Go big and go home

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We are trauma caregivers and, we are a "Jack or Jill of all trades." Most people think of this as a derogatory or negative comment or phrase. It is commonly quoted as, "Jack of all trades, but master of none." However, that is not the full expression. The full expression is actually "Jack of all trades, master of none, although often times better than a master of one." In my mind, this is why you've all been heroes to someone this past year. It is because of these abilities to cover multiple areas that we, trauma surgeons or acute care surgery (ACS) surgeons, have been asked to do so much these past couple years. I'd like to thank you all for stepping up out of your comfort zones to help care for patients that we would not typically care for or treat. We stand with our other intensivist-trained colleagues and all other health care workers who helped care for patients with COVID.

At our hospital, the first patients admitted with COVID came in as trauma activations. Like other trauma surgeons and ACS providers, we have been caring for patients with COVID throughout the pandemic and treating a surge of trauma patients. The trauma patients have also reached record highs at many institutions. We have been working in both a global pandemic and a national gun violence epidemic.¹

It is easy to understand why some of us feel compassion fatigue and burnt out. We often feel that we are not recognized for all that we do. We feel that we go to work every day, of which 70% of our work is after "normal business hours." This term in the inpatient hospital environment needs to be abolished. When I hear people say, "have a good weekend," we are facing our busiest and most taxing hours. Often, we feel that we are simply running in circles with no thanks or appreciation. When some of us (ACS surgeons) were not considered "frontline" when the COVID vaccination came out, it again reinforced the angst in our minds that continually reverberates. We understood others were at high risk and we were so thankful they had access to vaccines. Yet, it was unclear how we were not considered front line. It made sense to give it to the emergency department (ED) staff, as they were seeing the wave of patients sick with COVID. Thank goodness at our place we received the vaccine shipments very early, and the ED had priority to get this vaccine as "front line." However, hospital leadership likely did not realize that we, ACS surgeons, spent hours in the ED every day and night. Initially, Otolaryngology and Anesthesiology across the country were considered high risk because of oral and airway issues. Again, thank goodness, they had access to the vaccine. However, I'm quite sure that we are often confronted with heinous and destructive neck and aerodigestive injuries. It is our job to officially get control of the airway on this person in the mist of mucus, saliva, and blood. However, most hospital leadership and ID experts don't realize that we routinely secure the airway in injured and critically ill patients as part of our Jack/Jill of all trade's skill set. The other high-risk group of health care givers, of course, is the health care workers who worked in the medical and pulmonary intensive care units. There is no doubt that these physicians and nurses have been continually bombarded with one COVID patient after another. Our ACS team also receives several consults per week on these patients that required us to spend time in the Medical Intensive Care Unit and COVID units evaluating and doing procedures on these patients. Again, this illustrates the diversity of our training and wide set of skills that make us competent in so many health care-related issues.

While it may feel tiring and exhausting for you to get on the wheel every single day, I assure you that you're going big with your efforts. It may be placing one life saving chest tube, or emergently securing an airway, doing an emergent laparotomy, or simply taking out an appendix. And yes, we should still do that as a surgical procedure, over antibiotics alone. All of which is huge! We work with a dedicated team and it's like no other. That's pretty "big."

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At certain points, I have witnessed colleagues that are tired, burnt out, spent, and just done. I'd like to strategize with you some big areas that you can explore to go "big" in our field. For the next part of my address, I would like to pontificate with you about some opportunities to, well, "go big."

My advice to fulfill yourself at work and home is simply to "go big" at both work and home. What do I mean by going "big"? Recently I did an EAST debate with Dr. Joseph Bellal and it was moderated by Dr. Prerna Ladha. The debate aside, we both agree saying yes is extremely powerful and important. However, always saying yes to others can lead to always working and falling behind. It may feel like you never accomplish your own personal and professional goals. Therefore, you need to be strategic in your life and career decisions. I want you to think about having one or two big things on your list to accomplish that gives you purpose. This will give you energy when you are getting tired of running on the wheel.

Another factor to successfully "go big" is the ability to push your comfort level. I encourage you to push this; I am certainly pushing my comfort level during this address. It is OK to both be internally uncomfortable and to be uncomfortable in front of others. It is OK to fail at times and then learn from your failures. I had several failures and missed opportunities in my life. I remember interviewing for surgical residency at a place called Johns Hopkins. I sat down in my interviews and wondered how a scrappy poor kid from Sunny Lane trailer park in Upstate NY got here. I had to admit on the interview that I only had one publication, and it was a poem. I told them I wanted to do research but was beyond unclear in terms of subject matter or methodology. As you can imagine, I did not match there in part, because it was not my best interview. I however learned from that early interview and had better answers to questions moving forward. I respond with pride now when I discuss my first publication, which was about the death of my father. I wrote it in medical school and I am proud to share it here as Figure 1.²

I want people to think about what potential big things they would like to accomplish. What is your moonshot? With that I would like to "Claridgify" a few points in Table 1 about setting goals and accomplishments. In essence setting career goals is important, but they are not as satisfying as completing your projects.

I would like to share my next top 10 ideas that we as acute care surgeons can go big on. This is not a complete list, nor is validated by any survey or Delphi method. The ideas are just thoughts of a midlife surgeon. I hope to spark you, to find purpose, to exhilarate you to start a new project and go exploring.

I want to focus on what are some areas to increase the tools in our Jack and Jill toolboxes. We are uniquely positioned as acute care surgeons to expand our ability to care for patients.

1. Approve our ability to do intravascular techniques

- a. Resuscitative endovascular balloon occlusion of the aorta. Resuscitative endovascular balloon occlusion of the aorta is clearly an area that we should study further. Learn to refine the indications and contraindications. Perhaps, eliminate it all together or make it standard of care in certain situations.
- b. Place your own inferior vena cava filters. Placing the filters is something that we as acute care surgeons can do with a high degree of competency. Perhaps, partner with vascular or interventional radiology to "take call" for these procedures.
- c. Expand intravascular procedures. Consider being more comfortable with intravascular techniques, such as diagnostic arteriograms. As surgeons, I would encourage you to be more comfortable with the hybrid room. Partner with vascular or interventional radiology to assist with improving efficiency of patient care. While there are some that may be worried about infringing on their turf, if the patient and outcomes are the priority, there should be no argument. Let's look at the role of interventional angiography for spleen injuries, for example, as we have influenced the care of those patients significantly. Over the past 17 years, I have



Figure 1. My first peer reviewed publications: a poem about my father (reproduced with permission from Claridge JA. Death of a Tradition. J Univ Rochester Med Cen. 1992;4(2):21.).

TABLE 1. "Claridgification" About Setting Goals and Accomplishments

- While setting career goals are important, they are not as satisfying as completing "projects." Titles with perceived value:
- The trauma medical director
- The fellowship director
- The division chief
- Chair
- Service line leader
- Section chief
- Chief medical officer
- Setting your goal to be a "x director of planet trauma" is important but it's the actions and accomplishments you complete and tackle that:
- Get you there
- · Make you more successful in those positions
- · Get more personal reward from
- · Open more opportunities

been involved in several studies that have changed the way many of us practice. This is also an example of an area that started small and grew bigger with time. Our first spleen study looked at the introduction of splenic artery embolization (SAE) in our practice. The frequency of SAE increased from 2.7% to 22.6% (p < 0.001) from 1997 to 2005.³ The success of nonoperative management increased from 77% to 96% (p < 0.001) and the splenic salvage rate for all patients improved from 57% to 88% (p < 0.0001). The study after that by Sabe et al.⁴ evaluated the effect of protocolizing the role of SAE in our practice and demonstrated the use of NOM in 88% of all patients with a splenic injury and a 97% success rate of NOM in the cohort managed with protocolized use of SAE. We then did a study looking at the role of in house attendings versus home call related to caring for patients with a spleen injury.⁵ This study demonstrated an 89.7% overall splenic salvage for all patients and a 98.6% success rate of nonoperative management. Furthermore, failure of following the protocol was an independent risk of failure of nonoperative management. The study also demonstrated that "home call" was associated with lack of protocol compliance and more intensive care unit admissions. We also collaborated with other centers and presented this work at EAST in 2013 looking at trauma center variation in SAE utilization. The results of this study demonstrated that centers with higher rates of SAE use have higher spleen salvage and less NOM failure, and SAE was shown to be an independent predictor of spleen salvage.⁶

I review these studies to demonstrate three things. One, we as trauma surgeons push our trauma patients appropriately toward using intervention radiologic techniques. Two, a small idea can turn into a "big" idea. Lastly, why can't we get access to start the SAE and even learn how to do it ourselves? We have the skill sets to get access and understand the anatomy. We also can repair the complications if they happen.

2. Expand our laparoscopic and minimally invasive procedures

It is important for us as acute care surgeons to stay current and facile with laparoscopy and minimally invasive procedures. I would suggest we continue to push the envelope using these techniques for both emergency general surgery and trauma beyond laparoscopic appendectomy and cholecystectomy. We can clearly use these techniques in our toolbox as Jack and Jill of all trades to evaluate and fix diaphragms after penetrating injuries. My cofellow when I was at Memphis demonstrated the ability to do "awake" laparoscopy in patients to rule out intraperitoneal violation while they were still in the trauma bay.⁷ This is an example of "going big" on a great idea. We also can certainly push the use of laparoscopy in some cases of bowel obstruction. While we were initially taught that bowel obstruction was an absolute contraindication to laparoscopy, my experience as a bariatric surgeon as well as an acute care surgeon has taught me that there is clearly a role for laparoscopy. I would encourage ACS surgeons to continue to look for opportunities and present and publish in this arena.

3. Don't get shut out of the ability to use the "robot"

The future may involve standard use of the robot as time moves on. The technology is changing, and costs should likely come down. At our institution and like many others, the robot is used extensively during the day Monday through Friday. We as ACS surgeons have not used it, but several younger colleagues have expressed interest. I would suggest we evaluate its role after hours and on weekends if needed. We need to be involved in studying its use for efficiency, effectiveness, and cost. If the hospital already owns it or "leases" it, I think it makes more sense to offer the ability to use it during our "block time." This would be after 5:00 PM on weekdays and weekends.

4. Develop other novel methods to stop bleeding

We all know that roughly 85% of hemorrhage-related deaths are a result of internal bleeding that is not accessible to direct pressure and cannot be controlled by traditional methods, such as gauze or a tourniquet. This is clearly an area that we have opportunities for innovation and making huge improvements in care. An example of this is an injectable expanding foam to stop bleeding.^{8–11} Perhaps, we can also do more intravascular procedures as mentioned earlier.

5. Take back and expand our role in using endoscopies

Many acute care surgeons have lost their privileges or simply don't pursue doing endoscopies on patients. Surgeons started doing endoscopies. I do not understand why we as surgeons don't offer therapeutic interventions for bleeding found on upper endoscopies. Many acute care surgeons do not have colonoscopy privileges. I understand that we may not be credentialed or want to do them as screening for cancer but having the ability to do them emergently is important. I would also suggest we get facile with choledochoscopy moving forward. There have been groups demonstrating the utility of this in caring for patients.¹² Why would we not want to add these tools to our toolbox?

6. **Continued improvement in trauma systems**I could not give the presidential address and not discuss trauma systems. There is a substantial amount of continued work needed to improve trauma outcomes across the United States. Dr. Farre from our team gave a great presentation at this year's EAST meeting.¹³

TABLE 2. Mortality Before and After Regionalization and the
Creation of the NOTS

	Pre-NOTS	Post-NOTS	Relative Decrease in Mortality
Blunt injuries	10,892	14,968	
	3.5%	2.2%	↓37%
Penetrating	1,480	1,749	
	10.1%	6.5%	↓36%
ISS > 14	1,774	1,816	
	25.4%	19.3%	↓24%
Age >64 y	2,762	3,558	
	7.5%	5.5%	↓27%
ISS, Injury S	everity Score.		

She concluded that we need to do a better job determining location and number of trauma centers near across the country. We need to work collaboratively and not competitively. The benefits of a collaborative and functional trauma system include: (1) a predetermined and organized response to managing injured patients, (2) best utilization of resources, (3) best utilization of funding, (4) collaboration on violence prevention, and (5) working to ensure the use of best practices.I was honored in 2009 to become the first Medical Director for the Northern Ohio Trauma System (NOTS). Northern Ohio Trauma System was initially established as a partnership between MetroHealth as the county hospital, the Cleveland Clinic Foundation, and the public sector. The initial underpinnings of NOTS were a one call system, shared protocols, and data sharing. The results of this collaboration and unified regional protocols helped lead to a highly significant reduction in mortality, which is shown in Table 2. Thus, we went big and presented this data nationally and subsequently published it.¹⁴ We then went on to evaluate patients with traumatic brain injury and demonstrated both a significant improvement in both hospital outcomes and long-term outcomes. These results were shared as EAST plenary papers in 2014 and 2015, respectively.^{15,16} We also looked at outcomes of our patients who had emergent laparotomies. The results of this work were published in 2017¹⁷ and demonstrated patients were more efficiently transferred to MetroHealth, the region's Level I hospital at the time. Survival improved from 80% to 87%. We also published improved outcomes in spinal cord injury patients.¹⁸I really thought that we had this. I felt that being part of the improvement in outcomes for Northern Ohio was fantastic and being part of something that continued to show improvement in outcomes of our trauma patients was exhilarating. We demonstrated that we had a significant improvement in mortality in our region compared to other regions in Ohio.¹⁹However, after 2015, we expanded NOTS and went from a partnership to a larger regional system. We have been unable to publish any research on data since the expansion. We have unfortunately demonstrated a continued increase in mortality from gunshot wounds (GSWs). Before NOTS the mortality from GSWs was 11% to 12%, which we were able to reduce to as low as 7.7% (Fig. 2). However, the mortality has continued to increase across the region to almost 14%. I am disappointed that this is in our community, where I live and work. We need to do better and work more collaboratively with the great health care givers across the different care systems. More Level I trauma centers in my opinion are not the answer, as it does not directly translate to better

GSW MORTALITY BY YEAR



Figure 2. Mortality of GSW patients seen at Northern Ohio Trauma System Hospitals over time.

outcomes. To me, this is clear from our local data, but what about nationally? Our group from MetroHealth went on to look at state data to evaluate outcomes of counties and regions. We compared outcomes of trauma patients served by one trauma centers versus those served by more than one Level I trauma center. We did this both at the county level and the surrounding region around that county. The data demonstrated significant less mortality when areas were supported by one trauma center compared with those served by more than one Level I trauma center.²⁰ At the national level, several other authors have demonstrated the positive association between increased trauma center volume and improved outcomes.²¹ We recently demonstrated that having more trauma centers in a state compared with other states was associated with higher injury related mortality.²² Furthermore, increasing the number of trauma centers in that state did not improve mortality. Despite the younger version of myself always thinking "more is better," this is not the case with the number of trauma centers in an area. Trauma systems must put patients and the community first, and they need to be committed to improving and saving lives. Unfortunately, it is not clear that this can be done without outside monitoring, regulation, or oversight. The American College of Surgeons Committee on Trauma does a great job of verification and creating some standards for being a trauma center. However, they only verify and typically rely on the state

Claridge

to designate. There really needs to be a more robust needs assessment. We need to work collaboratively and not competitively. Thus, work together, against the disease.

7. Decreasing the number of deaths from gun violence

It is no secret that United States residents are at much higher risk to die from gun violence than residents of other peer nations.²³ A key question to ask for many clinical research projects is, "what is the number to treat?" In other words, "what is the number to show benefit?" In the case of deaths from gun violence, the answer is simple... One!

No child ever should lose their life to a GSW. No innocent victim should ever die from a bullet. We all have countless examples that come to mind that will haunt us forever. I remember the day of Sandy Hook when kindergartners were shot in class. I was personally involved in caring for patients involved in the Chardon High School shooting. None of these shootings and deaths should ever happen. We must work to prevent these unnecessary deaths. There is good evidence that prevention can work and that gun violence episodes should be viewed as a disease and is a "contagious social epidemic."²⁴

8. Leverage Informatics and the electronic medical record

We spent hours in the electronic medical record. We need to work to leverage informatics to assist in efficiency and

Poem: Go Big at Home

Whether it is with a cat, With plant, Wearing a hat, Or just having a chat.

With your spouse, In a house, On a faraway trip to treat your soul. Be with people that make you whole.

Ski the Alps, Do things to make you yelp, Jump on a plane, Ride on the Hogwarts train, Sail the ocean far, Climb a mountain to a star, Swim in the sea, Sleep in a tree, Do what sets your heart free. And be with those whom you wish to be. And lastly, thanks for being with me. (Becky, Zach, and Autumn)

Figure 3. Poem: Go Big at Home.

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improve outcomes. We need to use these platforms to improve note writing, improve real time data gathering, and use the data to help us evaluate interventions, quality, and opportunities for improvement.

9. Work to improve health care delivery to be on the "razor's edge"

It has become painfully clear that the delivery of health care in our country is beyond fragile. The United States spends more money in health dollars compared with peer first-world countries and yet has some of the poorest outcomes in health attributable mortality. It has been demonstrated that the health care workforce has grown by 75% since 1990, but 95% of new hires aren't doctors and the ratio of doctors to other care workers is now 1:16, up from 1:14 two decades ago. Of those 16 workers for every doctor, only six are involved in caring for patients. The other 10 are in purely administrative roles.²⁵ This is insane. Thus, I would ask you to consider going big by getting into leadership at your hospital and improve this problem.

10. Advocacy

This is ultimately how you can go big and potentially change practice locally in your own hospital. Learn how to work with other systems and regional government or public bodies to effect change. Going big may eventually get you to a position to work at the state or national level to change policy or law. My ask to EAST in terms of advocacy is to first recognize that we cannot be an advocacy organization given our exempt purpose. However, we can learn to have difficult open conversations, and we can practice listening to one another and learning. We can learn channels and methods to learn how to advocate.

CLOSING

The last part of my presidential address will involve discussing the importance of going big while you are not at work. You should push yourself at home like you do at work. Don't just survive. Actively make plans and commit to outside activities and pursue dreams. Do the things you always wanted to do. Others have proven they can go big in surgery and "an outside activity." My previous mentor, Dr. Seymore Schwartz wrote both premier textbooks in surgery and cartography.

To go big at home you need to surround yourself with an amazing team like my team at MetroHealth. I also continue to encourage you to push your comfort zone. Besides Bill Waterson, other great authors are Shel Silverstein and Dr. Seuss. In the spirit of these great authors and pushing my comfort zone, I will share a poem I wrote on my advice to you on how to go big at home titled "Go Big at Home" (Fig. 3). Make home what you want it to be so you can recharge and grow away from work as well.

In closing, I will continue to push my comfort zone by sharing with you the lyrics of the song that I was inspired to share with you as Figure 4.

Trauma Center by Jeff Claridge

off the future album in my mind: Thoughts of Midlife Surgeon.

Dr. Trauma ... you're on call So, I Guess this means you'll be here til tomorrow, eh? Yeah, ha, ha; guess who's on That be me... Call me once, Call me twice, Call me all night, yeah

We're a trauma center, roundin' on patients Sippin crappy coffee; you crazy if you think I'll ev'a finish I told you I'm a trauma center, I'll be the last to go home, You can bet it; just don't to it For the cheddar, cause we're a trauma center I don't go looking for no trouble, But somehow the patients always find me; Don't make me see you in the trauma center With your momma crying 'cause her only son is dying She don't know it's already your third tonight Cause we're a trauma center

Good god man, our teams workin all the time I got CEOs tellin me about budget And now we got no nurses, and beds be full With other hospitals calling to transfer some peeps I got weights round my neck the size mountain tops and treating folks shot with Glocks ridin in the Lex Resident days, we used to eat Ramen and cold cereal Now we're taking call, to pay off our debt It's me on all night and then to be back again Treating patients like they won't see tomorrow Two patients shot, they may not! And more patients coming, keeping you up til morn We're taking trips to fast-food just to eat Tryin not to fall asleep at the red-light I was in debt a couple 100 thou, now I'm still not worth a milliom I'll put money in my 401K, and 529 for the children

We're a trauma center, roundin' on patients Sippin crappy coffee; you crazy if you think I'll ev'a finish I told you I'm a trauma center, I'll be the last to go home, You can bet it; just don't to it For the cheddar, cause we're a trauma center I don't go looking for no trouble, But somehow the patients always find me; Don't make me see you in the trauma center With your momma crying 'cause her only son is dying She don't know it's already your third tonight Cause we're a trauma center

Since we got the Covid, there is even more violence We got republicans and dems, who cares about the affiliation We are one, it is senseless to not prevent this Too many gunshots after the sun goes down At any given instant another incident I'm just given you a glimpse of every night we be on And they hold the ORs, just in case we need to come up hot It isn't that we don't love our job, we just want less gsws We need to teach them kids, they are not bullet proof Not sure whose gonna do it; but we don't need to lose more baby blues These short fuses leading to way too much news Please make love not war and keep safe from dyin in our trauma center

We're a trauma center, roundin' on patients Sippin crappy coffee; you crazy if you think I'll ev'a finish I told you I'm a trauma center, I'll be the last to go home, You can bet it; just don't to it For the cheddar, cause we're a trauma center I don't go looking for no trouble, But somehow the patients always find me; Don't make me see you in the trauma center With your momma crying 'cause her only son is dying She don't know it's already your third tonight Cause we're a trauma center

I got tired while I was on call, but now I'm back We're ready to see whatever comes through those doors Got manuscripts on my back, lectures to give to the studs Got charts to sign, to get the coders off my back Listen boss, get off my back; your get your money Cause I dictated them cases to get all those RVUs I move through the EMR like Mozart composing songs My kids, Zach n' Autumn, wondering when I'll get home Reality check, have no ideas what our salaries should be I give call to my team with a pat on the back They share what they know and work to show their skill And they drain pus, get airways, resuscitate, and save lives It's the life of a trauma surgeon, you all know See us in the ED, and scrubbed in the OR We were on for 24, and just kept goin Livin on adrenaline and for savin lives We're a trauma center, roundin' on patients Sippin crappy coffee; you crazy if you think I'll ev'a finish I told you I'm a trauma center, I'll be the last to go home, You can bet it; just don't to it For the cheddar, cause we're a trauma center I don't go looking for no trouble, But somehow the patients always find me; Don't make me see you in the trauma center With your momma crying 'cause her only son is dying She don't know it's already your third tonight Cause we're a trauma center

Yeah, EAST, Thank you Christine Ha, Ha, no problem, we don't stop, nah Save the thanks for the last, Talk of the EAST Thoughts of a midlife surgeon, baby Thanks, y'all Metrohealth Staff, and trauma posse, you know The EAST Board, The Chairs, and the members Amazing East staffers, ooh Kinga, Rachel, and Nakia We're gonna keep lovin this job Y'all surgeons gonna keep healin Heck y'all, we got this We're built for this stuff; Trauma Nights, Savin Lives We run this trauma center!

Figure 4. Trauma center by Jeff Claridge off the future album in my mind: thoughts of midlife surgeon.

DISCLOSURE

The author declares no conflict of interest.

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