Trauma fellowship

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Before I start my address, I just wanted to spend a moment to mention what we are doing in Phoenix for the annual meeting of the Eastern Association for the Surgery of Trauma (EAST). The organization traditionally was founded and focused on young trauma surgeons but specifically focused on those who lived east of the Mississippi River. Why that was chosen is a very long story and I am not going to get into it, but when we get to the 25th anniversary meeting of EAST in 2012, I am hopeful that we will have some sessions where we can really delve into the history of the organization.

I was at many board meetings where the Membership Committee literally needed a map to determine whether surgeons who often worked at the same hospital but had home addresses on either side of the Mississippi River (e.g., the Minneapolis region) could be members of the organization. Some people got into EAST, and some people arbitrarily were not allowed in because of where they lived.

I was first named to the board in 1999, and I was the head of the Careers in Trauma Committee, the committee Bill Chiu so ably handles now. Paul Cunningham was the president at the time, and he convened a retreat.[1] It was held in Tampa, Florida, which was the site of an upcoming meeting of EAST, and the big question that was discussed was what will happen if EAST does not change? If we stay a regional organization, what will happen if we do not evolve?

We were broken into groups, and I was assigned to the group that had to look into a crystal ball and describe the future of the organization if we did not change, and another group described

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This article was presented at the 23rd Annual Meeting of the Eastern Association for the Surgery of Trauma on January 22, 2010, in Phoenix, Arizona.
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DOI: 10.1097/TA.0b013e31825ff5d0

that same future if we moved to allow members from across the country. It was very clear after the presentations that the potential for EAST to impact young trauma surgeons and the injured patients they care for would be limited without making that step. We looked to our mission statement that reads, in part, that EAST provides leadership and development for young surgeons active in the care of the injured patient, not to young surgeons who happen to live on the East Coast but to young surgeons across the board.

This started a multiyear process to change the bylaws and open membership to EAST. Many of you have been to the business meeting and you have seen how bylaws change. A lot of them are somewhat mundane and God bless the Erik Barquist's and the Mark Gestring's of the world who have been overseeing the Bylaws Committee during the last 6 years, but this was a *significant* change in our bylaws. It happened over 2 years, an initial reading and a second reading, and there was some active, vigorous debate within the organization about whether this was the right thing to do. We wanted to keep the essence of the organization intact and assure that our organizational relationships with American Association for the Surgery of Trauma (AAST) and Western Trauma remained close.

After the bylaw change had been approved, it was decided to approach the growth of the organization slowly rather than knocking on the door of every trauma surgeon west of the Mississippi and offering membership. At this time, there was this concept that if we were going to be a national organization and we were slowly going to allow members west of the Mississippi to join the organization, we were going to eventually have to have a meeting out west. This first meeting of EAST out West is the completion of that vision, and it has been a big success. Scott Sagraves and Christine Eme from EAST and the local arrangements group led by Peter Rhee and Paul Dabrowski have really helped make the meeting run flawlessly. For those of you who have looked at the program book, you will see that we have listed upcoming meetings for the next 5 years, including a second visit to Arizona in 2013.

Thus, 10 years after we embarked on that retreat led by Paul Cunningham and made the decision to become a national organization, here we are. We have 129 new members this year, and we now have members in 49 states. In addition, there are a large number of nonmembers in attendance at the meeting. Many of them may actually represent future members of EAST, people who are here and able to attend the meeting because of the western location. Certainly, the number of fellows that we have in the organization as new members and are in attendance at this meeting is at a near-record level. That is certainly what I want to talk about in my actual presidential address on trauma fellowship.

TRAUMA FELLOWSHIP: EDUCATING OUR FUTURE

My first introduction to the fellowship at Penn was from Don Kauder. Don was the fellowship director there for many years. He was an exceptional educator. I interviewed with him as a fourth year surgical resident, and I came away with the clear sense that this is where I want to finish my training. During the next 2 years, Don, Mike Rotondo, and Bill Schwab were wonderful mentors, and they remain as such today.

The 2-year fellowship I entered into was somewhat ahead of its time. It was 2 years of trauma and critical care, with the critical care months split out during the 2 years. I therefore had a healthy trauma experience during my first year, with an attending physician standing next to me, smacking me upside the head when I was not moving fast enough and congratulating me on the rare occasion when I did things correctly. It was a great learning experience. During the second year, I not only finished my intensive care unit training (and met all Accreditation Council for Graduate Medical Education requirements for surgical critical care) but also spent 7 months throughout the year in the role that we call the fellow-in-exception. I was given full admitting and operating privileges and basically became a junior partner in the group.

One of the things that made my fellowship experience so educational was morning report. This is an important component of trauma fellowship and a fantastic venue to also educate residents and medical students on the care of the injured patient. Every day of the year, a group of surgeons sits in a classroom-type environment with the ability to look at roentgenograms and review laboratory results. Cases are presented as they actually played out in the trauma bay or the operating room. Learners of every level participate and are challenged to stretch their knowledge during the sessions. To this day, it is great for me to have been on call overnight and to have my care rereviewed by a group of my colleagues who have had a good night's sleep. They can comment, teach, and educate. We do near-concurrent performance improvement at this forum and, ideally, can impact a patient's course before a bad outcome may occur. For example, a patient with a gunshot wound to the neck evaluated with a computed tomographic scan may be discussed. After looking at the images, the group may decide that an additional imaging study (e.g., contrast study under fluoroscopy) is needed to definitively rule out an esophageal injury.

Morning report was, and continues to be, tremendously educational. It is a core component of our fellowship and enables, in part, our new partners (i.e., the fellow-in-exception) to provide exceptional care while enjoying a great educational experience. We were actually lucky enough to publish this experience in an article in the *Annals of Surgery* in 2003.[2] In this article, we used a combination of provider-specific data to quantitatively compare faculty performance and fellow-in-exception performance as well as a survey of graduates of the fellowship to provide some qualitative data regarding the educational experience provided during the fellowship.

The provider-specific data largely came from our trauma registry. Pennsylvania Trauma Outcome Study patients are a subset of patients with severe injury submitted to the state trauma registry in Pennsylvania and represent the core group of patients we examined. We married our registry data with our performance improvement data to provide both a subjective as well as objective (e.g., Trauma and Injury Severity Score) determination about all deaths that were reviewed. We also examined errors identified in our performance improvement program and classified them in a standard fashion.

We divided the surgeons into two groups, the faculty and fellows-in-exception.

Quantitatively, the performance of the fellows-in-exception was quite good. No difference in objective or subjective death determination could be found between groups. The fellow-in-exception group had a few more errors in management (e.g., delays to the operating room), and the faculty, interestingly, had a few more errors in technique. Outcomes were otherwise quite similar. Qualitatively, former fellows were asked how prepared they were to manage a patient with complex trauma at different periods throughout the training program. Their responses statistically improved throughout training, with all fellows feeling "very" or "completely" prepared by the completion of their training (Fig. 1). All fellows thought that the fellow-in-exception experience was worthwhile. We concluded that the fellowship model we use is a safe and effective way to train future trauma surgeons.

What is the take-home point of this article relevant to my talk? It is not that the Penn fellowship is better than any other fellowship. It is not that the structure of our fellowship is ideal. I am not sure that it is. I do think if you want to teach somebody critical care and trauma and emergency surgery, it is too much to do in a single year. The AAST curriculum of a 2-year training paradigm is much more appropriate. The point I want to make is that, as faculty, we had a real impact on our fellows. It was real, we were able to measure it, and I think it impacted the patients whom the fellows were taking care of at that time as well as the patients whom the fellows will take care of in the future.

Structures of fellowships vary widely, but our impact on fellows is undeniable. We can teach them clinical information, and we can help them from a research standpoint. We teach them administratively. We teach them how to do performance improvement, and we teach them how to interact with emergency medical service (EMS) providers. We teach them how to work with the trauma registry. I think we have a great opportunity over 1 or 2 years to offer them some life education as well.

The EAST mission statement is to provide leadership and development for young surgeons, and I would argue that the youngest surgeons who have identified themselves as future trauma and critical care and emergency surgery physicians are our fellows. I think it is imperative that EAST plays an important role in these fellows as we move forward. I have started during the course of the year, with the help of the Board of Directors, to try to make this a reality for this organization. This year, Kim Davis helped to orchestrate a membership drive aimed at fellows. We have changed the requirements for fellows to join the organization and limited the paperwork necessary to be completed. Perhaps, for fellows most importantly, the fee they need to pay for membership is minimal, and it is subsequently put toward the registration fee for their first EAST meeting. Fellows are able to attend their first sunrise sessions for free as well.

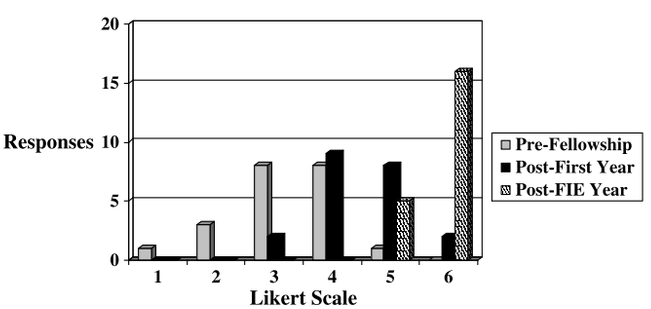

Figure 1. Perceptions of preparedness to manage patients with complex trauma. Response options ranged from not at all (1) to completely (6). Mean scores improved in a statistically significant fashion during the course of the 2-year fellowship ($p < 0.05$ by Wilcoxon signed rank test). Reproduced from Reilly et al.[2]

We sent this information out to program directors throughout the country, and this year, we have 47 new fellow candidates voted on for membership. Considering the number of fellows in the country each year, this has been a huge success. The board has decided, and I wholeheartedly agree that we are going to continue this effort in the future. If our fellows are going to join EAST, we need to make sure that they understand why they are joining the organization. One of the most important products of our organization is this scientific assembly. Bill Chiu and Jeff Salomone and a number of other people on the Board of Directors have done a great job of assuring that we have some fellow-centric content in our meeting.

We started the job fair last year, in 2009. It is an opportunity for fellows to go and actually shake a hand and meet someone from an organization that is looking to add a partner. It has been a great experience and has grown to more than 30 exhibitors this year. This year we have added a masters course where some of our senior surgeons discuss their approaches to challenging problems at their home institution. It has been a huge success. Fellows attended for free and most of them took advantage of this wonderful opportunity. The feedback has been overwhelmingly positive. Bill Chiu and his group brought to us the Oriens Award this year. *Oriens* means both "a rising sun" and "east," fitting for our organization. In the first year, we had some 30 entries, and the winner was Dr. Albert Chi, a fellow at Maryland Shock Trauma. His presentation about why he wants to be a trauma surgeon was exceptional and is published in the program book for the job fair. The workshops and sunrise sessions that we have added during the last few years also lend themselves to a young trauma surgeon with topics ranging from leadership ability to military combat care.

The educational tool that our fellows certainly use extensively is the internet. The EAST Web site has been vital, thanks to people like Mike McGonigal and Samir Fakhry in the past years, and the current site continues to grow. The current Information Technology Committee is making sure we keep pace with advances in this area. EAST applications for the iPhone and Android are in the works to make resources such as the Practice Management Guidelines available to the user on the go. Our vision is to make these resources available for our fellows (and others) at the bedside at any time of the day or night. Martin Schreiber has put together the research link on the Web site, which is a great asset for our fellows and their future academic careers. This year, I have even taken part in two Web chats through the Web site, one with military

members of EAST and one with new fellow members of EAST. Even I can learn.

My vision for EAST is that every fellow in the country will be a member of this organization. They will become a member because of the vital role it plays in their career development, the networking opportunities the organization provides, and, of course, the free subscription to *The Journal of Trauma*. This will allow them to keep up on the key literature of their specialty on a regular basis, hopefully something they will continue for the rest of their lives. Long-term, these fellow members will hopefully stay members. We are going to track that closely, just to make sure, but I am confident that these fellows will become active contributors to the organization because, at the end of the day, they are our future.

TRAUMA FELLOWSHIP: MORE THAN JUST A TRAINING PARADIGM

As I have mentioned, fellowship is more than a training paradigm. It is also an association of people who share common beliefs and activities and often have shared goals. They have a synergy of purpose, and they build on the concept that there is strength in numbers. Ideally, their potential is limitless. Because of the nature of our field and the problems of death and disability from injury, we as trauma surgeons have the ability to develop fellowships with others who care for this patient population.

Regionally, there is often minimal competition over injured patients (compared with cardiac or oncologic disease). The opportunity for trauma centers and trauma surgeons to work collaboratively to better develop their trauma system seems natural. If you are in a region that may revolve around two trauma centers, a car crash with six victims would likely result in the patients being distributed between the two centers so that no one institution was overwhelmed. This potential for trauma centers to collaborate with other trauma centers, EMS providers, and the community is unique to the surgical disciplines.

In Philadelphia, we have something called the Philadelphia Trauma Directors Group. We have had many on-again-off-again starts to this organization, but we are working hard to have regular meetings. It has become interdisciplinary. Our trauma program managers are there, and most recently, our injury prevention coordinators have started working together as well as our trauma registrars. If you think about it, we have common goals, and we have common problems. As a group, the potential to share knowledge and share the work can benefit us all. We already have a yearly educational conference. The potential for research collaboration, advocacy work, injury prevention efforts, as well as fund raising may all be improved by working together. Injury in our city is a major health problem, not injury at Penn or injury at Temple or injury at Jefferson. Injury in Philadelphia is a problem, and we need to work together to address it.

As is often the case, our nurse colleagues are taking the lead on this. Our prevention coordinators have already started working together. There is an event called *Boo at the Zoo* where kids come and trick-or-treat at the Philadelphia Zoo because many of their own neighborhoods are not that safe. Our injury prevention coordinators have been out there not as the Einstein injury prevention coordinator or the Hahnemann injury prevention coordinator but as the Philadelphia trauma directors' injury coordinators, giving out literature to families about safety issues.

Although this type of trauma fellowship activity can certainly happen at the regional level, it also can occur at the state level. The individual state committee on trauma chapters provide us with a framework to build upon that which is already in place. The potential for these groups to educate the medical community and the public, advocate for trauma systems and injury care, and collaborate on research is immense. State lines should not exclusively be arbitrary borders for these efforts. Many trauma systems cross state lines. Collaboration with EMS and the community may require some "out-of-the-box" thinking as we develop these trauma fellowships.

Military fellowships may be another area of potential growth. Many trauma surgeons are already involved and consider themselves part of this fellowship. Our military surgeons and our military group, led by Jim Dunne at the time, came to us with a problem. Surgeons in the field wanted access to state-of-the-art articles on their computer dealing with care of the injured soldier. Although they had access through a library system, it was unwieldy and really did not work very well. We were able to give Jim his marching orders. He is in the military, and he responds to marching orders very well. He went to Basil Pruitt and the publishers of *The Journal of Trauma* and got their approval to put on the EAST Web site the PDFs of relevant articles from the *Journal*. Active duty military can get a log-in to our members' only page (regardless of your membership status in EAST) and access these articles immediately. The response has been great, and the whole process only took 3 months.

I am going to finish up the discussion with a mention of national trauma fellowships. Mike Rotondo, in addition to being my mentor, was the president when I became the recorder, the role Jeff Salomone currently has. Yet again, I was summoned to a retreat. This one was in Orlando, Florida. The question at that time was not whether we should become a national organization. We had made that decision and started along that path. The question this time revolved around the direction that EAST should take in the future. We clarified and refocused our mission and vision statements that you see in the front of our program book. One of the things discussed at this retreat were key collaborations or, for the sake of this talk, fellowships. In particular, we focused on our interdisciplinary collaboration with the Society of Trauma Nurses (STN).[3]

Together, we shared a vision. At its core was educating our members. The collaboration began with the TOPIC course and has been slowly evolving now for more than 5 years. At the STN reception last night, Sue Cox and a number of the other STN leadership made wonderful speeches and commented on the mutually beneficial nature of this relationship. EAST certainly agrees. We work with these nurses in the trauma bay, in the operating room, in the intensive care unit, and on the floor, and there is no reason why we should not sit in a classroom and work with them at that level as well. It has

been great, and Kate Fitzpatrick, in her role at that time as STN President, was instrumental in opening the door for this collaboration.

It has moved beyond just the STN. I think in more recent years, the concept that EAST, AAST, and WTA are each in their own silos has become passé. During the recent years, we have started to work together as a group to address our common issues. Spurned on by the development of acute care surgery, a regular trauma summit has taken shape. This has continued to evolve, and today, Andy Peitzman, representing the AAST, and Bob Mackersie, representing the WTA, presented at the EAST Board Meeting and gave an update on the activities of their organizations. EAST reports at the AAST and WTA board meetings as well. This has continued to evolve to quarterly conference calls so that the momentum is not lost during the course of the year.

Individual committees within organizations may also find a way to work in synergy rather than in parallel worlds. Mike Sise actually joined this organization, so he could become a member of our Injury Prevention Committee, a group he chairs at the AAST. Although I am sure the committees will maintain their own identity, the potential to work on common projects (and divide the work on other topics) is a great advance for injury prevention efforts as a whole. As we learned from Howard Champion's talk yesterday on advocacy, the potential to impact decision making is much greater when a large group coordinates their efforts. As a trauma society, I think we are closer to doing that than we have ever been in the past.

Our relationship with American College of Surgeons Committee on Trauma has evolved as well. John Fildes was also at that EAST Board Meeting. With the STN, AAST, WTA, and EAST, these five groups have common goals and a shared vision—that injured patients (and now maybe emergency patients with surgical conditions) will get timely, appropriate care. Each of the organizations has its own individual strengths, but I think the potential on major issues to move the ball forward as a group far outweighs the potential of an individual organization.

The organizations now are close enough that when the earthquake in Haiti occurred, the organizations were able to work together and send out a group e-mail to all of their members with a basic list of volunteer opportunities with groups that have preexisting relationships doing work in that country. The letter was signed off on by the presidents of each of the organizations and completed within 18 hours of starting the project. Although this is a very basic example of what we can do together, it does demonstrate the infrastructure now in place for bigger and better things. In my opinion, this is truly a fellowship surrounding a common interest in the care of the injured patient.

In summary, I think the fellows are our future here at EAST. If any organization should take a leadership role in fostering the careers of this group, it is EAST. It is at the core of our mission. From a broader fellowship standpoint, do not forget the many opportunities for us to work with each other. We have much in common, even if we may work at different trauma centers or belong to different national organizations. The opportunity for regional, national, and even international trauma fellowship is greater than it ever has been. It is time for us to seize the opportunity. Our patients will thank us in the future.

DISCLOSURE

The author declares no conflict of interest.

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