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J. David Richardson, MD
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Dr. David H. Livingston

As I was your first "modern day" trauma fellow, it is a real honor to interview you for this project. From my time in Louisville I knew you did a cardiothoracic fellowship, but when did you decide to do trauma?

Dr. J. David Richardson

I never did. I think you know, I never viewed myself as a trauma surgeon. I didn't then and still don't. I was just a surgeon who did trauma. I never was going to do it to the exclusion of other aspects of surgery. The reason I did cardiothoracic wasn't to do cardiac. For better or worse, what I intended to do was one of the few things that actually worked out the way I planned it. I came up in an era where surgeons did a variety of big operations and I didn't want the diaphragm to be a limitation, so I did non-cardiac thoracic surgery as well as vascular, broad-based, general surgery, and trauma.

When I came to Louisville, trauma was a big part of what we did in the department. I had a large elective practice, but also felt an obligation and responsibility to cover trauma, so I just did.

It wasn't a conscious decision, "I want to be a trauma surgeon." I was just was a broad-based surgeon who happened to have trauma as a part of a much larger scope of practice. I enjoyed the challenges of trauma surgery and believe that having a good elective practice enhances trauma skills.

I find the hoopla about 'acute care surgery' amusing in that everybody acts as if this is something new. As you know in Louisville, we built a model that was really acute care surgery plus elective if you wanted to do it. When I hear people say, "we discovered or named acute care surgery," I note we have been practicing what we called emergency general surgery with trauma and surgical critical care for decades.

Livingston

Who influenced your career? Who were your mentors?

Richardson

Certainly when I started medical school I never intended to be a surgeon. I thought, I'll probably be an internist. And the fields I thought I had ruled out were psychiatry and surgery. However, I wanted an opportunity to work before I began medical school, and was hired in the surgical labs at the University of Kentucky with Dr. Ben Rush. I then came under the influence of Drs. Rush and Ben Eiseman and got the surgery bug.

It was a very good, young, exciting department. I also did some work in the lab with Dr. Ward Griffen and I got caught up in the excitement of it and decided to pursue a surgery career. It made me appreciate early mentoring.

I started at Kentucky but finished my residency in San Antonio. In those days, it was thought to be good to move around and not do all your training in one place, although I didn't have any real desire to move.

Dr. Kent Trinkle who is long deceased—Kent died a number of years ago at a very early age—left Lexington to start the cardiac program in San Antonio. I had worked in the lab with him and went to Texas with him. There I also met Fred Grover who just stepped down as the chair at The University of Colorado in Denver recently.

I'd been fortunate enough to have been able to write those with them and they treated me extremely well. We worked hard, but it was a very collegial group. I was the only cardiac resident there for two years, so I did all the cases and it was a great experience. They were important mentors along with Dr. Bradley Aust who was chair in San Antonio, Arthur McFee, and Dave Root. Of course Dave Root is also a past president of the AAST. When I came to Louisville you know about my relationship with Hiram [Polk].

It is interesting but I learned a lot from Hiram, in terms of the political things he did and the way he did them. If you are asking, did I have somebody that pushed me and made my career? I would say no, I don't feel that way. But in terms of people that I learned from, respected and admired, I think I've named some of them. There were a lot of others as well.

Livingston

What's the best career or life advice you got?

Richardson

I don't know. I'm philosophical about life on my own. Dr. Eiseman once told me that to be ac-

ademic surgeon, you ought to do three things. The first was write two papers a year. If you do that, soon you will have a pretty good CV that nobody can quibble with. Second was that you should try to get on the operating schedule every day so that people will know you are a real surgeon, and the third was to have an exciting hobby so that it takes you away from things. Of course Dr. Eiseman was a mountain climber and I have my horses. I always thought that was good advice.

Livingston

Any particular bad advice?

Richardson

The think the worst advice I was ever given was when I was told, "Dave, you have to specialize. You can't be so broadly focused." As you know, I never did take that advice. It may be good advice, I just never took it.

Livingston

What scientific contributions are you the most proud of?

Richardson

I think the flail chest work was pretty important but nobody ever talks about any more. Currently few remember what a ground-changing concept the changes in flail chest management were at the time. We totally changed flail chest management in a year or two from the days when a patient with even a minor flail and no physiologic deficit had a mandatory tracheotomy and was placed on a ventilator for a month. We changed that based upon some animal work. The science was certainly crude by today's standards, but at the time it was the best we could do. We really pointed out that the problem with flail chest was not a mechanical one but may be due to underlying pulmonary contusion.

I find it also fascinating that, if you go back and read these papers, we pointed out one of the real problems was over-resuscitation. At the time we presented the concept of low-crystalloid resuscitation with pulmonary contusion, we got beaten up. Now, 30 or 40 years later, people are coming around and saying, "Hey, we don't need to give all this fluid." I think we convincingly showed in patients and animals that if you had pulmonary contusion and you gave a large volume of crystalloid it increased the area of the contusion, made the lungs heavier and worsened hypoxia. Likewise, flail chest patients could be often treated without a ventilator at all or with short-term support.

I also think the developed protocols of injuries that Lewis Flint and I did in Louisville was really pretty good. What we developed were protocols that could work. It may not have been the only way to treat duodenal, pancreatic, or colonic injuries, etc., but they worked pretty effectively and were important where you had variety of residents and attendings.

Livingston

Is there anything you embraced or championed that you look back on now and say, "Why did we do this?"

Richardson

Well, I don't know. I know this sounds bragging, and I don't mean for it to, but as a resident I had the concept of abdominal compartment syndrome. I gave the paper at AAS as a resident and it published in the *Journal of Surgical Research* (*J Surg Res.* 1976;20:401–4). What I had noticed was that when the abdomen became tight, patients didn't do very well. In a canine model, I created intraabdominal hypertension, that is what I called it, and showed how the respiratory mechanics changed. I even did some microsphere work and demonstrated that that intestinal and renal blood flow changed as you elevated abdominal pressure beyond a certain level.

I always joked and said if I had been in the Navy and come up with the analogy of damage control on the ships, I'd have been famous. But I didn't make enough of a clinical connection, which I think why the studies were forgotten. The other connection to damage control was that Lewis Flint and I had sent an abstract to the AAST where we had had this novel notion of packing people's abdomens. We had seven or eight patients and we'd saved five or six of them, and I was fairly sure it would get on the meeting just so they could throw things at us. Instead they took Feliciano's paper which had *ten* patients and then made me discuss it. So there is lots of near misses in your career even if you come up with good ideas.

In terms of really dumb ideas, I don't know. We all have them, thankfully we don't act on most of them. I think we may have been behind in embracing non-operative management of solid organ injuries. Not that we didn't eventually get there but I think we were probably a little late to come around to that viewpoint.

Livingston

What do you think are the major changes in practice patterns that you've seen in your career?

Richardson

I think specialization has been huge in terms of practice. You know the most-quoted paper I have ever written, by far, was the one asking "will there be trauma surgeons available?" The workforce study that Frank Miller and I did (*J Trauma.* 1992;32(2):229–33). If you look back in time and see what the mood was then and then go forward to today where there are a lot of residents wanting to do trauma and critical care, it is a great thing to have watched. That to me has been the thing that I've found the most interesting. An awful lot of our great young trainees are embracing trauma and emergency surgery as a career, and I think the way the field has grown has been the biggest change that I have seen.

I do have some general concerns about training in the country. I have worried that even in trauma and critical care that we may oversaturate the field if we are not careful. We need to be training people who can do a more than one thing. I still think what the country needs are

more general surgeons who can multitask and do trauma and other things including acute care surgery or nocturnal surgery or whatever you call it.

Livingston

During your career what do you think are the two or three biggest advances in trauma care we've made?

Richardson

I think the biggest has been the advances in surgical critical care. Frankly, I'm not sure surgeons operate better and maybe not as well in some ways compared to years ago. I believe surgical critical care and the ability to keep really sick people alive—all the advances in ventilator care, understanding of and the ability to manipulate physiology, and give really super sick and hurt patients a chance to survive—has been the biggest advance by far.

Secondly is the concept of damage control. I can remember when we would struggle in the OR trying to stop bleeding that was untreatable because of the triad of hypothermia, acidosis, and coagulopathy. It was just a lack of understanding. I remember we had a discussion about that topic at the Southern Surgical and a couple of surgeons got up and said, "You boys just don't know how to operate, just suture the blood vessel" and all the stupid stuff that people will say who haven't been in an OR at night in 30 years and haven't taken care of really bad, hurt trauma patients ever in their life. That whole concept and recognition of the importance of blood clotting and damage control is huge. I think the recent extension of the damage control resuscitation has also been a big advance in saving patients.

Imaging would be the third major advance. David Root revolutionized diagnostic evaluations with peritoneal lavage [DPL] and we did hundreds of DPLs in San Antonio when I trained and here in Louisville and that was the great advance. Today, the imaging capabilities are astonishing.

Livingston

What parts of the career have been the most rewarding for you?

Richardson

Resident and fellow education and helping them in their careers. I am extremely proud of you and your fellow trainees. There is a saying that: "You drop a pebble in the water and you don't know how far the ripples will go." I believe in that. If you're going to do academic surgery, you've got to believe in that because so much of what we do put up with in academics is awful. Having to deal with deans and all of the other administrative headaches is often unpleasant and an impediment to you doing good. You can quote me on it if you want. I suspect it's true every place.

So if you don't believe that you're making a difference in people's lives other than providing clinical care, one should likely go into private practice. But helping and watching the residents and fellows mature and progress in their careers is the thing that has given me

the most pride. In addition to yourself, many leaders have come through our department. Gill Cryer, David Spain, Eddie Carillo, Bill Flynn and many others who have done well. We now have an amazing group of young people currently with us. My current boss, Kelly McMasters, trained with us and I gave Mike Edwards, who is the chair in Cincinnati, his first job in general surgery, although he eventually did oncology.

It is also not just the trauma fellows but students and residents that have come back years later, totally unsolicited, and say you changed my life because you helped me do this or that or you helped me get a job or you gave me this advice or I learned this from you or whatever. That's an amazing and heady thing for me and by far the most rewarding.

Livingston

What advice do you give a resident or fellow wanting to do pursue a career in academic surgery?

Richardson

Well, I think the first thing is it's important to understand what you're getting into and why you are doing it. I find an awful lot of people now who say they want to be in academics who have no academic leanings or pretentions. They don't particularly like to write, and often they don't have an inquiring mind. They like working and hanging out with residents, but not necessarily because they are interested in education. Maybe they see it as cool or because that's what they know.

While it sounds simple, if you are going to pursue an academic career you should really enjoy the academic part of it. Really teaching, not just having a resident assist you in the OR. Really being a mentor to somebody. It should include some degree of scholarship. I'm not necessarily talking about doing bench research, but I do think you should have a scholarly, inquiring mind if you're going to do academics.

I am also a big believer in life balance. Unfortunately many people have interpreted the concept of life balance as you can't or don't work hard. Real life balance is just that, balance. I've managed to do that with my horses and it's been a huge part of my life. But I surely worked hard to pay for it. I also really think it's important to be family oriented; I am and I know you are.

I'm very close to my children. You always wish in retrospect you'd probably spent more time with your children, but, having said that, I don't know that they would have wanted that. I mean they are kids and they don't want their dad around all the time. Additionally, you've got to earn a living and I was the sole breadwinner. I came from Appalachia where I was the oldest of four children and had to always make it on my own from a financial standpoint. You end up working and doing things that, had you had a little more freedom and flexibility financially, you may have done a little differently. Managing the balance is hard, but life is hard. I think having a good, active life outside the hospital as well as a vibrant family life is important.

Livingston

What do you think the next challenges and opportunities are for general surgery, trauma and acute care surgery?

Richardson

The problem that I have with acute care surgery is that while we have given something a name, I worry that often the people who talk about it don't have the skill set it takes to do the job for which the discipline is named. For example, if you are going to purport to be an acute care surgeon, then the cases treated are some of the most challenging cases that come through the door. If a patient presents with a gunshot wound to the chest and you call thoracic surgery and they take care of it or you've got a vascular emergency and you call the vascular surgeon, or your blunt chest trauma patient has an empyema or a retained collection and you get a thoracic surgeon again to do the VATS, or you call the colorectal surgeons for the patient with a perforated diverticulum, then what have we really done? Unfortunately we've not done anything more than just become a simple non-operating referral-based service that triages patients to somebody else who really takes care of the problem.

What I fear is then we've named something "acute care surgery," but in many places we're not giving people the tool box they need to really manage the acute problems which are often vascular or thoracic or major abdominal problems in nature.

Can you operatively manage a really bad liver injury if you had one? I still assist junior surgeons with thoracic trauma and am called in for some of the complicated other injuries. The greatest challenge is how we teach those operative skills and how we really give people the skill set they need to manage the acute problems that they're going to deal with if you want to be an acute care surgeon in something other than name.

When you were with us, you came to the OR to see patients and operations even when you weren't on call. That mindset is very hard to get back. I did that as a resident. I said, "If you've got something really interesting, call me." I mean call me. You'd go to jail if you did that now. That's bad, and not good for training.

Livingston

Given our conversation it doesn't sound like you would change much in your career or in or out of the hospital.

Richardson

No, not really.

Livingston

Maybe get a few more winners in the horse races.

Richardson

Well, that's always—I bred a big winner of a Grade III race on Thursday in San Anita that I had sold to Bob Baffert, so that was good. I also won a Stake's race, 100 Grand, at Saratoga this

summer with a horse that Hiram and I still own.

Livingston

Anything else you want to comment on for the 75th anniversary of the AAST?

Richardson

I've had a wonderful career. I've really enjoyed the trauma part of it. I know it sounds sort of tacky, but I mean it—I can remember many nights when I'd have big operative days, a full day schedule with a full day schedule planned for the next day, and climb out of bed to come in and help some poor person that was injured in the middle of the night. I may have left sad because the outcome was not good but I never left angry or said, "Boy, why did I have to come in and do that?" I always felt that this was a part of giving back and that was what you did and you paid your dues and it always gave me a great sort of charge to be able to do that. Many a night I have come home bone tired and laid down for an hour and gotten up and taken a shower and operated all day the next day and not felt badly about it. I was fortunate to be able to do that and I certainly don't have any complaints about a thing.