Union of forces

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INTRODUCTION AND SETTING THE TONE

There are increasing demands on all of us. This year’s Eastern Association for the Surgery of Trauma (EAST) scientific assembly has been replete with discussions about the future of health care, trauma surgery, and acute care surgery. In a session sponsored by the Society of Trauma Nurses here just 2 days ago, Kate Fitzpatrick, Samir Fakhry, and Alice Gervasini portrayed the present and future landscape of quality initiatives in trauma and acute care surgery in a plenary session entitled “Bridging Institutional and Trauma Quality and Safety: New Era/New Issues.”

These issues include items that influence all of us in our daily practices. How are we going to make this work in the future? What exactly does enactment to the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act of 2010 hold in store for us, our practices, hospitals, surgical training, and the direction of this organization? All of these represent an uncertain future, a future that will bring change, which will impact all of us, even potentially threaten our livelihoods and the future success of EAST.

First, we must address a few baseline issues upfront about complex decision making. It is important to understand this so as best to interpret, in context, the things addressed later in this article. Understanding some of this theory might just help us in our future endeavors, as we deal with the challenging changes outlined previously. This complex decision making is presented as an allegory.¹

COMPLEXITY IN DECISION MAKING AND DECONSTRUCTIONISM

This theory helps to unravel the elements of decision making such that if applied correctly would allow one to think outside the box. That phrase, “think outside the box,” originated in the United States in the early 1970s, and it has become such a cliché today as to be nearly meaningless. Various authors from the world of management consultancy claim to have introduced that phrase, but the earliest actual citation I have found comes from the weekly magazine of the US aviation industry, Aviation Week and Space Technology, in July of 1975. The quote is, “We must step back and see if the solutions to our problems lie outside the box.” The box, with its implication of rigidity and squareness symbolizes constrained and unimaginative thinking. This is in contrast to the open and unrestricted out-of-the-box thinking.

Who could have said it better than Albert Einstein (Text Box 1)? When facing challenging problems, we cannot rely on what we know in the context of the problem at hand, or we merely get caught up in the issue with the same old thinking, and the problem becomes insolvable. One finds oneself saying “there’s nothing we can do” and “that’s just how it is.”

That and other phrases are our cop-out trite phrases. We say that we just have to take it like it is and it cannot be changed. For example, in a certain experiment, I heard about a decade ago and recently reviewed online, five monkeys are locked in a cage and bananas are hung from the ceiling. A ladder is placed right underneath it and as predicted, immediately one of the monkeys races toward the ladder to grab the banana. However, as soon as the monkey starts to climb, a researcher would spray them with ice cold water and not just that monkey but all the monkeys. Eventually, they learned that climbing equals being sprayed with cold water for everybody, and therefore, no one climbs the ladder.

In part 2 of the experiment, now that the five monkeys know the drill, the researcher replaces one of the monkeys with a brand new inexperienced monkey. Now, that new monkey spots the...
“The world will not evolve past its current state of crisis by using the same thinking that created the situation.”

-Albert Einstein

banana and, of course, goes for the ladder, but the other four monkeys jump on that new monkey and viciously prevent him from climbing the ladder. The beaten new monkey just does not get it but does learn pretty quickly to not go for the ladder and to not go for that banana because he will be beaten. These actions get repeated three more times, until eventually there is no monkey in the cage who has ever been sprayed with cold water, yet any time one goes for the ladder and the banana, they attack that monkey and beat him up, although none of them know why they are doing it.

As it turns out, this experiment is likely contrived to make a point, but it does have merit based upon the work done by Thompson and Oden. They hypothesized that monkeys can apply broadly construed response rules to objects and events that are perceived to be categorically the same on the basis of physical resemblance or association between particular features and perceptual elements. They conclude that primates achieve understanding of concepts by a combination of categorization, learning, memory, deductive inference, problem solving, and generalization. In their own experiments showed how primates were able to parse their perceptual world into categories, learn from examples, and make judgments.2

It truly takes thinking outside the box to solve complex problems, and so perhaps without coining the phrase himself, Albert Einstein was actually responsible for its meaning. What I mean by this is that if a thing, an idea, a problem is complex, we cannot really understand it without breaking it down into its component parts. Subsequently, these parts can then be understood individually and added back together so that we can then try to make sense of the bigger issue. We each have our own individual experiences, thought processes, and approach to viewing and cataloging evidence and interpreting that as a whole really make sense? Is the sum of the parts equal to the whole? At its essence, this is deconstructionism.

Jacques Derrida writes that “there is nothing outside context.” He argues not only that what is written in the text is relevant but also that no text can or should be interpreted without considering the various “external” factors (historical, biographical, material, ideological, etc.) that contribute to its production. He also states that these external factors need to be considered as historically contingent within the logic of human nature, not immutable, inevitable facts of life.3

To be practical, we all experience situations, every day, where the evidence does not really seem to fit our understanding of a problem. Our own logic sometimes defies us and will not allow us to solve a problem. Our approach is wrong, and we need to get a different viewpoint to achieve the solution. We sometimes see this in our junior residents, who needly want to categorize every patient, put them into a box in a way that they understand and not in a way that they cannot understand. Not every patient with low urine output needs a fluid challenge or a dose of diuretic, but they will try to do that and categorize that patient, not understanding myriad factors go into that single decision; experience has much to do with getting it right. What is it then that actually constitutes the minimum knowledge we need for effective and efficient decision making in critical care or, in the case we are going to discuss here today, the decisions for the future of a complex organization such as EAST?

The biomedical approach to medicine has given us a most detailed understanding of the anatomy and physiology of the normal and abnormal functioning of the human body. Our understanding in the medical world of health as absence of disease is perhaps dichotomous to the viewpoint of our patients.5 Historically, health care emerged in hunter/gatherer societies as realization arose that caring for the sick and the injured improved the survival of the whole community. The role of the medicine man evolved into an integral part of our society, filling the important role of healing the patient and becoming whole again.

Interestingly, the social function served by restoring the whole, healing the sick and injured, enabled those patients to return to the society to contribute to the community again. In recognition, the healer was granted by society a special place and privilege, a stature. There was no need to hunt, and even gifts were bestowed upon the healer.6,7 Osler (Text Box 2) recognized, based on this context, a long forgotten tenet of the healer, the importance that factors other than identifiable pathologic findings were interconnected to the patient’s health and of returning them to being whole.8 Drs. William and Charles Mayo saw the patient’s health experience as a driving force not only for the care needs for the patient but also for the health care organization itself as it relates to education, research, and the organized delivery of health care. Their motto was simply that we did well for our patients today, but how can we do better tomorrow? (taken from Mayo archives from the writings of William and Charles Mayo). Clearly Osler and the Mayo brothers saw the interconnected nature of the patient and their environment. The Hippocratic tradition in the Greek school of Cos saw disease as inseparable from the patient. Modern era development of patient-centered clinical method and relationship-centered care are moves in that same direction. Medicine needs well-rounded practitioners who are comfortable with and conscious about making complex decisions in context with their patient, aware and accepting that variations in practice, in any given situation, is to be expected.9–13

Isabelle Stengers (Text Box 3) emphasized the discovery and study of new and surprising phenomenon. For example, take the discovery of Da Nang lung after the first vascular injury repairs in combat or the controversy surrounding 1:1 resuscitation and damage control resuscitation. Those discoveries should not result in rupture inside the medical sciences but rather create the opportunity to entertain a different relationship with our past approaches, highlighting the demand for relevance, not merely trying to reduce to simplicity each of those elements.14,15

“It is much more important to know what sort of a patient has a disease than to know what kind of a disease a patient has.”

-Sir William Osler8
“The true grandeur of science is not power but the demanding quest for relevance. How to learn? How to acquire new habits of thinking? How to concentrate or explore other kinds of experiences? Those are the questions that matter.”

-Isabelle Stengers

In a more practical example and apropos to this scientific session, take for instance that when a novel article is presented from the podium, where the results are unexpected or deviate from conventional wisdom, the questioners get up to the microphone and they ask questions and challenge the presenter. The challenges come in the form of taunts that this new thing cannot be true, it is not currently accepted based on the experience of the questioner. Then you, in your chair, tend to believe the questioner, who has few or no data to support his or her position, because it is easier to believe that questioner, the skeptic, because it fits with your experience, and because it fits with your practice instead of thinking outside the box and accepting the new data and idea? This is exactly what Stenger is getting at. The intellectual challenges facing clinicians, teachers, researchers, and organizational leaders at the beginning of the 21st century are no different from those facing Hippocrates, Osler, or the Mayo brothers when trying to face the pressing questions arising from the inconsistencies observed between their experience and observations. Finding accurate answers that are relevant is the ultimate goal and relevant to the remainder of this discussion.

THE MISSION OF EAST

What if we take this previous discussion on complex decision making and health care as an allegory, an allegory in which EAST is the patient, the members and leaders of EAST are the healers, and our colleagues represented here from the other trauma organizations are the consultants brought to work together with us to make sure that our patient is well and whole?

First, we need to take into account our patient and understand who our patient is and what our patient’s mission is. This mission statement (Text Box 4) is not only in the program book and on the EAST Web site, but it is printed and put on the front page of all materials for every board meeting, so that we will never lose our way or stray from the mission. It is, in the allegory, our DNA.

Where is our patient headed? Is there truly anything wrong with our patient? Does the patient really need a check up if he or she does not feel sick? Is the absence of disease equivalent to health? Given our previous discussion, one would have to answer no, they are not equivalent. Understanding EAST in today’s context—in an era of increasing regulation and increasing scrutiny as well as in an era where there is expectation for increased quality at a simultaneously decreased cost (the value equation), not to mention, more limited travel budgets, higher cost of meetings and memberships, and the increased competition for the time/talent of our membership—is our challenge. To keep EAST whole and healthy, we must continually seek to be certain that EAST is functional and relevant. The founding members, the fathers of EAST, are to be congratulated for creating a mission and vision that have withstand the test of time. These statements are as relevant today as the day they were written, albeit with a few caveats.

DEVELOPMENT OF A STRATEGIC VISION FOR EAST: THE RETREAT

A leadership group was identified for this organization, and they all took part in a survey that was created by a hired consultant. They met in Chicago in April 2010 for a strategic vision retreat. The task was to identify areas about EAST that were noteworthy, good or bad, and things that were thought relevant. This token sampling of some of those themes from those responses is listed (Text Box 5).

Talk about complexity in decision making, there were about 14 areas that were brought out in the survey, and not surprisingly, there was quite a bit of common ground on most issues. Note, however, that identity and relevance and being conflicted about not becoming “them” versus not being satisfied with the status quo are all interrelated but not necessarily congruent.

In essence, this group had identified the complex problem facing our allegorical patient. How can we change from the organization that we are today to be a better organization but not copy or recreate the best parts of other organizations? How can we become that better organization when we do not know what that entails? This is precisely the complexity of decision making that was discussed earlier. The individuals, queried about the current and future state of EAST, broke down those lofty notions questions into its component parts that were more easily understood and dealt with. These are the items that constitute the themes brought out in that survey. For an entire day at that retreat, more than 30 people, current and past board members, foundation members, and several past presidents convened with a professional facilitator to discuss the future of EAST, to create a strategic vision. That day included discussion of these and other issues in a unique

- Diversity of opinion in narrow range
- Not serving older members
- Conflicted
- Preoccupied with not becoming “them”
- High level of commitment
- Very energetic group
- Confused on what to do?
- Not satisfied with the status quo
- Relevance
- Identity
- Young surgeons
way that deconstructed the complexity of decision making. Through a series of group exercises, we debated, postulated, and proposed answers to questions that had nothing to do with how to change EAST.

Each group exercise, on its own merit, seemed tangential to the task at hand, but the facilitator created a thoughtful environment. He artfully used a process of deconstructionism and then imbued our experiences and perspectives to put the parts back into a whole within the context of our beliefs. Despite our biases and skepticisms, by the end of that day, we were pointed in one common direction that at the beginning of the day no one could have anticipated. The whole was truly greater than the mere sum of its parts. We thought outside the box.

PREDICTIONS FOR THE FUTURE FROM THE RETREAT

The following list predicts our future. There will be more surgeons employed by organizations or hospitals and fewer group practices and single surgeons. There will be a shortage of acute care surgeons. There will be an explosion of nonphysician providers and nontrauma surgeons. There will be more geriatric trauma cases. We will see more burn out in our field. There will be increasing trauma center regulation. Using the same model, the predictions on things that will not happen include the following: we will not prevent all trauma, and we will not do ourselves out of a job. We will also not have inclusive trauma funding from the state or federal government. Our patients will not become magically less seriously ill and injured. There will not be less government regulation.

The implications of these were that there would be a shortage of acute care surgeons, which would expand, necessarily, the pool of nonphysician providers, physician assistants (PAs), and nurse practitioners (NPs). There would be an expansion of nonsurgeon physicians and that there would be increasing institutional variability in how practice is run. In addition, there would be a need for regionalization, which threatens the closure of small hospitals. In fact, that threat may cause small hospitals to keep patients with reimbursable injury care instead of transferring them to higher levels of care, threatening the trauma systems that have been developed during the last three decades.

It would also be a reduction in academics and a threat to the existence of Level I trauma centers. As work hours shorten and residents get a 60-hour and fewer work weeks, there will be a need for backfilling by nonphysician providers in those hospitals. The expectations of new surgical graduates will need to be altered because their experience will be less. Community hospital closures and the lack of funding for those facilities threatens even acute care surgery, where we may need to figure out how to regionalize acute care, and there will be more state and federal regulations.

THE HEALTH OF EAST AND A PRESCRIPTION

After extensive discussion and distillation of thought over these many workshops that day, it was thought that EAST was generally in good health, and there was little evidence of disease. As we examined our patient and performed some diagnostic tests, we did diagnose some areas of concern. These are the top issues identified as EAST moves forward in the next 5 years to 10 years, issues that will need to be addressed if our patient is going to remain healthy in the future, embracing those nonphysician providers, fostering acute care surgery, collaborating with our collegial organizations, and increasing our oversight and training of our young trauma professionals and not just the surgeons.

THE TRAUMA SUMMIT

Although these ideas for the future were being further refined and plans were being developed by the leadership of EAST, Dr. Andy Peitzman, president of the American Association for the Surgery of Trauma (AAST), coordinated a conference call with the leaders of three other trauma organizations (EAST, Western Trauma Association [WTA], and the American College of Surgeons’ Committee on Trauma [ACSCOT]) with a single purpose in mind, that is, to determine if another trauma summit would be of any benefit. With unanimity, it was decided that a summit should be held at the AAST meeting in Boston in September of 2010.

The AAST was represented by past President Andy Peitzman, President L.D. Britt, past President Jerry Jurkovich, Secretary-Treasurer Grace Rozycki, and Executive Director Sharon Gutschy. The ACSCOT was represented by the Chair, Mike Rotondo, and the Manager, Carol Williams. EAST was represented by President Barquist, Executive Director Christine Eme, and me. WTA was represented by Gage Ochsner and President-Elect Larry Reed.

At that summit, organizational roles were defined. Organizational missions and visions were clearly stated, and the goal was established to identify areas to minimize overlap between our organizations and unnecessary competition. For the first time in a trauma summit, these groups organized themselves as never before and chose a leader of that group, Dr. Andy Peitzman, and a vice chair of that group, Dr. Mike Rotondo, and a decision was made to hold another meeting.

Moving forward into the realm of acute care surgery, it was thought that practice management guideline development would remain in the realm of EAST; scholarly activity with the ACS; the fellowship process with the AAST; data quality, registry, and advocacy with the ACSCOT; and multi-institutional trial development and science within the WTA.

EAST also dedicated efforts to creating parallel tracks for the future development of leaders in acute care surgery, challenging the Committee on the Future of Trauma Surgery as a Career to repurpose their efforts toward the development of those initiatives. Between the time of planning for the summit and actually holding the summit, the EAST Board of Directors finalized and approved EAST’s strategic vision, which allowed full participation in the summit with EAST’s newest ideas for the future.

THE VISION FOR THE FUTURE OF EAST

Let me share with you what the Board of Directors unanimously chose to do to achieve the strategic vision of EAST.
Updating our Web site is of utmost importance. It has been stated on numerous occasions that when that Web site first came into being, thanks to Mike McGonigal, it was the epitome of Web sites for trauma organizations. That has not changed since Mike’s time, and we are behind the times. Our committee doggedly pursued correction of that oversight, and at the time of this address were 7 weeks into a 25-week process to do that.

For acute care surgery, EAST has embraced the concept and commits to identifying time at the annual meeting for leadership forums, practice development, and the creation of acute care surgery practice management guidelines. Anticipated for future meetings will be workshops, some even procedurally based, dedicated article sessions and posters, competitions and prizes for the best acute care surgery article, and scholarships for research and sunrise sessions in acute care surgery.

One of the most important things that were recognized was that we must reengage the senior members of this organization through increased volunteer opportunities, educational programming, drawing on their expertise and establishing more mentoring opportunities. EAST is known for its leadership workshops. Those workshops were put together by those who had broken the glass ceiling to become trauma leaders in this country. What I asked our senior group to do, because they are division chairs, department chairs, and leaders of world-renowned organizations, is to help create those workshops to take current members of EAST to that next level, as was done for the junior surgeons in the past.

From a technology perspective, launching a redesigned EAST Web site is paramount. The tools within that Web site will help to establish communities outside of this annual scientific assembly, where content can be placed, which help small, rural organizations and train people without physically being present and give them credit and use tools on the Web site, Webinar-type programs, to help in the maintenance of certification for our own licensing, credentialing, and certification. Taking this even further, with the help from the EAST Foundation, iPhone applications are under development to support access to the practice management guidelines as we enter into a new technological era.

In acute care surgery, the specific goals outlined were to publish an article on an acute care surgeon in the EAST News and develop a series of informational Webinars on acute care surgery and the acute care surgeon, review and update our position article, and develop an informational piece for distribution to medical schools on the role of an acute care surgeon as a career choice.

As the ACSCOT has further refined the process to verify pediatric Level I trauma centers, and increased emphasis has been placed on scholarly activity in those centers. Trauma medical directors are required to be members of national trauma organizations and, the number and quality of publications is equivalent to that for adult-only Level I trauma centers. Without a significant collaborative effort, individual pediatric trauma medical directors and centers will find achieving and maintaining verification quite challenging.

The number of pediatric surgeons is small. The number of patients is low. Prospective studies on children are nearly prohibitive in the trauma setting. How is a pediatric trauma medical director supposed to do acceptable research and where are they going to present it? One of my presidential initiatives was to create a Pediatric Trauma Committee led by Dr. David Mooney. Establishing this committee allows for membership at that national level that is relevant. Creating an article and poster track and educational endeavors via the EAST committee will serve everyone’s purposes.

The Acute Care Surgery Committee speaks for itself. There will be work to further develop evidence-based guidelines on acute care surgery, and President Barquist has that charge well in hand for this new committee.

The final committee, the Advanced Practitioners Committee, which was developed under my leadership this year, with the guidance of President Reilly and the leadership of Dr. Bill Hoff, deserves further special discussion. It certainly was the most controversial of the strategic initiatives, as outlined previously in this article. One of the most important things that can be accomplished by this committee, closely coordinating with the ACSCOT, is to assist in defining the best roles for advanced practitioners in trauma care and help define the minimum training and the expected ongoing education for advanced practitioners active in the care of patients with trauma. In addition, as none currently exists, creating the curriculum for minimal acceptable training for advanced practitioners would benefit individuals and organizations nationally. The expectations for professionalism of advanced practitioners, including clear communication and established relationships with patients and families, are just the same as for physicians. Thus, within the EAST meeting structure, we can provide that very same ongoing educational offering and professional development opportunity that heretofore has only been afforded to the young trauma surgeons.

Ideally, EAST would help identify best models and recommend a minimum required curriculum for the training of advanced practitioners. Ongoing educational initiatives based in these areas of practice, especially those that could be taken on the road outside the annual scientific assembly or done remotely via the Web site would be particularly desirable, to make these opportunities available to a much broader audience.

When you look at the Web sites of the professional organizations of PAs and NPs, they are very proud that they are a cost-effective force multiplier in health care in this country, with an average salary of about $85,000 per year. Taking a page from the EAST playbook, identifying areas within advanced practice that lead to poor retention and job dissatisfaction, it would become the responsibility of groups such as the Careers in Trauma or the Future of Trauma Surgery as a Career, with the task to identify ways that EAST can use to try to improve retention.

FACTS ABOUT THE NEWEST MEMBERS OF THE TRAUMA PROVIDER TEAM

For those of you that do not know, PAs are educated in the medical model designed to complement physician training. Certifications are achieved by satisfying criteria identified by the National Commission on Certification of PAs, in conjunction with the National Board of Medical Examiners. To maintain certification, PAs must log 100 hours of continuing medical
education every 2 years and sit for a recertification examination every 6 years. Graduation from an accredited PA training program and national certification are required for state licensure.

According to the American Academy of Physician Assistants, the PA profession expects growth by 27% during the next decade. More than half of PAs are employed in specialty practice—24% work in hospitals. Overall, there are more than 68,000 PAs in practice today.10

The entry level training for NPs is a graduate degree. The nurse then completes a masters or doctoral program at 1 of the nearly 325 university-based or college-based nurse practitioner programs. They are licensed in all 50 states and practice under the rules of the state. Most NPs are nationally certified and the first NP program was developed back in 1965. According to the American Academy of Nurse Practitioners, 92% of NPs maintain that national certification, 40% are hospital based, 96% have prescription authority and see more than 600 million patient visits annually. There are 140,000 practicing NPs and 8,000 new graduates every year. In comparison, there are a million physicians and about 60,000 doctors of osteopathy in practice.11

Looking at the quality of care rendered by our advanced practitioners, Hurley Medical Center in Flint, Michigan, established a program in which advanced practitioners filled roles normally filled by surgery residents. Despite increased injury severity, there was a 43% decrease in time to the operating room and a 50% decrease in time to the intensive care unit, whereas length of stay for patients with neurologic injury decreased by 33% when these advanced practitioners came into the mix.12 St. Anthony’s Central Hospital in Denver found that the addition of advanced practitioners significantly reduced overall mortality by 25%, and there was a 10% decrease in length of stay. Malpractice rates for advanced practitioners are about 1 in 170 versus 1 in 4 for physicians.13

UNION OF FORCES

In his speech to the graduating class of Rush Medical School in 1910, Dr. William Mayo had this to say: “As we men of medicine grow in learning and more justly appreciate our dependence on each other, the sum total of medical knowledge is now so great and widespread that it would be futile for any one man to assume that he has even a working knowledge of any part of the whole.

The best interest of the patient is the only interest to be considered and in order that the sick may have the benefit of advancing knowledge, union of forces is necessary. It has become necessary to develop medicine as a cooperative science, the clinician, the specialist and the laboratory workers uniting for the good of the patient, each assisting in the elucidation of the problem at hand and each dependent upon the other for support.”

This philosophy became a key underpinning for Mayo Clinic and is embodied there to this day. There is more to this philosophy, to better elucidate what precisely “union of forces” means, which has made it the culture within the institution I call home today. Later in his life, Will Mayo identified three conditions he deemed necessary for the Mayo Clinic to sustain itself: continuing pursuit of the ideal of service and not for profit, continuing primary and sincere concern for the care and welfare of each individual patient, and continuing interest by every member of the staff in the professional progress of every other member. That is a true “union of forces.”

CONCLUSION

One hundred years ago, William Mayo saw what the future of EAST needed to be: collaboration is the key to the future of our success as well. Whether we identify these ideals with individual practice or allegorically with EAST, they remain a credo we can all live by. With the expert guidance of our senior members and the boundless enthusiasm of our youngest and newest members, we can achieve this vision. The first thing we must do is accept that it is necessary and trust the leadership that crafted the strategic vision and think outside the box with us. Work with and support with your time, talent, and monetary contributions every endeavor of the EAST Foundation. Only then will the days of lack of funds limiting our vision and achievement finally be over. Respectfully and smartly work with the WTA, ACSCOT, AAST to forge our future together, to make the most of our limited resources and avoid duplication of effort and unnecessary competition.

Members, I implore you to volunteer to be on a committee. Bring in new members. Spread the word about the success of EAST and the opening of a forum for pediatric trauma specialists, acute care surgery, and the ongoing education and professional development of our colleagues who are advanced practitioners engaged in trauma care. Bring your friends along, and enlist new members; commit to fund CME for your advanced practitioners, bring them with you to the meeting, and support one another as EAST heads into its second 25 years of existence. Only then can we achieve a true “union of forces” and will we succeed in this vision for an even better future. Thank you very much for the privilege of serving as your president.

DISCLOSURE

The author declares no conflicts of interest.

REFERENCES


ERRATUM
Resection and primary anastomosis with proximal diversion instead of Hartmann’s: Evolving the management of diverticulitis using NSQIP data: Erratum

An article in the April 2012 issue of the Journal of Trauma contained a typographical error. CPT code 44141 was referenced in the paper to indicate patients with primary anastomosis; however, CPT code 44140 was used to identify these patients. This error has been noted in the online version of this article, which is available at www.jtrauma.com.

REFERENCE

ERRATUM
Prediction of clinical outcomes for massively-burned patients via serum transthyretin levels in the early postburn period: Erratum

In an article in the April 2012 issue of The Journal of Trauma, the corresponding author, Wook Chun, MD, was not included in the article’s byline. The correct author list should be: Yang HT, Yim HC, Yong S, Kim D, Hur J, Kim JH, Lee BC, Seo DK, Kim HS, and Chun W. This error has been noted in the online version of this article, which is available at www.jtrauma.com.

REFERENCE