



# AASTDAILY MEETING NEWS



## Session XIX:

# Papers 45-47: Coagulation

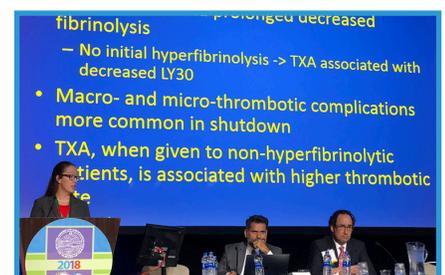
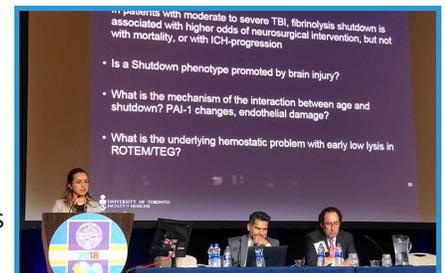
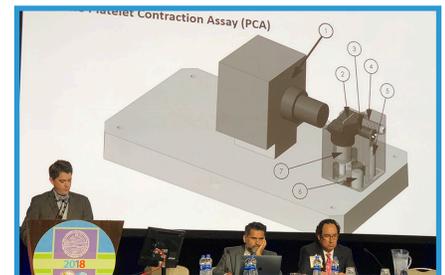
By – Robert Winfield MD, FACS

Session XIX was focused on research in coagulation. Dr. Mitchell George of the University of Texas in Houston kicked off the session describing the novel platelet contraction assay. In addition to providing additional information on the patient’s ability to form clot, the authors indicated that the assay may tell us more about the patient’s metabolic state and ability to respond to injury. They further pointed out that the platelet contraction assay may be a predictive marker for mortality.

Dr. Julia Coleman of the University of Colorado continued ongoing work from their group on the topic of fibrinolytic shutdown. The authors demonstrated, in a series of 274 severely injured patients, that TXA use leads to a prolonged decrease in fibrinolysis that

persists for at least 24 hours. They were able to associate this with organ failure suggestive of microthrombosis, and although their data did not demonstrate this, they speculated that the prolonged reduction in fibrinolysis may lead to an increased rate for VTE.

Dr. Johana Gomez-Builes of the University of Toronto continued the discussion of fibrinolysis shutdown, focusing on 173 patients with intracranial hemorrhage, demonstrating that shutdown was not associated with progression of hemorrhage, but correlated with an increased need for neurosurgical procedures. The authors suggest that this is potential evidence for shutdown being a hypocoagulable state. Their provocative study raises important questions regarding the phenomenon of fibrinolysis shutdown.





# Paper Session XVIII: Papers 39-44: Coagulation

By - William Bromberg, MD

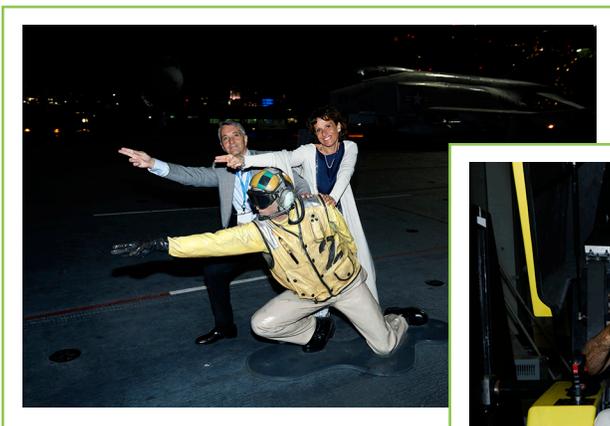
Coagulopathy exemplified the concept of “from bench to bedside.” Dr. Grace Martin showed that plasma microvesicles produced by induced TBI in mice can reduced platelet aggregation via an ADP-dependent pathway. A related study by Dr. Shibani Pati on platelet-derived extracellular vesicles showed clinical improvement in murine bleeding models comparable to whole platelet infusion although interestingly not having the same effects *in vitro*. The possibility of treating endothelial leak with platelet particle infusion is an interesting one indeed.

Moving from the bench to the bay, we were presented two studies looking at reversal of platelet dysfunction. Dr. Andrew Sorah presented a platelet transfusion guideline in which all patients with TBI are evaluated with TEG-PI and transfused for TEG-PI >60% noting that patients that presented with PI had worse outcomes and that patients who responded to platelets had improved mortality over those who did not. Similarly, Dr. Elisa Furay presented a TEG-PI-guided reversal guideline after making an opportunity from adversity when due to a platelet shortage they had to use DDAVP as first line for PI. If

confirmed, their finding that DDAVP alone reversed TEG-PI values with no worsening of other clinical outcomes may allow for a more restrictive transfusion protocol.

From the realm of database analysis two studies were presented. Dr. Sara Myers described an elevated incidence of VTE in traumatically injured patients treated with TXA in their single center database. Although there were some significant differences including lower rates of VTE prophylaxis in the TXA arm as well as an overall relatively high VTE rate this adds to the (somewhat mixed) literature on TXA and as Dr. Meyers stated, the take home message is to be aggressive in prophylaxis of VTE, particularly in patients treated with TXA. In a further example of the power of trauma database review, Muhammad Zeeshan, MD queried the TQIP data to evaluate the effect of 4-factor PCC + FFP for the reversal of non-medication induced coagulopathy. In a somewhat surprising result sure to strike fear in the hearts of financially-strapped hospital pharmacists everywhere, they showed that individuals treated with PCC had significantly improved mortality as compared to those treated with FFP alone.

## USS Midway



*San Diego Night*  
Thursday,  
September 27

# Session XX: Fitts Lecture - C. William Schwab, MD

By - Jason Smith, MD, PhD

President Rotondo kicked off the 44<sup>th</sup> annual Fitts lecture by noting the importance of Dr William Fitts and his contributions to the field of trauma and surgical care. In introducing Dr. Schwab, President Rotondo noted Dr. Schwab's 1993 EAST Presidential address where he described the "uncivil war" going on in the US and noted the impact of the "bullet as a pathogen". Pres Rotondo described his prescience in that statement and the changing landscape of firearm injuries across the US.

Dr. Schwab's lecture was formatted around the Dicken's Classic, "A Tale of Two Cities." He described the dichotomy of his own life and career around the development and expansion of gun violence in the US. He began by noting that the struggle against firearm injuries has been present in this country for over 50 years, and remarked on the impact of Naomi Kanof, MD to influence and change the public perception around firearm injury. Interspersed, throughout his lecture, Dr. Schwab wove his own tale and story of his development, the development of trauma systems, the COT and trauma verification as part of the "Trauma Revolution" of the 1960's and 70's. Describing "the best of times and the worst of times", Dr. Schwab noted the growing of the friendships and relationships not only within his own institution but across the country during a time of uncertainty and violence, and personal loss.

Throughout his address, Dr. Schwab noted the work of AAST members, EAST members, and WTA members in developing the public health approach to firearm violence. He encouraged engaging both sides of the firearm debate, deliberately and systematically pushing for data, and using that data to affect policy and change. Dr. Schwab discussed the resolve and ingenuity that is required to break down the barriers and vilification often raised on both sides of the firearm debate in the US.

Dr. Schwab's lecture was inspiring as he noted both the success and failures of a career spent fighting firearm injuries. Quoting Dickens, he noted that we live, "in the best of times, and the worst of times. We live in an age of wisdom, and foolishness." His call to action was for each of us across the country to demand better research funding, prepare a resilient system that can respond to disaster, and innovate for gun safety. It was an outstanding lecture and a polarizing address and call to action. For further information regarding this address, please see Dr. Patrick Reilly's interview with Dr. Schwab (Wednesday's AAST Newsletter), and make sure to visit the website in order to view the lecture recording.



## TODAY'S EVENTS

**SESSION XXV:  
PAPERS 66-68: PLENARY  
8:00-9:00 AM**

**SESSION XXVII:  
QS I - 1- 13  
9:00-10:18 AM**

**SESSION XXVII:  
QS II - 14- 26  
10:30 AM - 12:00 PM**

**We would like to  
acknowledge and thank  
the 2018 Daily AAST  
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## Session XXIII A: Papers 48-56

By - Dr. Joseph Fernandez Moure

Dr. Keihani described their findings in hemodynamically stable patients predicting the potential need for intervention on renal injuries based on clinical and radiologic factors. Those receiving intervention had higher ISS, more contrast extravasation, and larger hematomas. Using this nomogram they demonstrate that clinical and radiologic factors such as hematoma size and contrast extravasation would be more predictive of the risk of bleeding. While this may not replace clinical decision making, it may add another evidence-based method to guide therapy.

Dr. Schultz and colleagues investigated the need for antibiotics prior to tube thoracostomy. They discussed how patients are more likely to receive antibiotics in Level 2 centers, penetrating injuries and in chest tubes placed in the ED. They demonstrate there were no differences in the rates of infectious complications (pneumonia and empyema) in those who received antibiotics versus those who did not. Interestingly, those who received antibiotics did have a longer length of stay.

Dr. Fitzgerald and colleagues from Emory sought to determine associations between vasopressor usage and changes in neurologic function as well as increased mortality in spinal cord injury (SCI). They found no improvements in ASIA scores despite the use of vasopressors. Those who required vasopressors, though, had higher lengths of stay and were more likely to develop AKI and cardiopulmonary complications. This work suggests there may be no effect on neurologic outcomes from maintaining patients in the normotensive range following SCI.

Dr. Willis and colleagues presented their work on end tidal CO<sub>2</sub> (EtCO<sub>2</sub>) measurements as a marker for mortality risk in trauma patients. Dr. Willis demonstrated that lower EtCO<sub>2</sub> values at the time of intubation were associated with higher mortality risk. It was not only predictive of mortality but superior to other routine variables such as base excess, blood pressure and lactate in their analyses.

Dr. Hwang presented the work from Rutgers New Jersey Medical School on the utilization of palliative performance scores (PPS). The prospective longitudinal study of trauma patients >55 y/o evaluated mortality and extended Glasgow outcome scale <4. Low PPS was predictive of in hospital mortality and these patients were 7 times more likely to suffer poor functional outcomes at discharge and at 6 months.

## Session XXIII B: Papers 57-65

By - Shariq Raza, MD

On AAST's last full day, following the awe-inspiring Fitts Lecture by Dr. C. William Schwab and the moving Master Surgeon Lecture by Dr. Christine Gaarder, a number of attendees settled in for an afternoon of Plenary Paper presentations. Moderated by Dr. M. Margaret Knudson of UCSF, the riveting presentations focused on high-quality research on a myriad of topics.



Continuing the advocacy for the utility of ultrasound in guiding resuscitation, Jay Doucet *et al* conducted an interim analysis of the AAST-MITC group's prospective, multi-institutional IVC-FAST cohort trial data. Their analysis of 127 patients demonstrated that a sustained IVC diameter of less than 10mm on repeat FAST at 40-60 minutes mark after initial standard-of-care fluid resuscitation is predictive of significantly higher 24-hour fluid resuscitation requirements than those with a repeat IVC diameter of  $\geq 10$ mm. These interesting findings continue the support of this simple, low-cost and effective bedside technology to guide resuscitation.

Meagher *et al* introduced the compelling argument to evaluate quality of care not only by the rates of strict ventilator-associated pneumonia (VAP) but by the broader CDC-defined criteria for ventilator-associated events (VAE). By retrospectively evaluating outcomes of 1,753 patients, VAE as compared to VAP and was associated with significantly higher likelihood of death and higher number of days requiring mechanical ventilation. This paper led to an interesting participant discussion regarding adoption of VAE as a new quality metric.

From across the pond, Saar *et al* from Estonia addressed a question highly applicable to our ACS practice – duration of antibacterial therapy after appendectomy. Their prospective analysis of 70 consecutive patients with complicated appendicitis randomized to <24 vs. >24 hours antibiotics post-appendectomy demonstrated the shorter course to benefit from lower LOS without higher complication rates. Perhaps the era of shorter than even a short-course of post-appendectomy antibiotics is just around the corner.

## Session XXII:

# Master Surgeon Lecture II - Christine Gaarder, MD, PhD

By - Ben L. Zarzaur MD, MPH

On Friday afternoon, in a well-attended session, Christine Gaarder, MD, PhD delivered the second Master Surgeon Lecture entitled **Advise, Advance, Support, Teach – The True Meaning of AAST to Me**. Dr. Gaarder is the head of the Department of Traumatology at Oslo University Hospital Ullevål in Oslo, Norway. She is currently the President of the International Association for Trauma Surgery and Intensive Care (IATSIC). She has been extensively involved in trauma system development and education in Norway.

She began her lecture discussing how the trauma system developed in Norway. Trauma system development is complicated in Norway due to geographic and cultural factors. She discussed how AAST past-presidents Dr. Bill Schwab and Dr. Don Trunkey were instrumental as consultants in the development of a robust trauma system in Norway. The first step was to establish trauma centers and the first centers began to emerge in the early 2000s with an associated

mortality reduction for severely injured patients by 2005.

In Norway, they are facing many of the same challenges that we are facing in the United States with increased specialization, fewer work hours and less experience with open surgery. To counteract this erosion of skills and experience, trauma centers in Norway require standardized surgical skills and crew resource management training for providers of trauma patient care. The need for this training came into sharp focus in 2011 with a mass casualty gunman attacked in Norway. Teamwork and preparation were key to optimizing care in a mass-casualty events.

Dr. Gaarder closed by discussing how the AAST has been a driving force for good for her and her colleagues in Norway. She feels that the AAST must remain engaged and must act as a refuge for those who are struggling to improve the care of injured patients.

78th Annual Meeting  
of AAST & Clinical Congress  
of Acute Care Surgery

**SAVE  
THE DATE**

September 18-21, 2019

Dallas, Texas