

**Department of Surgery History Interview**

**Peter K. Smith, M. D.**

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**This interview presents Dr. Peter K. Smith, Chief of Thoracic Surgery, Department of Surgery, Duke University Medical Center, Durham, North Carolina. This interview takes place in Dr. Smith's office in Duke Hospital South. The subject of this interview is Dr. Smith's career as a thoracic surgeon, and particularly his work as Chief of the Division of Thoracic Surgery. The interviewer is Dr. James Gifford.**

**Dr. Smith this is our second interview. Perhaps we could begin it by having you tell me how you come to be Chief of Thoracic Surgery.**

I was appointed as Chief, I guess in August of 1994, by Dr. Bob Anderson. As you know, I have been at Duke since 1973, at medical school here, and all my residency under Dr. Sabiston. And I have been on the faculty since 1987.

**The Division of Thoracic Surgery, I believe, was originally a part of the Division General and Thoracic Surgery. And how did that evolve? When did it split off, and why?**

Basically, it split off at the time of my appointment, to the extent that a Division Chief, other than the Chairman, was identified. At the same time, Dr. Bollinger was appointed as Division Chief of General Surgery. Whereas, Dr. Sabiston had held the combined posts for his tenure.

**Now, in contrast to other medical centers, this split between general and thoracic took place rather late. And this is because of Dr. Sabiston's personal background and preference.**

I think that's a good way to put it. I think general and thoracic surgery have very much in common. And we still do. We still work together a great deal, especially regarding residency training. I think that the way

the residency training program was an integrated one for so many years really necessitated having the two divisions work as one. I'll try and explain that better. I believe it's the way the Hopkins model of training worked, where residents were identified at the they initially matched into their surgical residency, they were identified to be thoracic surgeons. And, to become a thoracic surgeon, requires you to do full training in general surgery, and then after that, and after passing the Boards, only then do you become eligible to pass your Boards in thoracic surgery. The way that was accomplished at Duke was that we would get exposure to thoracic surgery throughout our training period. One significant block would be nine months in the middle of our senior residency in general surgery would be devoted to thoracic surgery. And would, along with three months of the Chief Residency year be credited toward your first year of cardiothoracic fellowship. But in fact, you would finish your chief year in general surgery and then do only one more year of a fellowship to become qualified. So, we had an integrated program such that the first year of the cardiothoracic fellowship was basically interspersed amongst all the years of general surgery. Now, at Duke all the years of general surgery amounted to seven years, five clinical and two lab, and in some cases eight years which would be six clinical and two lab, something like that, and I think you will find a number of residents who had a varied number of years doing that. Sometimes more lab, sometimes more clinical. But throughout, there was a common thread which was that you were training for general and thoracic surgery, and that constituted approximately as you know, about half of the residents that were trained here went on to become thoracic residents. And the other half, when they completed their general surgery training, without doing these interspersed things, went on to become general surgeons. Basically, when Dr. Sabiston trained, thoracic surgery was in its infancy and just developing, and general surgery was still practiced by many thoracic surgeons before the advent of coronary bypass grafting and the general bloom in the amount of surgery that is done by thoracic surgery. Many of the thoracic surgeons here did both. So that they would be doing a cholecystectomy one day, and a coronary bypass grafting the next day. So, it made sense that the divisions would be the same. It was only really in the mid eighties that coronary surgery became so monumental in its magnitude, that it just became impractical to continue doing all forms of surgery. I think that is the very nature of specializations,

that ultimately specialization results in fragmentation. And, I think that you are right in saying that it happened later than usual here. And it is because there are many good things about staying together. There are good things about being apart which is that thoracic surgery is extremely complicated and it requires full focus so that anything that is outside the realm of thoracic surgery takes time away from the devotion that one can have for thoracic surgery. At the same time, you miss something, I mean, when we split off as a division, general surgery has undergone a fair amount of change. A lot of endoscopic surgery, new techniques, and itself is starting to require more singular attention to its field and not be diluted by thoracic surgery. So, I think when you look at a broad picture of it, I think it probably was about the right time for us to split, at the time the appointments were made, and I think both have thrived from it.

**You spoke of the Residency Training Program and changes there. Could you elaborate on that, now that the divisions are separate?**

Basically, there are a couple of threads to this story. I described perhaps not too artfully, the way our program was mixed. We had one integrated program. We would have two match numbers and we would match six individuals to finish but three would be identified as thoracic surgeons, and three would be identified as general surgeons. And that would vary from year to year, but basically, we had permission to train a total of six general surgery chief residents. and a total of three, now four thoracic surgeons each year. So that you make that match up by going three and three when you start. In about the mid-eighties, the American Board of Thoracic Surgery and the Residency Review Committee for Thoracic Surgery began to talk about a requirement that the Thoracic Surgery Training program be completely and identifiably separate from the General Surgery Program. By that time, most of the programs had separated so that there was a true clearly identifiable general surgery program, and that was completed, and then you would do a thoracic surgery program, and that would be it. And that would shift the description of the program from what I described earlier into one where you did seven consecutive years, two in the lab to become a general surgery chief resident and would do two consecutive years thereafter to become a thoracic trained resident, to become eligible to

take your Boards in thoracic surgery. I think by about 1986, there were only three programs, ourselves, UCLA, and Hopkins perhaps that were still running integrated programs. And the mandate basically came down from our Residency Review Committee that we must change. And this is rather difficult as you can imagine when you think of a program that has nine levels of seniority, each separated by one year, then all of a sudden you have to change the finishing dates of so many people, and not lengthen their individual program, but come to a point where you can satisfy this change. And we basically proposed in about 1986 and 1987, we proposed a method to change that, which Dr. Sabiston and I worked out so that although everybody's year to year schedule would change slightly, no one would have to do any extra training time and that ultimately we would end up in compliance, and the compliance date is actually next year. We will have finally.....this year we have one person who is still training under the integrated program, and next year we will have one person training under the integrated program. Since 1988, we have started having a two year program, people come in and by next year we will have completely switched over. But we had to do it over such a long period of time so that we wouldn't jeopardize the training status of anybody that we had, and we didn't want to jeopardize how long it would take them all to train. But, basically, there was a mandate to separate these out. And one of the reasons that the mandate existed is that thoracic surgery felt the need for an identity, I believe, nationally. And wanted to separate their programs, and have an independent match that would occur. So that there would be more competition for the residents who wanted to do thoracic surgery. I think that what they saw happening was that a lot programs would match people in their first year to do thoracic surgery and that those would be the good people, and that they would all stay in their home institutions. And that they would have little choice of switching programs, such as it were. If the whole United States is composed of some people who are integrated and some people who have separate programs, the people with separate programs are looking to match people who are in their third or fourth year of general surgery but if many of those people are already committed to other programs, it is not in the nature of the ability to have an independent match. So we joined the thoracic match in 1987, and it was only this past year that we had our first year of a match with only one match number. In other words, we did not identify anybody as

preliminary thoracic in the intern match. Maybe it was two years ago, Dr. Anderson can fill you in. I think this is our second year, so last years match was the first one where no one was predestined. That leads to problems in and of itself, because when you interview people, a lot of the people that come and apply here are interested in thoracic surgery. If you run a match that does not have a separate number for thoracic surgeons, we match six people which is our current allotment of chief residents to train, it is possible that we would end up with six thoracic surgeons. But we can only finish four, so that would put us in a paramedal situation for those people. But, it is not really paramedal because we are not guaranteeing anybody a thoracic slot when they match as an intern. They have to then wait four years to apply to the thoracic match for a thoracic fellowship. Is that all too convoluted?

**Let me quickly ask a question about the research activity in the division. When I spoke to you last time, we talked about the work of your specific laboratory. Now, there is also research activity that is carried on within the divisional structure. Can you talk about what the cutting edges of that are.**

Of course, research has always been involved with thoracic surgery. Even though we were in general and thoracic surgery as one division, we had an identifiable research effort that was separate. It was really associated with physicians in my division who were identifiable thoracic surgeons who did only thoracic surgery, namely, Dr. Lowe, Dr. Glower, Dr. Rankin, Dr. Wechsler, Dr. Jones, Dr. Wolfe. Everyone has many interests. But they have kinda evolved into a couple of general areas. And one of the first things that we did was to make plans to consolidate our research efforts into one place. During Dr. Sabiston's tenure, that was a time of many independent laboratories. Where individual surgeons would have a laboratory. They might share with other surgeons slightly, but generally the paradigm was that a resident would come and work with a faculty member in their third and fourth year and then would move on back into the regular training. And so an individual surgeons's lab in thoracic surgery would have these residents come from year to year and spend two years. Occasionally, overlapping and keeping the continuity there. Generally, we fell into two groups. One was interested in myocardial function, and the other in myocardial metabolism,

and I guess the third group would be in pulmonary hemodynamics which is what I was interested in. There was also interest in electrophysiology and some molecular interests. The metabolism lab also run by Dr. Lowe who is also interested in artificial devices to support the heart, mechanical devices. And, those two fit together nicely because many metabolic aspects of the heart can be altered in the state where the heart is mechanically supported to take the mechanical function of the heart away from its metabolic function. Basically, we have long-standing interests then, in myocardial mechanics and in models of congestive heart failure and coronary disease. We also have interests in myocardial perfusion and coronary circulation which was Dr. Sabiston's main career research focus. I would say that, as you know, Dr. Sabiston had an RO1 that lasted for some thirty years, continuous funding from the NIH. In the final five years of funding, I wrote that grant with him, we had an arm of coronary circulation, myocardial perfusion using ultrasound and an arm devoted to myocardial mechanics, that was Dr. Glower's part, and Dr. Van Trigt had a section on heart transplantation and artificial support devices, and I think that the threads of those three arms are still present within the division, and we have added the molecular component. So that, right now, what we are doing is consolidating everything in Research Park IV, except for the molecular component because Research Park IV will be the only place we will be able to do large animal research. And basically, that is the kind of research that our division does in animal modeling of disease states. To see what the effects of various treatment modalities, etc. are on cardiac function in the diseased state. The molecular arm started with Dr. Wally Coke, I don't know if you have interviewed yet. He is right next door to Dr. Sabiston in MSRB. He is a molecular biologist that we recruited and hired shortly after I became Chief. His main interest is in G-proteins and beta receptor modulation. And beta receptor is very important in the inotropic state when the contractility of the heart muscle and there is a definite area of interest for thoracic surgeons. That is just a broad overview I think of the main arms of research. I think, again, it represents changing with the time. I think it was very easy for thoracic surgeons to run independent labs, one from another. We all had a number of great ideas for research areas. The flow of clinical dollars and the availability of NIH dollars was such that it was quite possible to get a number of independently funded labs doing independent research from one another in very different areas.

There is a very fertile ground for innovation and it was relatively much easier than today to support that kind of thing with seed money with research dollars that come from clinical dollars. That is not the case today. Nor is it that easy to get NIH money and it really requires that the efforts be consolidated into cohesive well-directed research efforts, so that large-scale funding can be obtained, and to engender cost savings by having research efforts be held in the same area so that the technical support could be better distributed or more efficiently distributed to these operations. Independent lab operations involving large animals involves housing, animal technician support, electronic support, a whole bunch of stuff that is duplicated when it is all in separate areas. And the other thread that runs through this is the animal protection folks have really prevented the university from being in a position to allow research on large animals to be done in a large number of places that can't be policed very well or protected. So, there is a tendency for the university and we want all to be in one area so that the animal research which is very important and necessary has controlled exposure to the public. And the public might be just someone even who works at Duke who is next door and might not approve of animal research. So, that makes it tough. So, there are two threads that have caused us the need to consolidate and preserve this. I think Dr. Sabiston was very wise to see the coming of the funding from electrobiological aspects to research. And he has always supported that tremendously through surgical virology, through Dani Bolegnesi, through recruitments like Eli Gilboa, Jeff Platt, a number of folks, I don't want to overlook anybody. And, to stimulate us to do it, at the same time there is still large animal physiology research to be done even though the sources of funding are no so apparent, he was also wise to preserve our ability to do that. You will find that many institutions do not have a physiology department anymore, nor does Duke. These older physiology type of experiments that were done, it's an area where Dr. Sabiston did most of his research. They are now done under the guise of biomedical engineering, and things like that. And that is another major aspect of our division is that we have a very strong linkage to biomedical engineering now that we did not have, and I have a joint appointment in Biomedical Engineering, and so does Don Glower, and so does Bob Anderson and we are now participating in the NSF Emerging Technologies grant and I think we will be looking for funding

through engineering sources as one of the major things. Artificial devices is one of the things we are working on and will probably be a newer initiative.

**Now, the book that goes out describing the residency program lists all of these twenty or more laboratories. They also list the division. The way I understand your explanation, some of those twenty or more laboratories are now going to disappear into the divisional structures. So, the 24 independent labs were more or less a structural artifact of Dr. Sabiston's molecular approach, and we are now beyond that.**

No, I would not phrase it that way.

**Let me go back a little further. When Duke opened, a decision was made that surgeons would not have individual labs. And they did that because they had a very limited cash flow, and also because they wanted to create work for the basic science department. So, the individual surgeons did not have laboratories.**

Before Dr. Sabiston

**Well, when they started they didn't have them. The one exception was a man named Joe Beard who was the experimental surgeon. After World War II, some surgeons, Keith Grimson, Dr. Anlyan, two or three others began to have some individual labs. Still basically clinical in their orientation. After the coming of Dr. Sabiston, the individual labs mushroomed, most of which mushrooming took place on a biological base. And that led to the structure that is enshrined in green book. Now that structure is contracting into centers of excellence where resources are concentrated and interdisciplinary approaches are tried.**

That is a good way to put it.

**I wanted to see if I had the dynamic right.**



I think the shrinking dollar has something to do with but I think there is also a need for it. One problem with the independent labs is that they were almost too independent. We had as much lab space as the Department of Surgery had and I don't know exactly how much it has now. Let's just say that as Duke University grew, helter skelter through the last thirty years, those labs did not end up in physical contiguity with one another. The same amount of space, if it was all contiguous would give a big improvement just in terms of interchange. And, so one reason to consolidate is the interchange of ideas, as opposed to interchange of efficiencies and reduction of support services required. But I think that the only problem with what Dr. Sabiston did, was that he was unable to do it all in one place. And it makes sense. You can see they built a building at a time. My lab was in a building that I was interviewed in, in 1972, for the MSDP program here, and I was told it was a temporary building. Well, it is where my lab is today. That is just the way things go. And we are renovating that temporary building, and it is now going to be my division's space. But, I think the jist of it is that you can find certain advantages in making moves at certain times. There are a lot of things that can be done independently without interaction that can be quite, quite innovative. But at the same time duplicative research could be done, and the interchange of ideas was not fostered by that system. Not through any intent, but just because of the geography of the place.

**Doctor, I thank you for taking your time on a day when you are pressed for time. I will get back if there are other questions.**