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President 1995–1996

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The first question is obvious, but when did you decide to do trauma in your career?

Dr. Kenneth L. Mattox

I decided to go into surgery about my third year in medical school. I really enjoyed most of my rotations during my residency. At the end of my chief year, I was about to go as a White House fellow, but that fell through because the competition was very keen. I would have become an administrative medicine person at the time of Watergate so I'm glad I didn't go to Washington!

Two weeks before the end of my chief year I didn't have a job, but somebody dropped out of the thoracic fellowship so I slid into a cardiothoracic slot. At the end of my two years of cardiothoracic, Dr. DeBakey offered me one of two jobs: Run his big bad, big tough case room at the Methodist Hospital where we were doing vascular and hearts, or go over to Ben Taub and take care of all the surgery over there because they had limited faculty.

I chose the Ben Taub and I looked around for things to write up and study. There were plenty of people writing about vascular and cardiac but very few people were writing about trauma. We had no shortage of trauma, so I started writing about what we had. The rest is sort of history. I worked with what I had. It was my first job, first months out of my cardiothoracic residency, and I just slid into trauma.

I also liked the challenge. Ben Taub didn't have many faculty, didn't have many resources. Methodist had everything. I liked the challenge, so I took the tougher road.

Livingston

Obviously Dr. DeBakey was a mentor or an influence. Who else?

Mattox

Well, the mentors at that time were Dr. DeBakey, Dr. George Jordan, Dr. Arthur Beall. In the early days, Arthur Beall had a lot of articles in the *Journal of Trauma*. It was expected that everybody at Baylor would follow Dr. DeBakey's military experience, his vascular experience, his heart experience, so everybody who trained here was expected to be "hot stuff" in trauma, in vascular and in thoracic. It was just assumed that you would be good in general surgery, but those three areas were all equally looked upon with respect among the existing faculty.

Livingston

So it wasn't odd that you did two years of cardiothoracic and then did trauma?

Mattox

It was sort of expected that you would get all of the training Baylor could give you and then you would figure out where you worked. Everyone was expected to do everything. We weren't limited by the diaphragm or by the union card. Having the extra ability to not be afraid of the heart and the lungs and the thoracic outlet, cardiopulmonary bypass and cannulation and pulmonary ebmboli and portacaval shunts—it was just expected that you would love those.

Livingston

A little different than training today?

Mattox

Yes. You're going to ask me later about what's different, and that's a major difference. We were expected to be good at and interested in everything back then. Now, people are single organ surgeons and limiting their practices.

Livingston

Besides going over running Ben Taub, what was the best career advice you've received over the years?

Mattox

Probably the best career advice was from DeBakey who was always pushing—if you're given a choice, always take the high, hard road. Whatever you do, pursue excellence and have great attention to detail. You are given a bag of tricks from your residency training, and now it is up to you to use those tricks to ride the next horse, to pursue the next areas of challenge. Just because you have had training in a given area doesn't mean you are going to be expert. You need to work at it.

Livingston

Did you get any bad career advice over the years?

Mattox

Not really. I never had enough time. Even in college I was advised to go into various fields. I think I would have been happy, I could have been happy wherever I went. I wanted to do a lot more basic science work, but I did not take time off for two years in the research lab. I wasn't really advised to do that. Whether or not I would have benefited or not, I don't know.

I watch the people that take two years off now—probably 80% to 90% of them really never use it. Many schools push it. I look back and I wonder if I shouldn't have had that additional skill. I just don't know how I would have worked it in.

Livingston

Which contributions are you most proud, what would be your top two?

Mattox

Probably the work we did in addressing hypovolemic shock. First, early on in the use of MAST [military anti-shock trousers] and then using hypertonic saline and the discovery that we actually made people worse when we raised their blood pressure. Moving from there into limited resuscitation, limited fluid replacement. That's a biggy.

Also all of the work we did in taking on virtually every major blood vessel in the body. The exposure and the techniques to quickly repair aortas in the chest and the belly and the cava, thoracic outlet. Those are probably the two in trauma that I am the most proud of.

Livingston

Anything that you championed or adopted and then you gave up on? Anything you ask yourself, "Why did we do that?" especially as we knew more?

Mattox

I was convinced—I guess in the '70s—that component blood therapy was good. I was convinced by the blood bankers that we ought to chop the blood up and give plasma and platelets and packed cells differently and then clotting factors.

Looking back on that, I think we probably took a wrong road because now we are re-constituting blood by the 1:1:1 and even beginning to think about fresh whole blood again. I think that was a detour that we probably would have been better had we not taken.

Livingston

Looking at your career longitudinally, what do you think the two or three big advances in the science of trauma care were?

Mattox

I think CT scanning was a major shift. Second, the damage control approach allowed for people who really weren't that extensively trained to get control of things. I think that was major. It took us a while to stumble into that.

Finally, the entire shift of resuscitation from what occurred pre-1960, then from '60 until about 1995 when we flooded everybody, and now going back the other direction to limited resuscitation.

Livingston

You alluded to some of the ways the overall practice patterns have changed, could you expand on that?

Mattox

Yes. Currently we have hospital-based practices, emergency medicine, anesthesia, radiology, and now surgeons and internists are hired by the hospital.

We have group practice and integrated care and no one can really tell me what that means. Then we have restricted work hours where the patient really belongs to a committee. I see that as a practice pattern that is not comfortable for me.

Livingston

How do you think your residents see that?

Mattox

Some of the people who want a different lifestyle, whatever that is, because they want to avoid stress probably appreciate restricted hours. Those people are more stressed than I am, and probably have more family problems than I have, and don't enjoy life and the opera and photography and travel as much as I do, and yet they don't work as much. They punch a clock and they are always looking for things to do when they are off. The people who talk the most about it, I find, to be the most uncomfortable.

The fourth-year and chief residents think more like I do, and they don't like the regulations that force them to work only so many hours a week. So, the younger people are buying and drinking the Kool-Aid. They are accepting the dogma of whatever the wimps wrote about. The regulatory people who have been trying to regulate medicine for decades have finally succeeded. I am of the old school: one patient, one doctor and you work until the work is done.

Livingston

What aspects of your career have you found most rewarding?

Mattox

I think there are a lot of things I am happy with but probably two things are the most rewarding. Number one, the people that I've helped to train who dot the world as master surgeons.

Many are not in academia but are out in the small communities doing good bread-and-butter surgery for that community. I'm very proud of that legacy.

Second, I am proud of establishing the reputation it's okay to be an iconoclast. It's okay to say, "The emperor has no clothes." As a matter of fact, it's probably important that there be people like that. I have developed a reputation and people expect it when I go to the microphone and the podium that I am going to say, "There is another way of looking at this."

LIVINGSTON

Challenging the status quo is always very important. What parts of the career has been the most challenge for you?

MATTOX

Probably the evolution of medicine becoming a business corporation and that in the private world we have forgotten the purity of why the guild of medicine and of surgery was developed in the first place. The regulations and the governmental restrictions and the financial side of medicine have tempered what we can really do for a patient, and we sometimes get away from the basics of why health care was developed initially. For me, that is very frustrating.

LIVINGSTON

So what is your career advice to your young trainees who want a career in academic surgery, trauma, acute care surgery?

MATTOX

Number one, know yourself. Don't get on a conveyor belt that you are not happy riding. Find what you like best and once you do, go to the heart of danger and find safety. Pursue it with a vengeance. But if you find you don't like it, take the next wave, like a surfer, and you will soon find a wave that you find comfort in. Mainly, you have the talent, figure out a way to use that talent on something that makes you happy and then master that field.

LIVINGSTON

Where do you see the greatest challenge right now in trauma care and acute care surgery going forward?

MATTOX

Well, I think the biggest challenge facing us right now is that the renaissance time of trauma surgery is probably past. In surgery, the remaining renaissance men and women are the pediatric surgeons. Everyone else has tended to focus in one area.

Every community in the country needs a go-to person that when things are really tough you can call that person up and they can take care of it. So I think there is going to need to be a back-to-basics on the overall renaissance surgeon. We need to encourage that to happen. We have moved in that direction with acute care surgery, but I think we're not moving as

fast as we could. I personally think we should have taken all members of AAST five-ten years ago and grandfathered them into acute care surgery, as long as they met certain qualifications. Then we would have had a critical mass.

I think we are again being boxed into a corner in acute care surgery by the people who see acute care surgery as a threat to their private practices, especially with tight money. I also think one of the greatest challenges and opportunities for us in the future is that the acute care surgeon absolutely must learn the endovascular and catheter-based skills. It's really not that complex. It's not rocket science.

Just as we have taught ultrasound to many different disciplines in medicine, endovascular should not just be in the armamentarium of the vascular surgeon or the interventional radiologist. There are real opportunities there.

Livingston

Would you be in favor of being very liberal in grandfathering AAST membership into acute care surgery?

Mattox

I don't know if I have published it or not, but I was pushing that loud and hard a long time ago. If you look at the bariatric surgeons, if you look at the minimally-invasive surgeons, SAGES [Society of American Gastrointestinal and Endoscopic Surgeons] actually credentialed those people. They didn't go through the other route. They immediately had a huge mass of people that were minimally-invasive surgeons. I think politically I would go that direction.

Livingston

Where do you think the next great advances are going to be?

Mattox

Endovascular. I think that the Mattox maneuver ought to disappear. There ought to be a hybrid approach. When you get in the belly and you see there is retroperitoneal hematoma, lean on it, don't open it, put in a balloon, get control, slide in a wire, put in an endograft, and decide if you need to do a bypass. Cut down on the blood loss.

The same sort of thing applies to areas all over the body. The same catheter-based technology might be used in the gut, might be used in some solid areas. This technique is going to totally revolutionize thoracic outlet kinds of injuries and take a 45-minute subclavian artery bypass and think of the 15-minute procedure.

Livingston

Would you change anything in your career?

Mattox

I've had one hell of a ride and I've had a lot of fun. I've operated on probably more than 70,000

people. Nobody ever told me I can't do something because of the training I had and where I worked. So I can switch from doing a Whipple to doing a coronary bypass to doing a congenital heart to doing a portacaval shunt to doing an amputation, whatever it is I like to do.

At the same time I have been able to say no to things I don't like. I don't like burns so we've stayed away from burns. So yes, I've had a great time.

I do wish I had learned 10 or 12 different foreign languages. I've traveled one heck of a lot but I'd like to have traveled a great deal more. I always learn from wherever I go because the individual artisan skills of surgeons, even in small places, are sometimes fantastic.

The genome that drives people who ultimately become members of AAST is something special. Even those people who are not members of AAST in some small African country or in Asia or smaller, less known countries have the same skills and, when given the opportunity, those skills are mastered. They have sometimes learned to do some things differently. I would have liked to have seen more and more of that, although I have participated quite a bit.

Livingston

Anything you would like to do outside the hospital that you haven't had an opportunity to do?

Mattox

Well, I'm doing some of it. I'm getting involved in health policy. I think politically we are going down some wrong paths. I do think one thing we have learned in trauma and in disaster management is that, like politics, healthcare is locally-based. It's all local and regional and no single formula fits everything. Just as we have developed regional trauma systems that work, and we talk to each other and we're integrated, that same kind of approach ought to be the basis of our integrated health care delivery systems in the future.

Unfortunately, politically, we are getting into a single-payer, Obamacare-directed, federally-mandated, federally-reviewed health care delivery system. I think we, especially in trauma, especially in AAST, acute care surgery, need to recognize just what we have produced in this systems approach to care and replicate that for health care delivery in the future.

I think we have not been as politically active as the leverage that we really have would have allowed us to build. So yes, I'd like to and will be more involved in health policy.

Livingston

What's the future for Dr. Mattox besides that, clinically?

Mattox

I probably have material for about six or eight more books I want to write about various things. I think we live in a very small world right now. The globalization of academics and the globalization of trauma care are things we really need to do more of. We speak the same language. We have the same genome. The Internet allows us to do it.

I'm not talking about using global healthcare to refer cases to the megalopolis hospital, but instead, sharing of information, responding to each other in a productive way during times

of disaster, consultation that's really not a formal billing, but a how-do-I-manage-this-case-that-I've-never-seen-before kind of thing. We have that capability with the Internet.

If you think about it a moment, the surgeons that are members of AAST are usually respected members of their community that have operated upon or cared for critical political folks in the community up to and including the heads of state. Think how wonderful it would be if professionally we had a united nations of acute care and we had individuals from every country in the world. We may not be able to solve the Israeli-Arabic feuds, but almost everything else in the world we could approach and maybe bring some order to some of the crazy chaos that occurs right now. That would be fun.

Livingston

Anything else you would like to comment on?

Mattox

Thank you for the opportunity. Thank you for doing this. We have many great challenges before us. For those who are just coming along, there is no shortage of opportunity to do something new and exciting. I look forward to reading what those who follow us do better than we ever did.