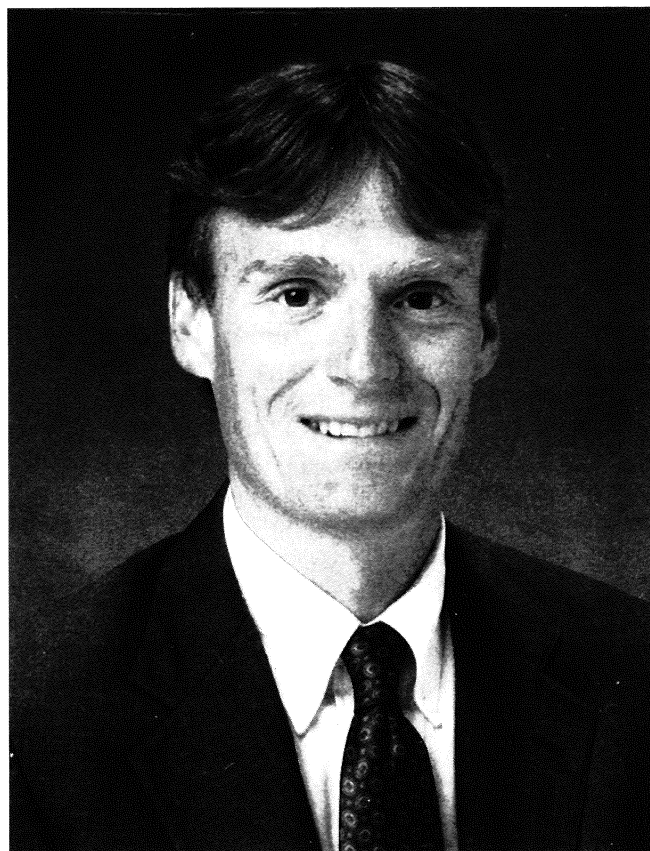


## What Is a Career in Trauma?

Thomas H. Cogbill, MD

Over the last several weeks I have been wading through the personal statements of 120 candidates for our surgical residency positions in preparation for our match list. Reading these one page treatises on "Why I want to be a surgeon" always makes me think about my own career decisions. When I began medical school, I had every intention of being an old fashioned family doctor with visions of rounds by horse or dogsled. I had no thought of choosing surgery as my specialty until the third year surgery rotation at the Denver General Hospital. In less than a day I felt as if I had been thrown into a busy field hospital on the edge of some unknown battlefield. The "Knife and Gun Club" lived up to its reputation night after night. Each day was more exciting than the one before and for sheer need of warm bodies to do the work, I was allowed to perform much of the patient care and many procedures. I looked with great admiration upon surgery residents and attending surgeons for their excellent decision making and technical skills, and that is when I knew that I had found the area of medicine in which I wanted to make my career. The management of trauma was the spark that kindled my interest in general surgery. I suspect that I am not alone since trauma is exciting for most students and residents. The injury mechanisms are fascinating, the decision making must be crisp and clear, the procedures are challenging, and the critical care is intellectually stimulating. To return a young individual to a productive life after a devastating injury has got to be one of the most rewarding experiences in medicine.

That is why I was absolutely floored to read in the study by Esposito and associates in 1991 that most surgeons in the state of Washington would prefer not to treat trauma patients, and the study by Richardson and Miller in 1992 that concluded that only 18% of graduating residents were interested in trauma as a major part of their future practices.<sup>1,2</sup> Reasons for this disaffection with trauma included the following: the negative effect of trauma call on elective practice, inadequate reimbursement, a perception of increased medicolegal risk, an unsavory group of patients, an inordinate amount of non-operative care, and a dearth of positive trauma surgeon role models. Most of you are well aware of the findings in these two studies. In an effort to develop a plan for addressing some of the problems identified in attracting surgeons to



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trauma, a committee of the Eastern Association for the Surgery of Trauma was commissioned under the direction of Steve Shackford to examine the issue of careers in trauma surgery. This important piece of work culminated in a list of recommendations that were published in 1994.<sup>3</sup> Many of these excellent recommendations have already been acted upon by each of the trauma associations. However, the focus of the EAST committee report was on academic, full-time careers in trauma surgery. When I reflect upon my own career and as I look around this room today, I am reminded that a career in trauma surgery may take on many more forms than full-time academics. As we examine careers in trauma we must realize that there is a spectrum of involvement. Perhaps part of the solution to the problem of attracting individuals to trauma rests on acknowledging that there is more than a single trauma surgeon prototype. Trauma, by virtue of the multiplicity of injuries, involves members of every surgical specialty. Because trauma occurs in every part of the world, its management depends upon all different types of sur-

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**TABLE 1.** Elements of a career in trauma

1. Patient care
2. Education
3. Research
4. Trauma system design
5. Prevention
6. Political activism
7. Mentorship
8. Fellowship

geons—academic and community, urban and rural, young and old. This brings me to the question of my address today—*What is a career in trauma?* To answer this question I have chosen to divide careers in trauma into eight components (Table 1). These components are patient care, education, research, trauma systems design, prevention, political activism, mentorship, and fellowship. Although there is much interplay between these elements, I will discuss each of them separately.

### PATIENT CARE

The cornerstone for most careers in trauma is dedication to patient care. Most of us gain the greatest satisfaction from exercising sound clinical judgement and performing appropriate surgical techniques to achieve optimal outcomes for our patients. It was somewhat encouraging in Richardson and Miller's study that 81% of graduating general surgery residents characterized themselves as being at least interested in trauma care to some extent.<sup>2</sup> We desperately need surgeons who are willing and capable to take care of the injured in many different settings. Those individuals practicing in urban Level I trauma centers will need out of necessity to devote the majority of their time to trauma patients. However, we must be careful not to sell short the commitment of surgeons who practice in locations or situations in which the number of trauma patients is less. The diversity of those general surgeons who share a commitment to trauma in the United States was described in a recent paper by Aprahamian, et al.<sup>4</sup> Finally, I must underscore the value of a surgeon like Marilu Bintz, who has nearly single-handedly raised the level of care to the injured in a small, rural community hospital by her own devotion to patients, education of her colleagues, and the development of critical care.

Trauma knows no anatomic or functional boundaries, therefore, commitment in each of the surgical specialties is essential to providing optimal care. The role of the specialist in the management of trauma was recognized by George Pierce in his 1991 Western Trauma Association Presidential Address.<sup>5</sup> The fact that the Western Trauma Association was founded primarily by orthopedists and that our bylaws ensure multispecialty composition of our membership should serve to remind us of the importance of each surgical specialty. The dedication of an orthopedist, neurosurgeon, reconstructive surgeon, urologist or emergency medicine physician to trauma may be no less than that of a general surgeon. Working together to manage such challenging clinical situations as complex perineal wounds, craniofacial injury with airway

disruption, or the mangled extremity demonstrates the value and expertise of the specialist committed to trauma. More evidence of the benefits of cross pollination between the specialties was apparent during the panel discussion on pelvic injuries at last year's WTA meeting led by Steve Ross, Tom Phillips, and Bill Iannacone, and again at this year's meeting in the panel discussion you just witnessed on the management of complex trauma led by Scott Peterson. Careers in trauma are not limited to general surgery but must encompass each of the surgical specialties.

### EDUCATION

The education of future generations of trauma surgeons in each specialty is a vital role for anyone with a career in trauma. In a sense, the teacher is allowed to achieve immortality in the passing on of knowledge and wisdom to students, residents, and fellows. The majority of this formal education occurs in university and community academic centers that sponsor residencies and fellowships. No one is more revered at these institutions than a devoted faculty member with the energy and patience to teach students at every level of training.

A tradition of education in trauma has also been evident in spheres outside of the traditional academic centers. The concepts which led to the development of the ATLS course were originally proposed by an orthopedist in Nebraska who was involved in a private plane crash in which his wife was killed and he and several children were severely injured. The popularity of this course has dramatically grown under the direction of the Committee on Trauma and is now offered all across the United States and in many countries worldwide. Faculties for ATLS courses include general surgeons and subspecialists from a wide variety of practice settings.

On a local level, many medical schools are offering rural rotations for their third- and fourth-year students. The rural preceptorship programs in Wisconsin, Minnesota, and the Dakotas pair these students up with many excellent general surgeons in rural communities. Exposure to the multifaceted nature of trauma in these areas can be a very rewarding experience for both the student and attending surgeons. Students are favorably impressed with the dedication shown by many of these rural practitioners. In an extension of this educational theme, we have begun to allow our general surgery residents who are contemplating a rural practice location to spend time with several general surgeons currently practicing in small community hospitals within our service area. Although trauma volumes are low, this is an important aspect of rural practice. Many other opportunities for teaching occur on a local level in both rural and urban locales. The education of paramedics, basic EMTs, emergency and critical care nurses, and members of our community are often in the realm of the general surgeon or surgical specialist interested in trauma.

### RESEARCH

Over the past four decades we have witnessed an explosion in the quantity and quality of trauma research. Impressive bench

research programs have developed primarily in university settings. The membership of the Western Trauma Association has been very fortunate to experience firsthand reviews of such fascinating lines of basic science research as resuscitation of the injured brain by Steve Shackford in 1994, the role of the intestine in postinjury multiple organ failure by Gene Moore in 1995, and pharmacokinetic alterations in the intensive care unit to be presented this year by Larry Reed. Opportunities for valuable clinical studies also abound in trauma. Many of our best ideas for study topics are stimulated by questions raised by patient problems encountered on our wards and in our intensive care units. My first clinical study in La Crosse came about as the result of a 55-year-old farmer who was repeatedly thrown to the ground by a bull. He sustained bilateral shoulder dislocations, scapular fractures, bilateral flail chest injury, and forearm fractures. On the second hospital day, while still on the ventilator, he wrote me a note asking me when he could return to work and if his breathing would be okay in the future. I told him he would be just fine. But I really did not know the answer to his questions. This was the impetus for Jeff Landercasper and me to study long-term disability in flail chest survivors.

Outstanding clinical papers have always been a tradition of the Western Trauma Association, exemplified by the crisp presentations and discussions delivered by Dave Feliciano. Other outlets for participation in clinical research have been the multicenter projects published under the Western Trauma Association banner. The first paper concerning severe liver injuries was delivered at the 1988 meeting and included the work of six trauma centers.<sup>6</sup> At the present time, WTA members representing more than 25 institutions are active participants in ongoing multicenter projects. Since 1988, 11 multicenter studies have been published and a 12th was presented here yesterday afternoon.<sup>7</sup> Valuable contributions are made from both academic and community trauma centers, adding a unique balance to these studies. Meaningful clinical research can occur in any setting where patients are being managed by individuals with inquisitive minds. I will close this discussion on clinical research with one final thought. The single individual in medicine credited with a discovery that has saved the most lives was Edward Jenner, a general practitioner in Gloucestershire, England who made the simple observation that dairy maids exposed to cowpox were free from smallpox. This led him to test the first vaccination ever administered.

### TRAUMA SYSTEMS DESIGN

It has been 13 years since publication of the classic paper by West et al. that demonstrated improved chances of survival for patients treated in specialized trauma centers within regionalized systems of trauma care.<sup>8</sup> Despite those findings, only a small number of states currently possess such systems.<sup>9</sup> There appears to be little or no consistency in the development or evaluation of trauma systems nationally.<sup>9</sup> The challenges to the design and implementation of trauma systems can be well illustrated by analyzing our referral area in southwestern Wisconsin. Our referral area encompasses

counties within three different states. Many counties within our service area around La Crosse do not have 911 dispatch networks. Paramedic level prehospital care ground units are present in only three of 19 counties. Although there is only one helicopter transport program located within the 19-county service area, helicopters from five adjacent cities frequently fly missions within this geographic area. More than 20 hospitals are in operation within our referral area. The number of beds varies from less than 20 to 400 and a wide range of services is provided. The design of an effective trauma system in such a large, diverse area will be difficult and will take place in a politically charged atmosphere. If we are to develop and install quality trauma systems, many of us with an interest in trauma must become involved. Opportunities for such involvement include system design, public education, political alliance building, designation and verification, and system evaluation. Without our participation, trauma systems are likely to take on a less rational, more political configuration that may not serve patients well.

### PREVENTION

Taking care of patients can be full of excitement and satisfaction. However, there are many frustrations that we all share in caring for the injured, such as injuries that are the result of social problems, universally fatal injuries despite optimal care, disabling head trauma, and the mindless risk taking and recidivism so prevalent in trauma patients. That the die may be cast long before a patient ever reaches our medical facilities reinforces the need for effective prevention programs. Pete Mucha emphasized our role in this arena in a 1986 publication.<sup>10</sup> In a paper presented by Bob Mackersie's group at last year's WTA meeting, they described a willingness on the part of 93% of trauma directors to participate in violence prevention programs.<sup>11</sup> Unfortunately, the majority of these leaders were not actively involved then or did not possess the know-how to begin participation. Valuable contributions can be made by each of us caring for trauma patients in the identification and treatment of such causative factors as alcohol and drug abuse, domestic violence, and behavioral disorders. In addition, community prevention projects, such as bicycle helmet awareness and farm or workplace safety programs, deserve our strong support. Trauma prevention needs highly visible physicians to succeed.

### POLITICAL ACTIVISM

Although this term might cause you to conjure up images of the 1960s and 1970s, political activism is another potential component of a career in trauma surgery. On a national level, Howard Champion and colleagues have facilitated many political and financial initiatives through the Coalition for American Trauma Care. On a local and regional level, opportunities for political involvement surface in each of our practices from time to time. As an example, I will review my ongoing battle against all-terrain vehicles (ATV). In 1984, Jeff Landercasper, Jeff Metheny, and I noticed an alarming number of serious injuries resulting from ATV crashes. We presented our experience at a number of scientific meetings

and political forums. In 1988, because of increasing pressure from physicians in many states and the appearance of several liability suits, the ATV manufacturers "voluntarily" agreed with the Consumer Product Safety Commission to suspend production of the very unstable three-wheeled models. As a result of this political pressure, annual ATV-related deaths in the United States peaked at 300 in 1986. Since then, the number of deaths initially decreased, but then has plateaued at 200 per year. The results in Wisconsin were not even as optimistic, as the number of ATV-related deaths has remained relatively constant since 1983. Continuous tracking of these injuries has shown that the majority of deaths now occur on four-wheeled models. Further political pressure at a state level led to a 1992 law in Wisconsin that imposed more restrictions on the recreational uses of these dangerous vehicles. Although the outcomes of these political forays may not be nearly as comprehensive as we would like, some progress in the right direction can be the fruits of our labors. Many physicians find the political system frustrating or abhorrent. However, the special interest groups who are so adept in using the system to their advantage will be there. Whether it is legislation concerning seat belts, motorcycle helmets, handgun control, or reimbursement issues, we must be a part of this process. We have credibility in the eyes of the politicians and our absence at these proceedings is clearly noticed.

### MENTORSHIP

The concept of mentorship is extremely important to the development of careers in trauma. In Greek history, Mentor was the loyal friend and advisor of Odysseus and was entrusted with the education of his son, Telemachus. The word mentor has evolved to describe a trusted counselor, guide, or coach. Not only does the mentor serve as an excellent role model, but he or she must also go out of their way to encourage, advise, and foster a young colleague in the early phases of career development. Each of us can point to one or more individuals who acted as mentors during our formative years. I would like to recognize six individuals who have each had a profound influence on me and have helped shaped me professionally.

Alan R. Hopeman, now retired, was a cardiothoracic surgery attending at Denver General Hospital who helped me learn many of the humanistic qualities that are so important in a physician. He taught me how to deliver unwelcome news to patients and their families with compassion and caring.

James T. Anderson is a cardiothoracic surgeon now practicing in Colorado Springs, Colorado who showed me how to operate with solid surgical technique. He impressed upon me that the fastest surgeon is the one who "does it right the first time."

John R. Lilly was the chief of pediatric surgery at the University of Colorado until his death last year. In his patented fireside chats, Doctor Lilly always stressed the importance of precision in *both* surgical thinking *and* operative technique.

Ben Eiseman served as a superb example of a giant in trauma surgery who never lost his enthusiasm and love for

taking care of the injured. Doctor Eiseman does not believe in doing anything inside or outside of medicine halfway.

As you might expect, one of the individuals who has had the greatest impact on my career is Gene Moore. I have known Gene ever since my third year of medical school in 1975. He has been my professor, coauthor, sponsor, fellow hockey team player, skiing companion, and friend for over 20 years. I cannot begin to thank him enough for all that he has done for me, but I would like to highlight two important influences on my career. First, Gene forced me to approach surgery academically and constantly challenged me intellectually. Second, Gene introduced me to the Western Trauma Association.

Finally, I would like to recognize a sixth mentor—my most trusted counselor and guide, my wife, Jan Anderson Cogbill. Jan is the primary reason that I made it through 5 years of residency. Furthermore, she has taught me the importance of always treating people with kindness and dignity and never wavering from a principle of honesty.

Many other individuals, including professors, friends, residents, students, and patients have taught me valuable lessons that have helped direct my career choices. The point that I wish to illustrate is that mentors may have many different backgrounds, interests, and strengths. Members of any discipline in medicine may serve as a mentor for a student or resident contemplating a career in trauma. The importance of the mentor is that he or she is willing to take a young colleague under their wing to provide guidance and advice in career development and to influence their growth as a physician.

### FELLOWSHIP

Fellowship is defined as a company of equals or friends, an association, or comradeship. As part of a complete career in trauma, this group, the Western Trauma Association, provides fellowship without parallel. On February 22, 1982, I attended my first Western Trauma Association meeting in Vail, Colorado. As I was to present a paper on pancreatic trauma at 7:40 AM I was nervously accomplishing my customary bowel prep in a bathroom of the Mark Hotel at 6:30 AM, wondering two things—first, how badly was this group going to tear apart my paper, and second, even though Gene Moore told me not to, shouldn't I be wearing a jacket and tie instead of my ski sweater? After all, Gene had also told me that I wouldn't get a bowel obstruction from swallowing raw eggs whole. Contrary to my worries, this group made me feel immediately welcome. I was most impressed by the effort that members young and old made to introduce themselves and to acquaint themselves with me. This welcoming spirit of the Western Trauma Association was perhaps best exemplified by Earl Young, our beloved past President and friend who died at Snowbird in 1989. I have not missed a single meeting of the Western Trauma Association since 1982. Although the scientific portion of the meeting has grown to achieve a level of excellence equal to any other trauma organization, and the tradition of open and complete discussion of the papers is truly unique, the primary reason that my

family and I return to the WTA meeting each year is for the fellowship. Perhaps it is the result of spirited scientific interaction, or spending a week together in an isolated resort surrounded by stunning natural beauty, or sharing the physical and mental challenges of skiing together for several days. But, whatever the reason, the Western Trauma Association has become an organization with a closeness not even approached by any other group in trauma. We are a family. Like a family we are lucky to be able to share in each other's enjoyment, but we also have the responsibility to share in each other's grief. The death of Earl Young at our meeting in 1989 and the spiritual sunrise mountaintop service in his memory remind us that both joy and sorrow bind us together as a group. The illnesses of two of our members during the last few months reinforces this point. The value of fellowship comes to us "in spades" at times like this and makes me even happier that I am a member of this group. When Jan and I were selecting a resort at which to hold this year's meeting we chose Grand Targhee because its unique attributes seemed to allow an ideal opportunity for the development of our relationships with each other and our families. Fellowship is an important and often overlooked part of a career. We are lucky to be members of an organization that places such a high premium on this quality.

So what is a career in trauma? I have chosen to support an inclusive rather than an exclusive definition. I believe that any surgical career that encompasses one or more of the eight elements that I have outlined should be considered a career in trauma. It is a rare individual indeed who is able to achieve excellence in all eight areas. Each of us will discover a different set of opportunities that are determined to a large extent by our own personal interests and practice settings. A physician dedicated to trauma will maximize exposure in each available area to effect improvement in the care of the injured. The Western Trauma Association provides an ideal environment for success in all components of trauma careers, with special emphasis on research, mentorship, and, above all, fellowship.

In closing, I wish to thank you for your attention today and especially for the honor to serve as President of the Western

Trauma Association this year. I am deeply indebted to my partners in surgery at the Gundersen Clinic for allowing me the time to devote to this activity. Finally, I reserve the greatest thanks for my family who put up with me all year, helped me to plan this year's meeting at Grand Targhee, and permitted me to take time and energy away from them to perform the duties of the WTA President. Thank you.

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