Thursday presentation at the product theater. Another presentation will be held today.
The annual Peter Canizaro M.D. award was established in 1993 and is given yearly to a new AAST member delivering the best manuscript and presentation at the annual meeting. Indeed, previous recipients of this award include many of the past and current national leaders in our field. Once again, the quality of submissions and presentations during the 2019 Canizaro session did not disappoint. Two presentations included data analyzed from the TQIP database to determine contributing factors of ARDS, and another analyzed the benefit of ECMO in patients with ARDS. There were excellent questions and discussion from the audience on both presentations. Other presentations included complex predictive modeling for the development of acute kidney injury after trauma and determining risk factors which predict long-term independence among fall survivors. Dr. Ho highlighted the significance of falls within the elderly population and the importance of discharge planning for this specific population. Interestingly, the study concluded that specific independent instrumental activities of daily living, not frailty score or specific physical deficits, were associated with maintaining community residence after discharge. Finally, two manuscripts on
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very timely subjects, violence prevention and gender equality within trauma organizations, generated much conversation and discussion. The importance of Dr. Bonne’s work on hospital-based intervention cannot be overstated as it provides a framework for all future programs to follow while also creating a collaborative network that will create synergy between existing programs. As significant, the work by Dr. Foster and colleagues highlighted the importance of promoting women as members and leaders within national trauma organizations. Where everyone agrees we have a long way to go before achieving gender equity in the field of surgery, it was encouraging to see that women in leadership roles within the AAST were proportionately over-represented compared with the number of women members.
SESSION VII: PAPERS 15-17

By Adrian A. Maung, MD, FACS, FCCM

Following presentations by the research scholarships recipients, session VII was moderated by Dr. Nirula with Dr. Eastridge serving as the recorder. Although, a short session, it included three interesting and well-presented papers. The first paper from University of Pennsylvania and presented by Dr Holena examined the impact of including mortality of patients transferred from level III and IV trauma centers on their O:E ratios rather than those of the receiving institutions. They found that including these patients in the reports from the transferring institutions would result in worse O:E ratios benchmarking. The discussion by Dr. Fischer as well as from the floor examined this attempt to better benchmark level III and IV centers as well as benchmarking the trauma system as a whole, rather than individual institutions.

Paper 16 presented by third-year medical student, Jennings Dooley from Vanderbilt University Medical Center, examined the accuracy of the ACS Needs-Based Assessment of Trauma Systems (NBATS-2) tool, which estimates patient volumes and the number of needed trauma centers in region. The authors compared the actual vs predicted patient volumes in a regional trauma system where an additional Level 2 trauma center was recently added. They concluded that the tool failed to predict volume changes at the original trauma center as they noticed an increase in volume rather than the predicted decrease. The primary discussant Dr. Winchell, who was also one of the authors of the NBAT-2 tool, as well as multiple audience members from the floor discussed some possible etiologies for these paradoxical results.

The last paper from the Queen Mary University of London, presented by a resident physician Dr. Nnajiub and discussed by Dr. Deb Stein compared the outcomes of patients with moderate-severe traumatic brain injury who were either directly admitted to the equivalent of Level 1 trauma centers versus those transferred in. They demonstrated that patients who required a neurocritical intervention had equivalent outcomes whether directly admitted or subsequently transferred to a level 1 center and that patients who did not require an intervention had no survival benefit from being transferred. They concluded that their trauma system is tolerant of the under triage and that more patients who don’t require a neurocritical intervention can be treated at local hospitals rather than being transferred.
This fascinating and informative section was chaired by Kristan Staudenmayer MD. Several renowned panelists described principles to the core of developing a good ACS service. Some of the panelist points are summarized below:

**Kimberly Davis MD**: ACS service has great benefit (as presented to organization leadership): Rescue (patients in extremis throughout the hospital), Leadership, Downstream Revenue, Reputation, Quality and Service. She emphasized that the new paradigm for cooperation and Funds Flow has the larger component being the Enterprise, next the Department and then the individual surgeon. In the new model, there is a shared responsibility for institutional success.

She spoke of the strong downstream contribution of an ACS service.

**David Spain MD**: ‘If you’ve seen one ACS model, you have seen one ACS model’. I found his presentation to confirm the challenges we all feel in building our programs. I thought that there were more similarities than differences in the organization of our ACS programs. He spoke of the type of hospital, (level 1 or 2), volume (trauma, EGS and critical care) and finances (professional fees, payer mix, funds flow). In his institution he has detailed information and transparency on these components. On the hospital side he emphasized trauma as being an essential service and a contributor to hospital bottom line. Data on EGS contributions are more opaque. ‘Seven surgeons are really four’ in hiring surgeons. Maximum number of weeks per year of clinical service should be 24. To cover all aspects of care in a level 1 center should be 10 and 5-6 in a level 2. Non-clinical services require a value placed on them.

**Joseph Minei MD**: How to make an ACS service financially viable. He advised to set expectations to department Chair and to Hospital CEO. He advised expanding our scope beyond ACS (surgical rescue, procedures – VP shunts, tracheostomies), elective surgery, and staying trained (laparoscopy, robotics). He emphasized maximizing billing (particularly E & M coding). He mentioned maximizing non-clinical revenue in negotiations. His conclusions: *Know your business, Seek out opportunities, Fill voids, Always available, Maximize billing and Leverage strengths.*

Overall the group emphasized, as we know, that an ACS service is an essential service to a successful hospital/university system. We need to continue to remind leadership of our contributions to their ‘bottom line’ and community reputation.

This was overall a very enjoyable and interesting session.
Session IXB this afternoon was kicked off with a complex analysis of the impact of state laws on motor vehicle fatality rates over time performed by Dr. David Notrica and colleagues from Phoenix Children’s Hospital. The authors were able to identify temporal associations with the implementation of specific types of laws and subsequent fatality rates. Implementation of lower allowable blood alcohol concentration, red light cameras, and mandatory seatbelt use each independently were associated with reduced number of deaths.

Other interesting work presented, included a study of the potential utility of AI for the interpretation of FAST exams. Dr. Rachael Callcut described her pilot study performed at UCSF, whereby archived FAST exams were used to generate an image interpretation AI pathway. Notably, the authors determined that their AI platform could recognize the presence or absence of free fluid with near 90% accuracy.

Two presentations concerned the efficacy of surgical simulation. Dr. Caroline Park, representing UT Southwestern, described an interesting study that attempted to measure the effect of routine simulation training on actual trauma resuscitation performance. Dr. Park described a prospective observational study whereby outcomes were evaluated prior to and following the implementation of a trauma simulation curriculum for their surgical residents. The outcome of interest was time to interventions (eg. chest tube, ED thoracotomy) as recorded on trauma resuscitation flow sheets. The authors observed that time to most interventions decreased following the implementation of the curriculum, suggesting that the simulation training is efficacious with respect to actual patient care.

Dr. William Leeper and colleagues presented their study performed at Johns Hopkins that sought to compare cricothyroidotomy training on a live tissue model versus a manikin. The authors randomized medical students to simulation training on either a manikin or pig model. They found that successful performance of the procedure was not associated with either training model, suggesting that the manikin simulator may be preferred with respect to resource use.

The session was closed out by Dr. James Prieto, representing Scripps Mercy. He shared their NTDB study of vascular trauma among pediatric patients. They observed that the incidence of such injuries among children is relatively low, and result equally from both blunt and penetrating mechanisms. Notably, hospitals without ACS trauma center verification had a higher amputation rate than ACS-verified centers. Further research is planned to identify specific regional and or resource-related factors attributable to the observed disparity in limb salvage.
**TONIGHT IS THE NIGHT**

**Experience AAST**

**Live Auction and Banquet**

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**CELEBRATION**

You must purchase a ticket to attend the banquet. Seating is limited!