb JB. A novel Bayesian algorithm to predict massive transfusion in patients undergoing trauma laparotomy. Presented at Annual Conference of Advanced Technology Applications for Combat Casualty Care (ATACCC). Ft. Lauderdale, FL. August 15-18, 2011.
77. Tholpady A, Hobbs R, Nedelcu E, Risin,S, Bai Y, **Cotton BA**. Blood product utilization during and after massive transfusion: The impact of higher platelet ratios. Presented at the American Association of Blood Banks. San Diego, CA. October 22-25, 2011.
78. Sixta S, Hatch Q, Matijevic N, Wade CE, Holcomb JB, **Cotton BA**. Mechanistic determinates of the acute coagulopathy of trauma (ACoT) in patients requiring emergent laparotomy. Presented at the Annual Meeting of the American Society of Hematology. San Diego, CA. December 10-13, 2011.
79. **Cotton BA**, Harvin JA, Kostousouv V, Minei KM, Radwan ZA, Schöchl H, Wade CE, Holcomb JB, Matijevic N. Hyperfibrinolysis on admission is an uncommon but highly lethal event associated with shock and pre-hospital fluid administration. Presented at the Twenty-fifth Annual Scientific Meeting of Eastern Association for the Surgery of Trauma, Lake Buena Vista, Florida January 11-15, 2012.
80. Harvin JA, Harvin WA, Camp E, Wade CE, Burgess A, Holcomb JB, **Cotton BA**. Early femur fracture fixation is associated with a reduction in pulmonary complications and hospital charges: A decade's experience with 1376 diaphyseal femur fractures. Presented at the Annual Meeting of the Western Trauma Association. Vail, Colorado. February 26 – March 2, 2012.
81. Holcomb JB, Minei KM, Scerbo ML, Wade CE, Kozar RA, Gill BS, Albarado R, McNutt MK, McCarthy JJ, **Cotton BA**. Admission Rapid Thrombelastography (r-TEG) Can Replace Conventional Coagulation Tests

- in the Emergency Department: Experience with 1974 Consecutive Trauma Patients. Presented at the 132nd Annual Scientific Meeting of the American Surgical Association. Fairmount Hotel, San Francisco, CA April 26-28, 2012.
82. Matijevic N, Kostousov V, Wang YW, Wade CE, Holcomb JB, **Cotton BA**. Low-dose tranexamic acid reverses hyperfibrinolytic TEG in an *in vitro* model of traumatic coagulopathy. Presented at the 7th International Federation of Shock Societies and the Thirty-fifth Annual Conference on Shock. Miami Beach, Florida June 9-13, 2012.
83. Matijevic N, Wang YW, Wade CE, **Cotton BA**, Holcomb JB. Superior hemostatic profiles of never frozen liquid plasma compared to thawed plasma. Presented in oral form at the 71st Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Kauai, Hawaii on September 12-15, 2012.
84. Harvin JA, Mims MM, Wade CE, Cox CS, Holcomb JB, **Cotton BA**. Chasing 100%: The use of hypertonic saline to improve early fascial closure rates following damage control laparotomy. Presented in oral form at the 71st Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Kauai, Hawaii on September 12-15, 2012.
85. Callcutt R, **Cotton BA**, Muskat P, Fox E, Wade CE, Holcomb JB, Schreiber M, Rahbar M, Cohen MJ, Brasel KJ, Bulger EM, Robinson B on behalf of the PROMMTT Study Group. Defining when to initiate massive transfusion: A validation study of individual massive transfusion triggers in PROMMTT patients. Presented at the 71st Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Kauai, Hawaii on September 12-15, 2012.
86. **Cotton BA**, Cohen MJ, Camp E, Welch T, Redick B, Sticke R, Podbielski J, Holcomb JB, Schreiber MA. A multicenter study of rapid thrombelastography in predicting large volume transfusions. Presented at the 71st Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Kauai, Hawaii on September 12-15, 2012.
87. Vogel A, Radwan ZA, Cox CS, **Cotton BA**. Admission rapid thrombelastography delivers real-time “actionable” data for life saving interventions in pediatric trauma. Presented at the 2012 American Academy of Pediatrics (AAP) National Conference and Exhibition to be held in New Orleans, Louisiana, October 20-23, 2012.
88. Bai Y, Tholpady A, **Cotton BA**, Hobbs RL, Holcomb JB. Blood Utilization Review in Trauma Massive Transfusion: A Single Institution’s Experience. Presented at the American Association of Blood Banks. Boston, MA. October 22-25, 2012.

89. Lee TH, McCully BH, Underwood SJ, **Cotton BA**, Cohen MJ, Schreiber MA. Correlation of conventional thrombelastography and rapid thrombelastography in trauma. Presented at the North Pacific Surgical Association Annual Meeting in Spokane, WA, November 9-10, 2012.
90. Duchesne JC, Heaney J, Guidry C, McSwain N, Meade P, Cohen MJ, Schreiber MA, Inaba K, Skiada D, **Cotton BA**. Diluting the benefits of hemostatic resuscitation: A multi-institutional analysis. Presented at the Twenty-sixth Annual Scientific Meeting of Eastern Association for the Surgery of Trauma, Camelback Inn and Resort, Phoenix, AZ. January 15-19, 2013.
91. Schwartz DA, Medina M, **Cotton BA**, Rahbar E, Wade CE, Cohen A, Burgess A, Holcomb JB. Are we delivering two standards of care for pelvic trauma? Availability of angioembolization after-hours and on weekends increases time to therapeutic intervention. Presented at the Twenty-sixth Annual Scientific Meeting of Eastern Association for the Surgery of Trauma, Camelback Inn and Resort, Phoenix, AZ. January 15-19, 2013.
92. Sixta SL, Schreiber MA, Cohen M, Wade CE, Holcomb JB, **Cotton BA**. Coagulopathy after head injury: Uncommon by conventional testing and associated with platelet-fibrinogen dysfunction. Presented at the Eighth Annual Academic Surgical Congress, New Orleans, LA. February 3-6, 2013.
93. Schwartz DA, Camp E, Wade CE, **Cotton BA**. A pilot study of hypercoagulability among trauma patients who smoke and the impact of nicotine replacement therapy. Presented at the Eighth Annual Academic Surgical Congress, New Orleans, LA. February 3-6, 2013.
94. Skanchy J, Pommerening MJ, Bai Y, McCarthy J, Pivalizza EG, Wade CE, Holcomb JB, **Cotton BA**. Impact of an active performance improvement process on blood utilization and patient survival: An assessment of 334 massive transfusion protocol activations. Presented at the Annual Meeting of the Western Trauma Association. Snowmass, Colorado. March 3 – March 9, 2013.
95. **Cotton BA**, Podbielski J, Camp E, Welch T, del Junco DJ, Bai Y, Hobbs R, Scroggins J, Hartwell B, Kozar RA, Wade CE, and Holcomb JB on behalf of the Early Whole Blood Investigators. A randomized controlled trial of modified whole blood versus component therapy in severely injured patients requiring large volume transfusions. Presented at the 133rd Annual Scientific Meeting of the American Surgical Association. Indianapolis, IA. April 4-6, 2013.
96. Pommerening M, Kao LS, Sowards K, Wade CE, Holcomb JB, **Cotton BA**. Primary skin closure after damage control laparotomy. Presented at the 33rd Annual Meeting of the Surgical Infection Society, Las

Vegas, Nevada, April 12-15, 2013

97. Matijevic N, Schreiber MA, **Cotton BA**, Muskat P, Bulger EM, Alarcon LH, Myers JG, Rahbar MH, Brasel KJ, Phelan HA, del Junco DJ, Fox EE, Wade CE, Holcomb JB, Cohen MJ, on behalf of the PROMMTT Study Group. Circulating microparticles and thrombin generation phenotypes in the Prospective Observational Multicenter Major Trauma Transfusion (PROMMTT) study: Correlation with coagulopathy and survival. Presented at the 24th Congress of the International Society of Thrombosis and Haemostasis. Amsterdam, The Netherlands. June 29-July 4, 2013.
98. Cardenas JC, Matijevic N, **Cotton BA**, Holcomb JB, Wade CE. Contribution of the plasminogen activation system during hyperfibrinolysis in trauma-induced coagulopathy. Presented at the 24th Congress of the International Society of Thrombosis Haemostasis. Amsterdam, The Netherlands. June 29-July 4, 2013.
99. Dalle Lucca J, Slack J, Cohen MJ, **Cotton BA**, Holcomb JB, Dubick MA, Baer LA, Cardenas JC, CE Wade and the EWB Study Group. Presented at the Annual Military Health System Research Symposium (MHSRS), August 12-15 2103. Ft. Lauderdale, Florida.
100. **Cotton BA**, Podbielski J, Camp E, Welch T, del Junco DJ, Bai Y, Hobbs R, Scroggins J, Hartwell B, Kozar RA, Wade CE, Holcomb JB and the EWB Study Group. Findings of the modified whole blood study: A randomized controlled trial of modified whole blood versus component therapy. Presented at the Annual Military Health System Research Symposium (MHSRS), August 12-15 2103. Ft. Lauderdale, Florida.
101. Pommerening M, **Cotton BA**, Wade CE, Holcomb JB. A robust performance improvement process and the impact on venous thromboembolism in trauma patients. Presented at the 72nd Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. San Francisco, CA on September 18-21, 2013.
102. Goodman MD, Hawes HG, Pommerening M, Wade CE, Holcomb JB, Press G, **Cotton BA**. Prehospital ABC score accurately triages patients who will require immediate resource utilization. Presented at the 72nd Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. San Francisco, CA on September 18-21, 2013.
103. Pommerening M, Bulger EM, Phalen HA, Alacorn LH, Myers JG, Brasel KJ, Muskat PC, del Junco DJ, Rahbar MH, Cohen MJ, Schreiber MA Wade CE, Holcomb JB, **Cotton BA**. Not as good as we think we are: Trauma Attending gestalt is an unreliable predictor of massive transfusion. Presented at the 72nd Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. San Francisco, CA on September 18-21, 2013.

104. Goodman MD, Farley DL, Cardenas JC, Pommerening M Podbielski J, Matijevic N, Wade CE, Holcomb JB, **Cotton BA**. Thrombelastography velocity curve values more accurately predict clinically significant fibrinolysis. Presented at the Surgical Forum of the American College of Surgeon's 99th Clinical Congress. October 6-10, 2013. Washington, D.C.
105. Garrett A, Holcomb JB, **Cotton BA**, Kozar RA, Vonwenckstern T, Lopez S, Benson J, RN, Beckwith J, Standiford L, McGinnis A. The effects of an active PI/QI process on IV complications in trauma patients with field IV starts. Presented at the American College of Surgeons' 4th Annual TQIP Scientific Meeting and Training. November 17-19, 2013, Phoenix, AZ.
106. Lopez S, Holcomb JB, Kozar RA, **Cotton BA**, Dipasupil,E, Garrett A, Sheldon R, Vonwenckstern T. Predicting and Preventing VTE: have we found the answer? Presented at the American College of Surgeons' 4th Annual TQIP Scientific Meeting and Training. November 17-19, 2013, Phoenix, AZ.
107. Karri J, Cardenas JC, Wade CE, **Cotton BA**, Holcomb JB. Assessing the Concentration and In-Vitro Efficacy of Human Fibrinogen Concentrate RiaSTAP® after Rapid Reconstitution. Presented at the Ninth Annual Academic Surgical Congress, San Diego, CA. February 4-6, 2014.
108. Davis E, Holcomb JB, **Cotton BA**, Cardenas JC, Wade CE. Assessing Platelet Function in the Patient with Isolated Traumatic Brain Injury. Presented at the Ninth Annual Academic Surgical Congress, San Diego, CA. February 4-6, 2014.
109. Pommerening MJ, Schwartz DA, Cohen MJ, Schreiber MA, Del Junco DJ, Camp EA, Wade CE, Holcomb JB, **Cotton BA**. Hypercoagulability After Injury in Premenopausal Females - A Prospective, Multicenter Study. Presented at the Ninth Annual Academic Surgical Congress, San Diego, CA. February 4-6, 2014.
110. Pommerening MJ, DuBose JJ, Zielinski MD, Phelan HA, Scalea TM, Inaba K, Velmahos G, Wade CE, Whelan JF, Holcomb JB, **Cotton BA**. Time to first take back surgery predicts successful primary fascial closure in patients undergoing damage control surgery. Presented at the Ninth Annual Academic Surgical Congress, San Diego, CA. February 4-6, 2014.
111. Alawadi Z, LeFebvre E; Fox EE; del Junco DJ, **Cotton BA**, Wade CE, Holcomb JB. Alternative endpoints for trauma studies: An academic trauma surgeons survey. Presented at the Ninth Annual Academic Surgical Congress, San Diego, CA. February 4-6, 2014.

112. Cardenas JC, Rahbar E, Pommerening MJ, Baer LA, Matijevic N, **Cotton BA**, Holcomb JB, Wade CE. Measuring thrombin generation as a tool for predicting hemostatic potential and transfusion requirements following trauma. Presented at the Annual Meeting of the Western Trauma Association. Steamboat Springs, Colorado. March 3 – March 9, 2014.
113. Zielinski MD, Jenkins D, **Cotton BA**, Inaba K, Vercruyse G, Coimbra R, Brown CV, Allen L, DuBose JJ, Scalea TM and the AAST Open Abdomen Study Group. Acute Respiratory Distress Syndrome Risk Factors for Injured Patients Undergoing Damage Control Laparotomy: AAST Multicenter, Prospective, Observational Trial. Presented at the Annual Meeting of the Western Trauma Association. Steamboat Springs, Colorado. March 3 – March 9, 2014.
114. Reynolds J, Hobbs R, Bai Y, Hartwell B, Pommerening M, Wade CE, Holcomb JB, **Cotton BA**. The incidence of transfusion-related acute lung injury (TRALI) at a large, tertiary medical center: A decade's experience. Presented at the Thrombosis and Hemostasis Summit of North America. Chicago, IL, April 10-12, 2014.
115. Pommerening M, Cardenas JC, Radwan ZA, Wade CE, Holcomb JB, **Cotton BA**. Hypercoagulability after energy drink consumption. Presented at the Thrombosis and Hemostasis Summit of North America. Chicago, IL, April 10-12, 2014.
116. Harvin JA, Peirce CA, Mims MM, Hudson J, Podbielski J, Wade CE, Holcomb JB, **Cotton BA**. The impact of tranexamic acid on mortality in injured patients with hyperfibrinolysis. Presented at the 73rd Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Philadelphia, PA. September 12-15, 2014.
117. Pommerening MJ, Seidel HH, **Cotton BA**, Wade CE, Holcomb JB. Performance improvement with current thromboprophylaxis strategies does not reduce pulmonary embolism in trauma patients. Presented at the Surgical Forum of the American College of Surgeon's 100th Clinical Congress. San Francisco, CA. October 27-30, 2014.
118. McCully S, Hampton DA, Lee TH, **Cotton BA**, Cohen MJ, Schreiber MA. Hypotension, anemia, and abnormal partial thromboplastin time accurately predict the need for massive transfusion in trauma patients. Presented at the Surgical Forum of the American College of Surgeon's 100th Clinical Congress. San Francisco, CA. October 27-30, 2014.
119. Schneider PS, Cotton BA, Galpin M, Radwan Z, Munz JW, Achor TS, Prasarn ML, Gary JL. Can Thrombelastography Predict Venous Thromboembolic Events in Patients with Severe Extremity

- Trauma? Presented at the 30th Annual Meeting of the Orthopedic Trauma Association. Tampa, FL, October 15 - 18, 2014.
120. Liras I, **Cotton BA**, Cardenas J, Harting MT. Prevalence and impact of admission hyperfibrinolysis in severely injured pediatric trauma patients. Presented at the Tenth Annual Academic Surgical Congress. Las Vegas, NV. Feb 3-5, 2015.
 121. Scerbo M, Mumm JP, Gates KS, Holcomb JB, **Cotton BA**. Safety and effectiveness of pre-hospital tourniquet use in 110 patients with extremity injury. Presented at the Tenth Annual Academic Surgical Congress. Las Vegas, NV. Feb 3-5, 2015.
 122. Taub E, Shrestha B, Tsang B, **Cotton BA**, Wade CE, Holcomb JB. Damage control resuscitation is associated with increased survival after severe splenic injury. Presented at the Tenth Annual Academic Surgical Congress. Las Vegas, NV. Feb 3-5, 2015.
 123. Pommerening M, Rahbar E, Minei KM, Holcomb JB, Schreiber MA, Cohen MA, Underwood S, Nelson M, **Cotton BA**. Splenectomy is associated with hypercoagulable TEG values and increased risk of thromboembolism. Presented at the Tenth Annual Academic Surgical Congress. Las Vegas, NV. Feb 3-5, 2015.
 124. **Cotton BA**, Cardenas J, Wade CE, Holcomb JB, Matejevic N. Green Plasma Has a Superior Hemostatic Profile Compared with Standard Plasma. Presented at the Tenth Annual Academic Surgical Congress. Las Vegas, NV. Feb 3-5, 2015.
 125. Beck WC, **Cotton BA**, Vincent L, Podbielski J, del Junco DJ, Holcomb JB, Harvin JA. Does Community Consultation Reach Patients Likely to be Enrolled in EFIC Studies? Presented at the Tenth Annual Academic Surgical Congress. Las Vegas, NV. Feb 3-5, 2015.
 126. Steward J, **Cotton BA**, Holcomb JB, Harvin JA. Impact of Employing Damage Control Laparotomy on Pulmonary Complications and Timing of Femur Repair. Presented at the Tenth Annual Academic Surgical Congress. Las Vegas, NV. Feb 3-5, 2015.
 127. Folkerson LE, Sloan D, **Cotton BA**, Holcomb JB, Tomasek JS, Wade CE. Predicting progressive hemorrhagic injury from isolated traumatic brain injury and coagulation. Presented at the 10th Annual Academic Surgical Congress in Las Vegas, Nevada, February 3-5, 2015.

128. Liras I, Rahbar E, Harting MT, Holcomb JB, **Cotton BA**. When children become adults and adults become hypercoagulable after trauma: An assessment of admission hypercoagulability by TEG and venous thromboembolic risk. Presented in oral form at the 2015 Annual Meeting of the Western Trauma Association, Telluride, CO.
129. Schreiber MA, Holcomb JB, Robinson B, Minei J, Stewart R, Kiraly L, McCully B, **Cotton BA**, Gomaa D, Cripps MW, DeRosa M, Underwood S. Fresh red blood cells are safe and effective: A prospective randomized trial. Presented at the 135th Annual Meeting of the American Surgical Association. April 23-25, 2015. San Diego, CA.
130. Schneider P, **Cotton BA**, Gary JL. Use of thrombelastography in predicting venous thromboembolic events in major orthopaedic trauma patients. Presented at the 70th Canadian Orthopedic Association Annual Meeting. June 17-20, 2015 Vancouver, BC.
131. Harvin JA, Cotton BA, Brocker J, Stein DM, Dilektasli E, Inaba K, Vella MA, Guillamondegui OD, Kodadek LM, Haut ER, Evans CR, Weinberg JA, Goodman MD, Robinson BR, Holcomb JB. Airway management following repair of cervical tracheal injuries: A retrospective, multicenter study. Presented at the 74th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Las Vegas, NV. September 9-12, 2015.
132. Liras I, **Cotton BA**, Cox CS, Harting MT. Injury Severity, Arrival Physiology, Coagulopathy, and Outcome Among the Youngest Trauma Patients: An Analysis of 204 Severely Injured Pediatric Patients Five Years and Under. Presented at the 2015 American Academy of Pediatrics (AAP) National Conference. October 23-27, 2015 in Washington, DC.
133. Williams G, Wubbenhorst T, Sceusi E, **Cotton BA**. Difficult airway management in patients with class III obesity. Presented at the American Society of Anesthesiology. October 24-28, 2015 in San Diego, CA.
134. **Cotton BA**, Moore H, Sauia A, Gonzalez E, Holcomb JB, Moore EE. Acute fibrinolytic shutdown following injury occurs frequently and increase mortality: A multicenter study of 2570 severely injured patients. Presented at the Annual Meeting of the Southern Surgical Association. December 6-9, 2015, The Homestead, Hot Springs, VA.
135. Folkerson L, **Cotton BA**, Wade CE, Holcomb JB, Harvin JA. In bleeding patients undergoing damage control laparotomy, hypertonic saline improves primary fascial closure at first take-back. Presented at the Raymond H. Alexander, MD Residents Paper Competition during the 29th EAST Annual Scientific Assembly. January 12-16, 2016 in San Antonio, Texas.

136. Yanney R, Moore HB, Mueck KM, Liras IN, Cardenas J, Harting MT, **Cotton BA**. Fibrinolytic phenotypes and their outcomes among severely injured pediatric patients. Presented at the 11th Annual Academic Surgical Congress in Jacksonville, FL. February 2–4, 2016.
137. Scerbo MH, Mumm JP, Gates K, Love JD, Wade CE, Holcomb JB, **Cotton BA**. Civilian tourniquets for severe extremity injury: Decreased mortality from hemorrhage in propensity-matched controls. Presented at the 11th Annual Academic Surgical Congress in Jacksonville, FL. February 2–4, 2016.
138. Chang R, Swartz M, **Cotton BA**, Wade CE, Holcomb JB, Harvin JA. Hypertonic saline infusion after damage control laparotomy is not associated with risk of organ-space surgical site infection. Presented at the 2016 Surgical Infection Society meeting in Palm Beach, FL, May 18 – 21, 2016.
139. Hamilton E, Miller CC, **Cotton BA**, Cox Jr CS, Kao LS, Austin MT. The Influence of Insurance Status on the Probability of Transfer for Pediatric Trauma Patients. Presented at the Annual Meeting of the Pacific Association of Pediatric Surgeons. Kauai, Hawaii. April 24-28, 2016.
140. Cannon JW, Hurst K, Brostoff N, Namas R, **Cotton BA**, Schreiber MA, Chung K, Chang S, Cap A, Vodovotz Y. Trauma *in silico*: A computational model of acute hemorrhage, coagulopathy, and resuscitation. Presented at the Thirty-Ninth Annual Conference on Shock. June 11 - 14, 2016 in Austin, Texas.
141. Gonzalez E, **Cotton BA**, Johansson PI, Stensballe J, Cardenas JC, Hoclob JB, Ostrowski SR, Wade CE. Syndecan-1: A quantitative marker for the endotheliopathy of trauma. To be presented at the 75th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Waikoloa, HI, September 14-17, 2016.
142. Scerbo MH, Macaluso A, Pommerening MJ, Tomasek JS, Guervil D, Wade CE, Cardenas JC, **Cotton BA**, Miller CC, Holcomb JB. Aspirin chemoprophylaxis decreases venous thromboembolism in 13,221 trauma patients. Presented at the 75th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Waikoloa, HI, September 14-17, 2016.
143. Scerbo MH, Holcomb JB, Gates K, Mumm J, Wade CE, Love JD, **Cotton BA**. The trauma center is too late: Severe extremity injuries without a pre-hospital tourniquet have increase death from hemorrhage. Presented at the 75th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Waikoloa, HI, September 14-17, 2016.
144. Moore HB, Moore EE, Sauaia A, Holcomb JB, Wade CE, Banerjee A, **Cotton BA**. Loss of the protective effect of physiologic fibrinolysis following severe injury in geriatric trauma patients. Presented at the 75th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Waikoloa, HI, September

14-17, 2016.

145. Liras IN, Caplan CW, Wade CE, Cox CS, **Cotton BA**. The Prevalence and impact of admission coagulopathy on treatment intensity, resource utilization and mortality: An evaluation of 956 severely injured children and adolescents. To be presented in oral form at the 128th Annual Meeting of the Southern Surgical Association. The Breakers, Palm Beach, FL. December 4-7, 2016.
146. McCully BH, Underwood SJ, Kiraly L, Holcomb JB, Robinson BR, Minei JP, Stewart RM, **Cotton BA**, Gordon NT, Martin DT, Rick EA, Dean RK, Wiles C, Anderson N, Schreiber MA. Transfusion of cryopreserved red blood cells improves tissue oxygenation in obese trauma patients. Presented at the 30th EAST Annual Scientific Assembly. January 11-14, 2017. Hollywood, Florida.
147. Meyer DE, Vincent L, Fox EE, O’Keeffe T, Inaba K, Bulger E, Holcomb JB, **Cotton BA**. Every minute counts: Time to delivery of the initial massive transfusion cooler and it’s impact on mortality. Presented at the Raymond H. Alexander, MD Residents Paper Competition during the 30th EAST Annual Scientific Assembly. January 11-14, 2017. Hollywood, Florida.
148. Taylor JR III, Fox EE, Holcomb JB, Rizoli S, Inaba K, Brasel K, Scalea TM, Wade CE, Bulger E, **Cotton BA**. The hyperfibrinolytic phenotype is the most lethal and resource intense presentation of fibrinolysis in massive transfusion patients. Presented at the Raymond H. Alexander, MD Residents Paper Competition during the 30th EAST Annual Scientific Assembly. January 11-14, 2017. Hollywood, Florida.
149. Galvagno SM, Fox EE, Appana SN, Baraniuk S, Bosarge PL, Bulger EM, Callcutt RA, **Cotton BA**, Goodman M, Inaba K, O’Keeffe T, Schreiber MA, Wade CE, Scalea TM, Holcomb JB, Stein DM. Outcomes following concomitant traumatic brain injury and hemorrhagic shock: A secondary analysis from the PROPPR trial. Presented at the 30th EAST Annual Scientific Assembly. January 11-14, 2017. Hollywood, Florida.
150. Moore HB, Moore EE, Sauaia A, Wade CE, **Cotton BA**. Targeting resuscitation to normalization of coagulation status: Hyper and hypocoagulability after severe injury are both associated with increased mortality. Presented at the 2017 Annual Meeting of the Southwestern Surgical Congress. April 2 -5, 2017, Hyatt Regency in Maui, HI.
151. Roberts DJ, Kalkwarf KJ, Moore HB, Cohen MJ, Fox EE, Wade CE, **Cotton BA**. Time course and outcomes associated with transient versus persistent fibrinolytic phenotypes: A nested, prospective, multicenter cohort study. Presented at the 76th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Baltimore, MD. September 13-16, 2017.
152. Chang R, Kerby JD, Kalkwarf, KJ, Fox EE, **Cotton BA**, Cohen MJ, Bulger EM, Schreiber MA, Wade CE,

- Holcomb JB on behalf of the PROPPR Study Group. Earlier time to hemostasis is associated with reduced mortality and acute kidney injury: results from the Pragmatic Randomized Optimal Platelet and Plasma Ratio (PROPPR) trial. Presented at the 76th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Baltimore, MD. September 13-16, 2017.
153. Ley EJ, Leonard SD, Inaba K, Salim A, O'Bosky KR, Tatum D, Azmi H, Ball CG, Engels PT, Dunn JA, Carrick MM, Meizoso JP, Lombardo S, Schroepfel TJ, Rizoli S on **Behalf of AAST Multicenter Trials Group**. Beta-blockers in critically ill patients with traumatic brain injury: Results from a multicenter, prospective, observational AAST study. Presented at the 76th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Baltimore, MD. September 13-16, 2017.
154. Harvin JA, Podbielski J, Vincent L, Adams SD, Love J, McNutt MK, Albarado R, Moore LJ, Kao LS, **Cotton BA**, Wade CE, Holcomb JB. Utilization of Social Media Decreases the Cost and Time to Perform Community Consultation in Exception from Informed Consent Clinical Trials. Presented at the 76th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Baltimore, MD. September 13-16, 2017.
155. Kalkward KJ, Jonathan R Taylor III, Erin E Fox, Kenji Inaba, Eileen Bulger, Charles E Wade, John B Holcomb, Martin A. Schreiber, **Bryan A Cotton**, on behalf of the PROPPR Study Group. Do pre-arrival physiology and resuscitation impact fibrinolytic phenotype. An analysis of the PROPPR trial. Presented at the 76th Annual Meeting of AAST and Clinical Congress of Acute Care Surgery. Baltimore, MD. September 13-16, 2017.
156. Schneider PS, Liras IN, Mansour A, **Cotton BA**. Severely Injured Pediatric Patients with Major Orthopedic Injuries Have Higher Mortality Rates and Greater Resource Utilization. Presented at the 2017 OTA Annual Meeting, October 11-14, 2017. Vancouver, Canada.
157. Schneider PS, Liras IN, Rahbar E, Prasarn M, Gary JL, **Cotton BA**. Extremity Trauma Results in Severe Coagulopathy and Impaired Fibrinolysis Based on Serial Rapid Thrombelastography. Presented at the 2017 OTA Annual Meeting, October 11-14, 2017. Vancouver, Canada.
158. Kalkwarf KJ, Jensen SD, Allukian M, Harting MT, Cox CS, Fox EE, Wade CE, **Cotton BA**. Can we identify futility in kids? An evaluation of admission parameters predicting 100% mortality in 1292 severely injured children and adolescents. Presented in oral form at the 129th Annual Meeting of the Southern Surgical Association. The Homestead, Hot Springs, VA. December 3-6, 2017.

159. Meyer DE, **Cotton BA**, Fox EE, Stein DM, Holcomb JB, Cohen MJ, Inaba K, Rahbar E on Behalf of the PROPPR Study Group. A comparison of resuscitation intensity (RI) and critical administration threshold (CAT) in predicting early mortality among bleeding patients: A multicenter validation in 680 major transfusion patients. Presented at the 31st Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma. January 10-13, 2018. Orlando, Florida.
160. Roberts DJ, Leonard SD, Taylor JR, Stein DM, Williams G, Wade CE, **Cotton BA**. Can trauma surgeons keep up? A comparison of outcomes between patients cared for in a Trauma ICU versus a Neuro-ICU. Presented at the 31st Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma. January 10-13, 2018. Orlando, Florida.
161. Turbett J, Taylor JR, Cardenas JC, Wade CE, Beck WC, **Cotton BA**. Are TEG assays interchangeable? A comparison of rapid and kaolin thrombelastography in massive transfusion patients. Presented at the 31st Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma. January 10-13, 2018. Orlando, Florida.
162. Gonzalez E, Cardenas JC, **Cotton BA**, Wang Y, Ostrowski SE, Stensballe J, Johansson PI, Holcomb JB, Wade CE. Traumatic Endotheliopathy is Associated With Arrival Hypocoagulability in Level-1 Trauma Patients. Presented at the 13th Annual Academic Surgical Congress to be held January 30–February 1, 2018 in Jacksonville, FL.
163. Hoelscher VS, **Cotton BA**, Wade CE, Huzar TF. Impact of Fibrinolytic Phenotype on Outcomes in Thermally-Injured Patients. Presented at the 13th Annual Academic Surgical Congress to be held January 30–February 1, 2018 in Jacksonville, FL.
164. Moore HB, Dorlac W, Moore EE, Sauaia A, Dubose J, **Cotton BA**, Wade C, Morrison J. Does Selective use of TXA MATTER: Fibrinolysis Phenotypes and Associated Outcomes? Presented at the 48th Annual Meeting of the Western Trauma Association. February 25 – March 2, 2018, Whistler, British Columbia.
165. George MJ, Wade CE, **Cotton BA**, Cox CS. Procoagulant In Vitro Effects of Human Mesenchymal Stromal Cells and Mononuclear Cells in a Severely Injured Trauma Population. The American College of Surgeons Annual Clinical Congress, Boston, MA. October 22-25, 2018.
167. Williams J, Merutka N, Meyer D, Bai Y, Prater S, Wade CE, Love JD, **Cotton BA**. Safety profile and impact of low-titer group O whole for emergency use in trauma. Presented at the 32nd Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma. January 15-19, 2019. Austin, TX.
168. Williams J, Gustafson M, Bai Y, Prater S, Wade CE, Guillaumondegui OD, **Cotton BA**. Limitations of

- Available Blood Products for Massive Transfusion During Mass Casualty Events at US Level 1 Trauma Centers. Presented at the 32nd Annual Scientific Assembly of the Eastern Association for the Surgery of Trauma. January 15-19, 2019. Austin, TX.
169. Podbielski JM, Vincent LE, Fox EE, Wade CE, **Cotton BA**, Holcomb JB. Informed Consent In An EFIC Trial: How Long Does It Really Take? Presented at the 14th Annual Academic Surgical Congress, February 5-7, 2019. Houston, Texas.
 170. Williams J, Wade CE, **Cotton BA**. The Current Composition and Depth of Massive Transfusion Protocols at US Level-1 Trauma Centers. Presented at the 14th Annual Academic Surgical Congress, February 5-7, 2019. Houston, Texas.
 171. Merutka N, Williams J, Meyer D, Bai Y, Prater S, Wade CE, **Cotton BA**. The Impact of Prehospital Whole Blood on Arrival Physiology, Shock, and Transfusion Requirements. Presented at the 14th Annual Academic Surgical Congress, February 5-7, 2019. Houston, Texas.
 172. Toelle L, Zaza M, Leonard S, Taub EA, **Cotton BA**. Can Tracheostomies Be Safely Performed on High Ventilator Settings? An Assessment of 690 patients. Presented at the 14th Annual Academic Surgical Congress, February 5-7, 2019. Houston, Texas.
 173. Ortiz D, Barr JV, Harvin JA, McNutt MK, Kao LS, **Cotton BA**. Are We Failing Trauma Patients with Serious Mental Illness? A Survey of Level 1 Trauma Centers. Presented at the 14th Annual Academic Surgical Congress, February 5-7, 2019. Houston, Texas.
 174. Zaza M, Wang Y, George M, Wade CE, Cardenas JC, **Cotton BA**. Rapid Transfuser Impact on Whole Blood Platelet Count, Platelet Function, and Hemostatic Potential. Presented at the 14th Annual Academic Surgical Congress, February 5-7, 2019. Houston, Texas.
 175. Morris V, McNutt MK, Kao LS, **Cotton BA**. Does Surveillance Bias Impact the Incidence of Deep Vein Thrombosis and Pulmonary Embolism? Presented at the 14th Annual Academic Surgical Congress, February 5-7, 2019. Houston, Texas.
 176. Hatton GE, McNutt MK, FACS, Cotton BA, Hudson JA, Wade CE, Kao LS. Age-Dependent Association of Occult Hypoperfusion and Outcome in Trauma. Presented in oral form at the 131st Annual Meeting of the Southern Surgical Association. The Homestead, Hot Springs, VA. December 3-6, 2019.
 177. Assen S, Cardenas J, George M, Wang YW, Wade CE, Meyer DE, **Cotton BA**. Hemostatic potential of cold-stored whole blood over time: an assessment of platelet function and thrombin generation for optimal shelf-life. Presented at the 33rd Annual Scientific Assembly of the Eastern Association for the

Surgery of Trauma. January 15-19, 2020. Orlando, FL

Book Chapters

1. **Cotton BA**, Pryor JP. Neck Injuries. In: Schwab, C.W. et al, eds. *Ballistic Trauma- A Practical Guide*, 2nd ed. London, Springer-Verlag 2005.
2. **Cotton BA**. Sleep disturbances in the ICU. In: Marcucci L. et al, eds. *Avoiding Common ICU Errors*. Lippincott Williams & Wilkins, Philadelphia, 2006.
3. **Cotton BA**. Enteral nutrition in the ICU. In: Marcucci L. et al, eds. *Avoiding Common ICU Errors*. Lippincott Williams & Wilkins, Philadelphia, 2006.
4. **Cotton BA**. Achieving adequate pain control in patient's with rib fractures. In: Marcucci L. et al, eds. *Avoiding Common ICU Errors*. Lippincott Williams & Wilkins, Philadelphia, 2006.
5. **Cotton BA**. Neck Injuries. In: Brooks, A.B. et al, eds. *Churchill's Pocketbook of Major Trauma*, Edinburgh, UK, Elsevier 2007.
6. Brooks AB, **Cotton BA**. Penetrating torso injuries. In: Brooks, A.B. et al, eds. *Churchill's Pocketbook of Major Trauma*, Edinburgh, UK, Elsevier 2007.
7. **Cotton BA**. Blunt abdominal trauma. In: Brooks, A.B. et al, eds. *Churchill's Pocketbook of Major Trauma*, Edinburgh, UK, Elsevier 2007.
8. Sweeney S, **Cotton BA**. Tubes, drains, and ostomies. In: Pryor JP et al, eds. *Clinician's Guide to Care of the Surgical Patient*. McGraw-Hill, New York, 2008.
9. **Cotton BA**, May AK. Sedation and Analgesia. In: Gracias VH et al, eds. *Acute Care Surgery*. McGraw-Hill, New York, 2008.
10. **Cotton BA**, Schwab CW. The ICU Phase of Damage Control: From door to door. In: Pape HC et al, eds. *Damage Control Surgery in Orthopedics and Trauma*. Springer, London, 2009.
11. **Cotton BA**, Holcomb JB. Acute trauma related coagulopathy. In: Rabinovici R et al, eds. *Trauma, Surgical Critical Care, and Surgical Emergencies*. Informa, New York, 2009.
12. Giladi A, **Cotton BA**. Analgesia, Sedation, Delirium and Alcohol Withdrawal. In: Rabinovici R et al, eds. *Trauma, Surgical Critical Care, and Surgical Emergencies*. Informa, New York, 2009.
13. Giladi A, **Cotton BA**. Operative and non-operative management of abdominal injuries. In: Brooks A, **Cotton BA**, Tai N, Mahoney P, eds. *Emergency Surgery*. Blackwell-Wiley, London, 2010.
14. Dossett LA, **Cotton BA**. Abdominal trauma evaluation and decision-making. In: Brooks A, **Cotton BA**, Tai

- N, Mahoney P, eds. *Emergency Surgery*. Blackwell-Wiley, London, 2010.
15. Voskresensky IV, Nunez, TC, **Cotton BA**. Damage control surgery. In: Brooks A, **Cotton BA**, Tai N, Mahoney P, eds. *Emergency Surgery*. Blackwell-Wiley, London, 2010.
 16. Zaydfudim V, **Cotton BA**. Trauma laparotomy. In: Brooks A, **Cotton BA**, Tai N, Mahoney P, eds. *Emergency Surgery*. Blackwell-Wiley, London, 2010.
 17. Voskresensky IV, **Cotton BA**. Large bowel obstruction. In: Brooks A, **Cotton BA**, Tai N, Mahoney P, eds. *Emergency Surgery*. Blackwell-Wiley, London, 2010.
 18. Riordan Jr. WP, **Cotton BA**. How should patients with thoracic trauma be managed in the ICU? In: Deutschman CL et al, eds. *The Evidenced Based Practice of Critical Care*. Edinburgh, UK, Elsevier 2010.
 19. **Cotton BA**. Emergency department thoracotomy for trauma. In: UpToDate, Basow, DS (ed), UpToDate, Waltham, MA, 2009
 20. Borkon M, **Cotton BA**. Neck Injuries. In: Brooks A et al, eds. *Ballistic Trauma- A Practical Guide*, 3rd ed. London, Springer-Verlag 2011.
 21. Brooks A, **Cotton BA**. Damage Control Resuscitation. In: Brooks A et al, eds. *Ballistic Trauma- A Practical Guide*, 3rd ed. London, Springer-Verlag 2011.
 22. Allen SR, Brooks A, Reilly PM, **Cotton BA**. Damage Control Part III- Definitive Reconstruction. In: Brooks A et al, eds. *Ballistic Trauma- A Practical Guide*, 3rd ed. London, Springer-Verlag 2011.
 23. Streiff AK, **Cotton BA**. Blood Component Therapy. In: Moore LM et al, eds. *Common Problems in Acute Care Surgery*. London, Springer-Verlag 2013.
 24. Goodman MD, **Cotton BA**. Massive blood transfusion therapy. In: Lillimoe KD et al. *Clinical Decision Support: Surgery*. Decision Support in Medicine. Wilmington, DE, 2013.
 25. **Cotton BA**, Holcomb JB, Pommerening M, Jastrow K, Kozar RA. Hemostasis, surgical bleeding, and transfusion. In: Brunicaardi et al. (eds). *Schwartz's Principles of Surgery*, 10th ed. McGraw-Hill, New York, 2013.
 26. Whitt H, **Cotton BA**. Hemorrhage and Transfusions in the Surgical Patient. In: Moore LJ et al. (eds.), *Common Problems in Acute Care Surgery*. 2nd ed. New York, Springer-Verlag. 2016.
 27. Taylor JR III, Holcomb JB, **Cotton BA**. Prehospital and New Advances in Resuscitation. In: Nulholland MW et al. (eds). *Greenfield's Surgery: Scientific Principles and Practice*. 6th ed. Philadelphia, Lippincott, Williams, and Wilkins. 2016.
 28. Bradley NL, **Cotton BA**. Cardiovascular Failure. In: Moore EE et al (eds.) *TRAUMA*. New York, McGraw-

Hill, 2020.

29. Taylor JR III, **Cotton BA**. Coagulation issues and the trauma patient. In: Cameron JL and Cameron A (eds.), *Current Surgical Therapy*. 13th ed. Philadelphia, Elsevier, 2020 (in press)
30. Brill J, **Cotton BA**, Lawless RA. Plasma Transfusion. In Hunter B. Moore et al. (Eds): *Trauma Induced Coagulopathy*, Second Edition. Springer-Nature, New York, New York. 2020

Medical Textbooks as Editor

1. *Emergency Surgery*. Brooks AB, **Cotton BA**, Tai N, Mahoney PM, Eds. Blackwell, London, 2010.

Medical Web Page Designs

1. **Cotton BA**, Pryor JP: Understanding and Coping With Traumatic Brain Injury, 2003; UPHS, Department of Surgery, Division of Traumatology and Surgical Critical Care, Patient Information Web pages
2. **Cotton BA**, Pryor JP: A Patient's Guide to Rib Fractures, 2003; UPHS, Department of Surgery, Division of Traumatology and Surgical Critical Care, Patient Information.
3. **Cotton BA**. Diabetes Insipidus Following Traumatic Brain Injury, 2005. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
4. **Cotton BA**. Evaluation and Management of Traumatic Brain Injury, 2005. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
5. **Cotton BA**. Brain Death Algorithm, 2005. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
6. **Cotton BA**. Emergency Department Thoracotomy, 2005. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
7. **Cotton BA**. Management of Rib Fractures and Achieving Pain Control, 2005. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
8. **Cotton BA**. Evaluation and Management of Atrial Fibrillation Following Traumatic Injury, 2005. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.

9. **Cotton BA.** Venous Thrombo-embolism Prophylaxis, 2005. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
10. **Cotton BA.** Management of Sedation, Pain, Sleep, and Delirium in the Trauma Patient, 2005. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
11. **Cotton BA.** Anti-oxidant Therapy in the Acutely Injured Patient, 2005. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
12. **Cotton BA.** Damage Control Hematology Following Trauma, 2005. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
13. **Cotton BA.** Diabetes Insipidus Following Traumatic Brain Injury, 2007. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
14. **Cotton BA.** Evaluation and Management of Traumatic Brain Injury, 2007. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
15. **Cotton BA.** Brain Death Algorithm, 2007. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
16. **Cotton BA.** Emergency Department Thoracotomy, 2007. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
17. **Cotton BA.** Management of Sedation, Pain, Sleep, and Delirium in the Trauma Patient, 2007. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
18. **Cotton BA.** Anti-oxidant Therapy in the Acutely Injured Patient, 2007. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
19. **Cotton BA.** Damage Control Hematology Following Trauma, 2007. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.

20. Pandharipande PP, **Cotton BA**, Ely EW. Management of delirium and agitation through a RASS and CAM-ICU based algorithm, 2007. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
21. **Cotton BA**. Anemia and transfusion guidelines for critically injured patients, 2008. VUMC, Department of Surgery, Division of Trauma and Surgical Critical Care.
<http://www.traumaburn.com/Protocols/2007/2007AnemiaPMG.pdf>
22. **Cotton BA**. Initial fluid resuscitation in trauma. 2008. Med Talk Network Audio File/CME.
23. **Cotton BA**, Collier BR, Khetarpal S, Holevar M, Tucker B, Kurek S, Mowery NT, Shah K, Bromberg W, Gunter OL, Riordan WP.

Research grants/extra-mural funding

1. Department of Defense, Award Number W81XWH-08-C-0712. 18-month funding (November 2010-April 2012). \$1.2 million dollars. Trauma Outcomes Group. Site Principal investigator (09/07-03/09) for Vanderbilt University Medical Center for The Trauma Outcomes Group. This was a Multi-center Analysis of Transfusion Practices Correlated with Injury Severity and Outcomes in Trauma Patients. This study is being conducted and sponsored by the U.S. Army Institute of Surgical Research. The purpose of this study was to correlate the current individual transfusion practices and ratios at 16 of the leading trauma centers in the US with standard clinical outcomes. These data are readily available in the required trauma registry and blood bank databases. This study defined the current ratios transfused in the US for predominately blunt injured population and their outcomes. These data formed the baseline and reference for the below PROMMTT and PROPPR studies.
2. NIH/NIA- RO1: BRAIN-ICU Project. ICU-Delirium group. \$3.9 million. Five year funding (July 2006-June 2011). To identify to what degree delirium and potent sedatives and analgesics are risk factors for long-term cognitive impairment and functional decline following critical illness.
3. VA LO1 Merit Award: MIND-ICU Project. Four-year, 4-million dollar funding (July 2007-June 2011). To identify to what degree delirium and potent sedatives and analgesic and to what extent peri-operative hypoxia and hypotension are risk factors for long-term cognitive impairment and functional decline following critical illness. I was the site Principal Investigator (07/06-03/09) for the Tennessee Valley VA Medical Center. This study includes three (3) VA medical centers and 3 academic medical centers, with numerous ICUs being evaluated. We will quantify the independent contribution of these risk factors to the incidence of dementia, controlling for other established risk factors including age, pre-existing cognitive impairment, and apo E4 genotype. Quantifying the contributions of these modifiable risk factors will pave the way for development of preventive and/or treatment strategies to reduce incidence, severity, dementia duration and improve functional recovery of these patients.

4. Orthopedic Research and Education Foundation (OREF). Obrebsky WT, Bauer R, Jackson J, Cotton BA, Ely EW. \$100,000. Two-year funding (Jan 2007- Dec 2009). To determine if patients who have had multiple trauma with an Injury Severity Score greater than 25, but did not have a closed head injury, have long-term cognitive deficits in the domains of mental processing speed, memory, executive function, and visuo-construction abilities.
5. Department of Defense, Award Number W81XWH-07-1-0229. 24-month, 10 million dollar DoD-funded, prospective, observational multi-center study (Prospective Observational Multicenter Massive Transfusion Trial- PROMMTT). Site PI for PROMMTT, which will observe and evaluate 1500 patients who receive at least one unit of red blood cells (RBC) within 6 hours of ED admission and who meet the criteria. Within this group of 1500, we will evaluate at least 300 patients who undergo massive transfusion (MT), which is defined as receiving greater than or equal to 10 units of blood within the first 24 hours after Emergency Department (ED) admission. Specifically, the study aims to compare the outcome of massively transfused trauma patients in 2009-2010 to those who received the standard of care (1:1:2) in 2006 during a previous retrospective study. In other words, to correlate within-center change in survival to within-center change in plasma: PRBC ratio. As well, the study aims to prospectively validate an evidence-based algorithm to predict massive transfusion within ten minutes of arrival in the ED. Finally, the investigators hope to compare the timing and accuracy of the clinical decision (by the attending Emergency Medicine physician or trauma surgeon) to initiate massive transfusion with that of the calculated massive transfusion algorithm.
6. Haemonetics Corporation: Investigator-initiated study. 24-month funding (April 2010-March 2012). Cotton BA, Cohen M, Schreiber M, Holcomb JB. \$850,000. Principal Investigator for multi-center study evaluating the prevalence of hypocoagulopathy in severely injured patients as detected by rapid-thromboelastography (r-TEG). Also determining if r-TEG values are predictive of receipt of red-blood cells, plasma, and platelets.
6. State of Texas- Emerging Technology Fund (ETF). 3-year funding (September 2009-August 2012), \$2.0

million dollars. Funding for the recruitment, retention, and support of Bryan A. Cotton, MD, MPH to the University of Texas Health Science Center at Houston to provide salary support and operating expenses for the development and performance of a skilled team of investigators and research staff to carry out leading and cutting edge research in the field of translation science of hemorrhagic shock.

7. Department of Defense, Award Number W81XWH-07-1-0229. 18-month funding (November 2010-April 2012). \$1.2 million dollars. Early whole blood study in massively transfused patients. A prospectively randomized trial of severely injured patients who are predicted to receive a massive transfusion of blood products (>10 units of PRBCs) to receive either stored whole blood and platelets or component therapy (packed red blood cells, fresh frozen plasma, and platelets, our current standard of care) and compare the ability of stored whole blood to reduce transfusion needs and improve clinical outcomes.
8. Department of Defense, Award Number FA8650-10-2-6143. 24-month funding (September 2011-August 2013) \$467, 000 for UT-site. This will be a prospective, randomized, double-blinded study. Three simultaneous comparisons will be conducted in parallel: frozen red blood cells (RBC) versus newer packed red blood cells (PRBC), frozen RBC versus standard-age PRBC, and standard age PRBC versus newer PRBC. Frozen RBC will be prepared from younger PRBC units utilizing well-described techniques. Units of frozen RBC will be thawed, deglycerolized, and prepared for transfusion utilizing the ACP 215 (Haemontetics Corporation, Braintree, MA). Frozen RBCs will be obtained from the Armed Services Blood Program. This will be stored in a -80°C freezer within the Blood Bank at each clinical site. We will then prospectively determine the influence of cryo- and liquid-preserved PRBC transfusion on vasoconstriction and tissue oxygenation in trauma patients requiring blood transfusion. As well, we will correlate biochemical changes during blood transfusion with decreases in tissue oxygenation. The levels of free hemoglobin, haptoglobin, 2,3 DPG, inflammatory markers and nitric oxide metabolites in donor older PRBCs, younger PRBCs and frozen RBCs prior to transfusion and in the subjects blood before, during, and after transfusion will be measured. Finally, we will determine whether transfusion of cryo-preserved blood leads to measurable differences in clinical outcomes.
9. Department of Defense-TATRC (Telemedicine and Advanced Technology Research Center) Award Number W81XWH-11-2-0068. 24-month funding with 6-month NCE (January 2011-June 2014). \$1.1 million. Impact and interactions of lyophilized plasma on endothelial activity and integrity in vascular injury and hemorrhagic shock. This aimed at comparing lyophilized plasma (LP) to fresh frozen plasma (FFP) and other fluids in its capacity to restore endothelial function and resuscitate animals subjected to controlled

hemorrhagic shock (HS). More specifically, we are interested in comparing freshly plasma used immediately after thawing (day 0, FFP-0) to that stored at 1-6°C for several days after thawing (day 5, FFP-5) and determine if LP is a viable substitute for FFP-0 and superior to FFP-5. Primarily, this proposed work will evaluate permeability and expression of tight and adherens junctions in pulmonary endothelial cells (PECs) before and after treatment with plasma products (FFP-0, FFP-5, LP) and other commonly used fluids. We will then characterize the expression of inflammatory cytokines and growth factors on PECs before and after treatment with plasma products (FFP-0, FFP-5, LP) and other commonly used fluids. As well, we will evaluate the efficacy of plasma products and other fluids to resuscitate rats subjected to controlled HS in a 5-day survival model.

10. National Institute's of Health/Resuscitation Outcomes Consortium, Award Number U01HL077863-07. 3-year funding (August 2012-July 2015) of \$71 million dollars. UTH site PI for this 12-center, randomized controlled trial of 1:1:1 versus 1:1:2 ratios of plasma: platelets: RBC in critically injured trauma patients. The Pragmatic, Randomized Optimal Plasma and Platelet Ratios (PROPPR). PROPPR was a randomized, two-group, Phase III trial conducted in subjects requiring the highest level of trauma activation and predicted to receive a massive transfusion as defined by ABC score or physician gestalt. Subjects were randomized into transfusion ratio interventions: 1:1:1 or 1:1:2. Based upon the timing of hemorrhagic death the FDA approved two co-primary endpoints, both 24-hour mortality and 30-day mortality. Rapid randomization required Exception From Informed Consent (EFIC). EFIC allows subjects to be randomized before they or their legally authorized representative (LAR) are consented. Initially, the trial planned to enroll 580 subjects with 290 subjects per group. A 10% difference in mortality at 24 hours was considered to be clinically meaningful. The design provided 90% power to detect a difference of 10% or larger in 24-hour mortality and 88% power to detect a difference of 12% or greater in 30-day mortality, assuming a two-sided $\alpha=0.044$ (adjusted from 0.05 for two interim efficacy analyses). The 24-hour and 30-day outcomes were considered separate co-primary outcomes requiring no adjustment of alpha for multiple comparisons.

11. Department of Defense-TATRC (Telemedicine and Advanced Technology Research Center) Award Number W81XWH-11-2-0068. W81XWH-13-2-0090 (Sub Award Number 758376) Department of Defense. \$ \$613,335 (locally). Prehospital Tranexamic Acid (TXA) Use for TBI. This multi-center, Phase II

trial is designed to determine if TXA initiated in the pre-hospital setting improves long-term neurologic outcome compared to placebo in patients with moderate to severe TBI who are not in shock. Patients will be randomized to one of three arms: (1) Bolus/maintenance arm: 1gram IV TXA bolus given over 20 minutes in the pre-hospital setting followed by a 1 gram IV maintenance infusion initiated upon hospital arrival and infused over 8 hours; (2) Bolus only arm: 2 gram IV TXA bolus given over 20 minutes in the pre-hospital setting followed by a placebo maintenance infusion; OR (3) Placebo arm: Placebo IV bolus given over 20 minutes in the pre-hospital setting followed by a placebo maintenance infusion. The total sample size is 1002 (334 per group), which will allow for 80% power to detect an 8.2% absolute difference in long-term neurological outcome as determined by the GOS-E 6 months after injury for each of the true TXA-placebo comparisons, using a one-sided, level 0.1 test. Plan for intention-to-treat analysis using logistic regression to test for association and estimate the strength of the association of treatment group with a favorable 6-month outcome (defined as a GOS-E > 4), after adjustment for study site.

12. Patient Centered Outcomes Research Institute (PCORI) and Major Extremity Trauma Research Consortium (METRC) grant PCS-1511-32745 (Feb 2017-June 2021). PREVENTion of Clot in Orthopaedic Trauma (PREVENT Clot). In this randomized, pragmatic design study, the efficacy of low molecular weight heparin (LMWH) will be compared to compared to aspirin in the use of preventing death and clinically important blood clots in the lungs in patients who sustain trauma will be investigated. The study will be carried out over a 4-year period at multiple centers, enrolling almost 13,000 patients. The following comparisons between aspirin and the LMWH will be performed: the proportion of patients who sustain death, clinically significant pulmonary embolism, or complication after orthopaedic trauma treated with injectable LMWH compared to those treated with aspirin; the satisfaction with care in orthopaedic trauma patients treated with injectable LMWH compared to those treated with aspirin; and the out of pocket patient costs in orthopaedic trauma patients treated with injectable LMWH compared to those treated with aspirin.
13. Department of Defense (DoD) grant via sponsor, LITES Network, which is an operational trauma center consortium which has the expertise, track record and confirmed capabilities to conduct prospective, multicenter, injury care and outcomes research of relevance to the Department of Defense. This prospective, observational study will evaluate cold, stored whole blood, using low-titer O blood group

versus component transfusions. The LITES network will perform a multicenter, prospective, observational cohort study over a 4 year period to determine the impact of whole blood resuscitation in trauma patients with hemorrhagic shock at risk of large volume resuscitation with and without TBI. Early whole blood resuscitation will be compared to standard component resuscitation. The study will also further characterize blood pressure and resuscitation endpoints in poly-trauma patients with traumatic brain injury. Six trauma sites with appropriate characteristics will be selected from 12 LITES Network sites across the country. The study will be performed utilizing busy level I trauma centers within the LITES Network located across the country, at sites where either whole blood has currently been incorporated into standard of care or where component blood transfusion is being utilized for patients in hemorrhagic shock at risk for large volume resuscitation. The study will focus on patients who suffer blunt or penetrating injury, transported to a Task Order 002 participating LITES trauma center with evidence of hemorrhagic shock at risk of large volume blood resuscitation.