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## **Dr. Walter Randolph “Ranny” Chitwood**

**August 5, 2019**

**Interviewer: Emily Stewart**

**Stewart [00:00:00] OK, great. This is Emily Stewart and I'm interviewing Dr. Ranny Chitwood who was the Chairman of the Department of Surgery at East Carolina University and trained under Dr. Sabiston at Duke. It's August 5th, and we are speaking on the phone. Now, Dr. Chitwood I know you probably know more about Dr. Sabiston than anyone else. So, we're excited to talk to you and get this interview going today. So, if you could just start by telling me a little bit about where you grew up, where you first went to college, and what made you decide to be a doctor.**

**Chitwood [00:00:40] Well, it is nice to talk to you Emily and nice to do this interview about Dr. Sabiston. I was born in the western part of Virginia and grew up in a small town called Wytheville, Virginia, which is this west of Roanoke. My grandfather started practicing medicine on a horse in 1913. My father started practicing medicine there in 1947 after he graduated from the University of Virginia and completed his residency Thereafter ,he was a captain in the Army Medical Corps. I went to college at Hampden Sydney College, which is a small college near Farmville, Virginia and there I majored in history and economics with some chemistry. My dad had graduated Summa Cum Laude there, and I graduated with much less prestigious credentials. I come from a family of doctors and we had an 18-bed clinic in Wytheville, Virginia called the Chitwood Memorial Clinic, which served the region. I hadn't planned on going to medical school after graduating from college. I had thought about it. So, I worked for the DuPont Company in Wilmington, Delaware after I finished college for two years. Then spent a year back at Hampden Sydney running the biology laboratory and grading papers, sort of, the what you call the lab gopher. You go for this and go for that. I took some courses that I didn't have to go to medical school. Thereafter. I went to medical school at the University of Virginia. My wife Tammy was always, by my side and my life's compass. Her dad was principal at our high school, and we were married right out of college.**

So, she was with me about leaving Dupont and coming back to Hampden Sydney with the possibility I could get into medical school. I went pretty fast through the University of Virginia Medical School. I graduated in three years and Dr. Muller, who was the Chairman of Surgery there, had been one of Dr. Sabiston's best friends at Johns Hopkins. They were residents together at Johns Hopkins. I did well in medical school, and when I finished, Dr. Muller suggested residency programs that were related to the former Johns Hopkins residents, who had all become chairs of surgery throughout the United States. Obviously, Dr. Sabiston was suggested as a good friend of his who had come to at Duke. Dr. Sabiston had left Johns Hopkins in 1964 to take the chair of surgery at Duke. Dr. Bill Anlyan had recruited him. Dr. Anlyan was a surgeon and was the Vice Chancellor for Health Affairs at Duke. Many people had thought that Dr. Sabiston would be the next chair after Dr. Blalock at Johns Hopkins.

**Chitwood [00:04:43]** So, Dr. Sabiston had been a resident with Dr. Muller at Johns Hopkins, and as I said, everyone thought that Dr. Sabiston was going to be the Chair of Surgery at Johns Hopkins, to follow Dr. Blalock. Dr. Blalock was in ill health at that time and died in [19]64, with many of his residents, Dr. Muller, Dr. Sabiston, Dr. Spencer (New York University), around him at the time he died in Baltimore. Dr. Blalock had been such a strong chief there, as often happens, the search committee doesn't want someone quite as strong. Clearly, Dr. Sabiston was going to be a very strong chairman and was going to build upon the legacy of the Blalock residency at Johns Hopkins. There are many stories, but basically, he was Dr. Blalock's pick. But as often happens, when the former chairman supports someone as the next chair, then often what happens is that it doesn't happen. So, Dr. Sabiston was recruited back to his native North Carolina. He'd grown up in Jacksonville, North Carolina. He had gone to the University of North Carolina and was Phi Beta Kappa and after that he spent two years at the University of North Carolina Medical School, which then was a two-year medical school. Then he graduated from at Johns Hopkins. So, he was returning to his native soil. At that time, Duke was a very good medical school. However, in the Department of Surgery there were some very strong people and of course, there was always going to be some resentment of a new Chair. Some of those animosities persisted for a many year because they were strong in building things and Dr. Sabiston was a strong leader, but there was no question that Dr. Sabiston was the boss. So, I arrived in 1974 at Duke. On the first day of my residency we sat in the Barrus conference room. We all were in our little white "ice cream vendor" suits, which was a short white jacket and a pair of white pants. Dr. Sabiston, which we later all called him privately "THE MAN," walks in the side door and greets us all. He proceeded to tell us about the Duke residency program. He always

quoted Osler's Master Word. The essay Master Word in Medicine was written by Sir William Osler, who had been at Johns Hopkins and Oxford University many years earlier. It sort of goes like this ... "It is a small word and it looms large and meaning. It is the touchstone that transmutes all base metals into gold. It's the true Philosopher's Stone. With this word in your heart all is possible and without it all is vanity and vexation." Of course, everybody was waiting hear what this master word was, He the said W-O-R-K. Hard work was Dr Sabiston's was mantra along with attention to detail, productivity, and excellence .... All cornerstones of the residency program. He founded that program on excellence and attention to detail and really working hard.

**Stewart [00:08:34] So what made you decide to end up going to Duke? I know you talked about Dr. Muller a little bit. Did he push you towards Duke, or was it was Dr. Sabiston and Duke's reputation?**

**Chitwood [00:08:46]** Well, it was a little bit of both. I made the rounds. Dr. Muller wanted me to stay at the University of Virginia, but I've always believed in medical school one place and training somewhere else. So, it would have been comfortable to stay at U.V.A. [University of Virginia], because I had over 15 members the family that had gone there. So, the first trip I made was to Cornell. Where Dr. Paul Ebert, who had been a former Duke faculty member, was Chairman and Dr. Bill Gay, who had been a former Sabiston resident, was Chief of Cardiac Surgery. Ongoing into Bill Gay's office, I saw all these beautiful pictures of Duke. My wife is getting ready to have our first child and I don't think she really wanted to be at the top of some apartment building in New York City. So, the next trip we made was to Baltimore and Johns Hopkins. Now at that time, Baltimore had changed a lot in the residency program. It wasn't as good as, when Dr. Blalock was there, but it was a very good program. Clearly, it was the legacy program from which all of these Chairs came. So, my next trip was to Duke. It was a "blue bird" day, a fall day, beautiful leaf colors, old Duke Hospital, and my wife looks at me and says, "This is where we're going to be." [Laughs] And I said, "Well dear, you know, I made good grades, but I'm not sure I can get in here." I remember ..., my little daughter, Anne had just been born. I remember having her diaper changed in Dr. Sabiston office on Nancy Whaley's desk, while I was interviewed by Dr. Sabiston. Well, when I first went to the interview, I was interviewed by Drs. Jim Fuchs and Dr. Grimson and several other people. Now here's this guy that comes down from U.V.A., wearing a madras, wild looking multicolor sport coat and longish hair, which is just the antithesis of what we saw at Duke. And, you know, but I thought I was really cool. And I said,

"Well, I came to see Dr. Sabiston." They said, "Well he's not interviewing today." And I said, "Well, Dr. Muller sent me to see Dr. Sabiston." So, they called Nancy Whaley, who was the secretary, and she said, "Well, he can see you at six o'clock." I said, "Well, we'll wait." So, I walked in his office, and I was the only one interviewed by him that day. Oh, I had a good day. The residents took us down to the Oak Room, which is on campus, and fed us a nice lunch. with. So, anyway, so I'd had a good day. And Dr. Sabiston says, "How did you like Duke?" And I said, "Well, I liked very much." And he said, "Well, Dr. Muller is one of my best friends." And I said, "Thank you Dr. Sabiston, I really enjoyed it. It is a great program here and I'm interviewing mostly places that were Hopkins related." My last interview was at Vanderbilt and my wife didn't go, but the former Chairman there had been Hopkins resident. The residency at Vanderbilt had a lot of the Hopkins heritage there as well. Dr. H. William Scott was the Chair there, and a friend of Dr. Sabiston's. So, here comes matchday, and I'd gone through medical school pretty quick. I cut a year off by working in Dr. Richard Keefe's research laboratory working on retinal regeneration and writing a thesis. I did clinical rotations in the summers. I'd lost at almost three years before going to medical schools. After I arrived at Duke and we had this meeting with Dr. Sabiston, we began to work. Our class was an exceptional class, but there were 20 people in the class, and we knew that only four people would be chief residents in cardiac and three and general surgery. And of course, Dr. Sabiston proclaimed that it was not a pyramidal system, where 20 start and one finishes. But in a way it was, because people went in the laboratory, some went to N.I.H. And so, it was kind of a pyramidal thing. If you didn't do well, you were probably going to the N.I.H. or some other laboratory and never come back. And so, that first two years were very hard. It was busy. You know, you were first an intern. They called it the first-year resident, and then the second-year resident became a junior assistant resident. We all knew that there was a two-year lab requirement. I don't remember a lot about the first year except we rotated through all of the surgical specialties and through the then Watts Hospital. When we were at Duke, we were on call every other night, sleeping in the hospital, much unlike it is today. I think this is why we had such a good experience, even though at that time we didn't really relish the call schedule. You know, we had children and a wife, and the wives were working and to get us through this long residency. You weren't paid a lot of money. You were paid a subsistence wage, but that was sort of different than the old days when my dad was an intern, which didn't pay you anything. Then they just laundered your clothes, and most of those people weren't married. In my class almost all of us were married. You rotated through neurosurgery, urology, orthopedics, all the different services. Every year during the 10-year residency we rotated through cardiothoracic surgery, which is something they don't do now

in general surgery. The American Board of Surgery changed the requirements and residents can't rotate through a cardiac surgery service. So, we really got a lot of cardiothoracic experience. After two clinical years I went into Dr. Andy Wechsler's laboratory. I went into to talk to Dr. Sabiston and he says, "What do you want to do during your lab years?" And I said "Well, I want to work in physiology." I'd thought about going the N.I.H. or maybe Hopkins to work with a professor studying fetal surgery, who I found out later that... Dr. Sabiston that wasn't his best friend. But anyway, I settled on Andy Wechsler's lab. He was a young surgeon working at the V.A. Hospital, who had finished a couple of years before I got there. My laboratory years were an amazing time for me. At first, I thought it was going to be just a waste of time. But during that time and during my residency, I published over 60 published papers. I was able to present our work and national meetings. We learned how to present in front of Dr. Sabiston and the faculty. He would make corrections in your slides and discuss your work .... ask difficult questions. So, by the time you got to the national meeting, there's almost nothing that someone could ask us that we didn't know because we'd already been quote, .... beaten up. It was so interesting because, he expected you not just to go piddle in the lab, but to produced original research that was meaningful. I did a lot of work on the collateral circulation the heart and myocardial preservation. We were placing small ultrasound crystals in patients, of course with informed consent, to study human cardiac physiology in coronary disease and after coronary surgery. We were the first to do these kinds of studies. That was before echo was used in the O.R. [operating room] to look at different segments of heart muscle. We were exposed to mathematicians, statisticians and other scientists during those years and we learned a lot. We learned about the mechanism heart lung machine we worked with the animals. We were putting animals on cardiopulmonary bypass. During the lab years, Dr. Sabiston he gave us a vacation month off, which sounded like a lot. You had to take it all at once. You couldn't spread it out. My wife had gone to the bank and borrowed \$1,000 so we could go to England. So, Dr. Sabiston heard that I had planned to go to England. So, he calls me in and says, "Well, I have so many friends in England." He was friendly with every cardiac surgeon in the world and all the Chiefs. By that time, he had already been president of a number of societies and he would be president of many more societies. Later, he would become an honorary member of the Royal College of Surgeons of England. So, I go to England and he has made communications with almost everybody who was important in London, Edinburgh, Glasgow, Cambridge and Oxford. He made arrangements for us to stay at the Ciba Foundation, which was for visiting academics. Now here, I'm a third-year resident. I wouldn't exactly call myself a visiting academic. However, stayed there and we would make trips out from there to

various hospitals and universities. I spent time at the Royal College of Surgeons doing a lot research work on John Hunter. I was interested in the history of medicine, and John Hunter was the father of scientific surgery. At that time, much of his original work was not published, these were original manuscripts. I had already started collecting historical books. My dad was an avid bibliophile and so I was beginning to collect books. One day I made rounds with the Professor Leslie Le Quesne and “registrars” at the Middlesex Hospital. The Professor said, "Well, Professor Chitwood." I whispered to the registrars, who are residents, “You know, I'm just a third-year resident and in the laboratory.” And they said, "Well, I think the boss is playing with you." So, we went on and made the rounds. The Professor said, "Dr. Chitwood, this patient has had some trouble with his vision and some kind of passing out episodes. And what would you recommend ... why don't you ask him a few questions." Well, it was obvious after he answered the questions that I asked ... he had carotid stenosis. The professor then said, "Would you examine him?" I examined the patient and said, “He has a bruit”. Which is a sound heard in the carotid artery when there is partial closure from atherosclerosis. And so, he says, "Is an intracranial or extracranial?" I said, "Well, I believe it's an extracranial bruit, professor." He says, "What would you do?" I said, "Well, I would do a carotid endarterectomy." He said, "How many of those have you done?" Of course, I hadn't done any. And I said, "Well, I've been exposed to many of these. But at my level at Duke, I wouldn't be doing these myself. But I can tell you about the history of this carotid lesion." I said, "At St. Mary's hospital, just down the street from the Middlesex Hospital, it was Charles Robb, Eastcott and Pickering wrote about one of the first carotid endarterectomies in 1954." Charles Robb was later on the Chairman of Surgery at the University of Rochester here in the United States. So, I was able to get by on knowing a lot of history of surgery. One reason was because we used to have what we called "Man Rounds." Now, Dr. Sabiston's “Man Rounds” were on Monday at 5:00.

**Chitwood [00:21:44]** One of the junior residents would present a case related to a patient. Of course, this was without any notes. You had to have no notes and you present something like this. "Today I present to you a 55-year-old gentleman with a history of such and such and the findings of such and such. And the laboratory data suggest this..." “Stop, just a moment, I want to ask the residents... I want to ask a few questions” ... Dr. Sabiston would stop you before you gave the diagnosis during the presentation. And he'd say, “Okay. now let me go around the room and ask what the diagnosis is based upon the presentation” of Dr. Austin (later the pediatric cardiac surgery chief at the University of Louisville), Dr. McCann (later the vascular surgery chief at Duke) or me. And what do you think?" He'd start

with the junior resident. And of course, by time you became chief resident you knew most of the answers. If you missed the answer you knew that you're in trouble. And "Well, I think it's such and such." "Well, not exactly" And he'll go to the next person. "I think it's such and such. He'd say, "Oh yes, you're absolutely right " And then he would say, "Tell me about who did the first aneurysm surgery." "Dr. Sabiston, I don't know." He'd go to the next resident. "I don't know." And then you get up to about the fourth- or fifth-year resident. "That was Ashley Cooper in 1817 at Guys Hospital in London, likely the first treatment of aneurysm." "Very good. Very good. Now, tell me about the physiology of the disease." So, you would learn about the physiology, but you didn't want to miss the question. I remember one of the first of these rounds when I was an intern. We're sitting there, and he throws a picture of Alexis Carrel on the screen. He says, "Does anyone know who this is?" I threw my arm up, which you never did later. You're always trying to hide behind the next guy. And basically, I said, "That's Alex Carrel." He says, "Ranny, did you know him that well to call him Alex?" [Laughs] Because he had died in the nineteen forties. And Dr. Sabiston said, "Well Ok, since you knew him so well. What did he do?" I said, "Sir, he did the first successful sutured arterial anastomosis and got the Nobel Prize in 1912. And later on, in tissue culture at the Rockefeller Institute." And he said, "Ooo, very good very good. You know your history." Which, of course, the other residents ... the guys... Chitwood's showing off. And so, after a while you learned to be a little bit more demure and sort of shrink behind the next resident.

**Chitwood [00:25:08]** And you know, these rounds were so interesting because in those meetings, we learned so much. Was it the fear factor? Maybe. Maybe that was it? Dr. Sabiston, every July, would take the Halsted service as the rounding faculty member. Which, at that time, there was a private and a public service. The public service was basically indigent patients or patients on Medicaid. In the private wards like Reed or Welch Ward, all patients had private insurance and the attendings were in charge of them. On Halsted Ward were in charge and, it's not like today, we were in charge of those patients. They were our patients. Now, you had to have a senior attending surgeon attached to the Halsted service, and the Halsted chief resident was kind of like a junior attending. Essentially, we had our own nurses there, and we had our own ward. Every July, Dr. Sabiston would be the rounding attending and he would take you around, and in due course he would always ask the patient, "Who's your doctor?" And of course, half the patients didn't know who their doctor was as there were so many of us in white coats. They'd say, "There are a whole bunch of doctors here and they take good care of me." He would always say, "Are you happy?" And the patient would always say, "Oh yes. Very nice." "Who's your doctor?" Well, you did not want

the patient, to say, "I don't know who my doctor is. There's so many." So, what you would do, you would school the patient before "Man Rounds," to say, "I am your doctor. I'm Dr. Chitwood. C-H-I-T-W-O-O-D. Say my name, Dr. Chitwood." If somebody had a lot of pain, you would make sure they didn't have any pain when he came around. You made sure that the patient had been morphinized if they were having pain. The other thing was the nasogastric tube. He hated those nasogastric tubes. So, we pulled the tubes out and put them back later. So, now he comes around rounds and we've got patients sitting up in bed and they look really good. "Who's your doctor?" "Dr. Chitwood." "Are you any pain?" "No, I'm not in any pain." "Are you happy?" "Yes, I am happy" "Dr. Chitwood, would you show me Mr. Smith's wound?" And I'd show the him wound stuff. The worst thing you a patient would say was, "You know, I have been hurting since this morning." Dr. Sabiston would rejoin, "I can't believe you're not taking care of this patient." There are a lot of stories, about Dr. Sabiston's rounds ... some I can tell; some I can't tell. But it was so funny, because we were really prepped for those rounds. On the Halsted service, if you were going to operate on the patient, let's say for a thyroid problem. You worked the patient up. The chief resident had been there for six or seven years and was highly capable doing that operation. In fact, most of the time the chief resident was teaching the junior residents how to do the thyroidectomy. But you had to have an attending evaluate the patient. That was the rule, especially with Medicare patients and an attending had to be there for the most important part of the operation. So, what you would do is you would work the patient up, and you'd take one of the attendings to see the patient, like Dr. Sam Wells, who was a world expert in thyroid. And they may say, "Yes. I think you're right." And you'd post the patient for surgery. And then, you would open the neck and start working on the thyroid gland and then Sam would come in and help you do a little bit of it and basically, make sure you didn't injure the recurrent laryngeal nerve which makes you hoarse. So, you really did a lot of surgery and you were responsible for that surgery. I could have never done what I did and start a new heart surgery program at ECU (Easy Carolina University) without that kind of training. So, thus far, I've told you about clinical care and attention to detail. I told you about the scientific method, which we learned in the laboratory. But there were some administrative things later on for which you were responsible, because when you were the chief resident or the teaching scholar... which was an N.I.H sponsored program for the last year of training. If you were the teaching scholar or "Super Chief" and basically, you were doing a lot of independent surgery. Dr. Sabiston would also send you on administrative missions, ... some things he didn't want to do. And he said, "Will you go tell... or Will you go talk to Dr. such and such, who's the Chairman of Medicine and tell him that we want to do this." Chairman of Medicine

may come back and say, "Ranny, why didn't Dave come talk to me. We're not going to do that." And I'd just go back to Dr. Sabiston and say, "Oh, Dr. Sabiston, he was most gracious about your thought, but he really doesn't want to do that." So, you would do administrative things and often be caught in the crossfire. So, throughout the residency you were learning to write. You're learning the scientific method. You're being trained to be a professor. There's no question about it. And so, it was a rigorous program. In the lab you weren't on call every other night, but you went to all the lectures. Throughout this entire time, at Duke, we had visiting professors, and these weren't small visiting professors, these were big deal visiting professor from all over the world.

**Chitwood [00:31:11]** And we would have to present our work from either the lab or clinical work. We called those "the dancing bear shows" and we'd always say that he's got to get out his dancing bears because Dr. Sandbloom is coming from Zurich to give the such and such lecture. And so, we would usually put the visiting professor in a dark conference room, and the first day every 15 minutes a resident was presenting either their clinical or research work or whatever. It was almost two-and-a-half-day torture affair for the visiting professor. And then you would have lunch with the visiting professor at the Duke Oak Room on campus. Also, the chief residents and other residents take him to dinner, Dr. Sabiston liked to have the residents spend time with these individuals. These visits really gave us a wide base of surgical knowledge and kept us apprised what was going on through the world in surgery. During this time, he was progressively president of the Southern Surgical Association, the American Surgical Association, and then the American College of Surgeons. He was president virtually every important surgical organization. Because of that, he would take many of to these meetings. Now today, you can't send 20 residents to meetings. There's no money to do that. He would invite you to the cocktail parties of the Saunders Publishing company, which published all his books, and we'd be the only residents there. We would be rubbing elbows with all of the luminaries. One story and I have to bring my wife Tammy into this story, because she was really an integral part of this long residency. She worked at Duke. She worked in employment there and she started the temporary service employment service at Duke. She did a whole lot of stuff for Duke and was friends with Bill Anlyan the then Vice Chancellor of Health affairs. One time we were at the American College of Surgeons meeting in Chicago. Aggie Sabiston was sitting with a group of ladies and Tammy walks up and says hello. Aggie introduces Tammy by saying, this is "Hilly Muller. This is Tilly Longmire." These were all wives famous Johns Hopkins people. All of their husbands were chairmen of major departments of surgery in the United States, ... you know,

prestigious men's wives. "And this is Tammy." And then one of the ladies says, "And who are you?" She says, "I am nobody." And of course, Aggie says, "Oh no. Ranny is one of our residents and he's a wonderful person and his wife Tammy she's a wonderful person." Aggie was always gracious. But underlying Dr. Sabiston's strictness at Duke, he would laud you at the meeting. "Oh, this young surgeon is going to become a fantastic surgical leader in our country." Then we would get back to Duke, and he would look at you sometimes and he'd say, "You know, you don't seem to understand? Why did this happen? Why was this a complication." He'd really grill you, really make you feel bad. One time, he said to me "You know, I don't really seem to bother you, Ranny". That's is when I said, "Well, Dr. Sabiston I respect you a lot." And then he says, "Well, you know some of the men are very nervous around me." And I said, "Well, you know, you're pretty intimidating for some of the residents... you're a pretty important man." He said, "Well, why, why don't you? You're pretty straightforward with me." And then I said, "Well, because my dad was a lot tougher than you are, Dr. Sabiston." He said, "Oh, really." He really liked that. I mean, the point was, I was a good soldier but would never "kiss up." But I would tell him the truth and a lot of people wouldn't tell him what was going on .... Exactly the truth. I don't mean they're lying. But they weren't going to volunteer something that had happened to them, hadn't been that good, unless Dr. Sabiston asked them. I was always very straightforward with him. I mean, you know, I'd say "Dr. Sabiston, you know..." He'd say, "I hear the men want to be on call every third night." And I said, "Well, that's true, Dr. Sabiston. They've got families and other stuff to do. And he said, "Well, I don't really like it. They don't see as much surgery." Of course, during that time, there were no blood drawing or IV teams. We were the workforce. As an intern and junior resident, we drew blood each day for the lab tests. We then got the lab results and pasted them in the patient's chart. We changed all the dressings daily. Now residents don't... now they're all these teams and other helpful clinical adjuncts. It's a whole different training paradigm now. The residents don't do much what we called "scut work" or work more than the mandated 80 hours per week. With every other night call in the hospital we had no work hours. In fact, the quitting time on our night off was 7:00 PM and everyone knew it.

**Stewart [00:37:58] So you would say your relationship with Dr. Sabiston changed as you progressed through your internship and residency at Duke?**

**Chitwood [00:38:09]** Well, it was interesting. When you're a junior resident you are basically there to do ward work, attend conferences and do minor operations.... The program was

very hierarchical.... very much like the military. The chief resident was like the field commander and Dr. Sabiston was the field marshal. The chief resident was like a colonel and the other attending surgeons were like a one star general. You know, you were like private first class when you were an intern. The chief residents were responsible for everything that the residents on his service did. In other words, if you made a mistake and or created a complication in a patient, Dr. Sabiston would never jump on or get upset with the junior resident who made the mistake. He would call the chief resident. And then, he would say, "The reason this happened is because you are not teaching this young man." We were all men then. "You're not teaching this young man the right way to do it. Were you there when he drained the chest and the patient got a pneumothorax.?" "Well, no I wasn't." "Well then, you know, you or one of the senior residents should have been there to show him exactly the proper way to do it." As a chief resident or teaching scholar "AKA super chief" your relationship with him changed. You had more and more responsibility in reporting to him, the farther along that you got in the program. This was not a place where you're out drinking beer with the boss. There was Dr. Sabiston and there was everybody else. I don't think there are any committees [laughs]. He ran the PDC (surgical Private Diagnostic Clinic), which at that time had a huge amount of money because professional services reimbursement was very high then. Dr. Sabiston and Joe Greenfield, the Chairman of Medicine ... those two men ...I won't say ran Duke Hospital, but because of the amount of work that was done by those two departments and the amount of money generated put these men in charge. If they didn't sign off on a program or issue, then it didn't happen to Duke Hospital.

Chitwood [00:40:21] So, what happened to me was a bit different. There are three SAR (Senior Assistant Resident) years, So, you go from intern, to junior assistant resident (JAR), then two years in the lab, ..... first year senior assistant resident, second year senior assistant resident, third year senior assistant resident. Then you became a chief resident. After your chief resident year, you would become a super chief or Teaching Scholar. And if you were a chief resident of general surgery, then you would graduate. If you were going into cardiac, you would basically go into the super chief year and it was a vertically integrated program. You didn't do the general surgery followed by cardiac surgery, as they do now. It was all integrated. So, if you quit in the middle of this residency... you didn't have anything. He wouldn't let you take the boards until you finished the entire 10-year residency. I was finished completely before I started taking general surgery boards, and I had not done any general surgery in the two years before. So, about my second year as a SAR, I think I'd

proven myself. He would call you in once a year for your evaluation. He'd say, "Well you're doing very well." But he didn't say "Oh, you're the most wonderful thing in the world." He might say, "Well, you published many papers and I'm very pleased with your performance". So, there was a pediatric surgeon at Duke. I will not mention his name because we became very friendly later and that surgeon came from, as Dr. Sabiston said, "elsewhere." He had come from another university hospital and he was our first pediatric surgeon at Duke. This surgeon was a bit unreasonable. I was the only resident on his service, and he would really beat on you. Now, when Dr. Sabiston would sort of beat on you, so to speak, it was a different level of respect. Because this guy was out of bounds in his demands. You were working hard. You were there all the time, you're tired, you're beat. So, one time this guy said something to me like "You are not up to speed or doing a good job on the service"

And, you know, I was a kid that sort of took a different pathway and I would take only so much. So, I looked at him and I said, "I quit." He said, "What do you mean, you quit?" "I quit." I walked out of the hospital wearing my ice cream man suit (white short coat and pants). It was snowing, got in my Volkswagen. I drove home to momma [laughs], which was in Virginia and about three and a half hours away, OK. I knocked on the door. My dad was there. By this time, I had stopped at a pay phone. We didn't have cell phones. .... And I called Chuck Edwards, who was one of the other residents. I said, "You tell the man that I quit." He said, "Chitwood you can't quit. Are you out of your mind?" I said, "I quit. I'm not going to let this guy beat on me. This pediatric surgeon." I said, "You know, I'm just kind of fed up. I'm tired and I've been a good resident. .... And I'm not going to do this anymore." Not many people know this story. So, I go home, and I meet my dad. He had retired from being an internist because of his health. He meets me and home and said, "What are you doing home?" I said, "Well, I quit." So, he's a wise guy, very smart man, Summa Cum Laude, Phi Beta Kappa, Alpha Omega Alpha and all that stuff. He was a voracious reader, historian, ... He wrote papers while in practice. And he said, "Well, sit down here." And then he said, "Now, why'd you quit?" I said, "I can't take any more." He says, "Well that's good Ranny. It is this an elective life. So, if you want to quit, you quit and do something else." And said, "But dad, I want to be a cardiac surgeon." And he said, "You better get in the Volkswagen and drive back down there." So, I stayed up there too. I called my wife and I said, "Honey, I quit." She said, "What do you mean you quit. Where are you?" I said, "Well I just left." She says, "That was that was stupid." I had two kids and I said, "You know, I'll be back. I will stay up here a couple of days and get my brain going again." So, about a day and a half, my mom... I put some blue jeans on to relax. My mother who's 97 now, still remembers this occasion. She washes my ice cream suit and I drove back to Durham. So, I walk in Duke Hospital and

picked up the phone and I said to... George Parker, who was the chief resident. I said, "George, tell the Man I'm coming back." The other residents look at me and they say, "He's going to kill you." And so, I walk in Nancy Whaley's office, his secretary, and I said, "Nancy, I'm back. So..." "Yes Ranny, he's waiting on you." So, I go in there and sit down. Before we even started, I said, "Dr. Sabiston, I would understand very much if you didn't want to keep me here." And he looked at me and grinned. He says, "Ranny, I like a man who knows his limits. And he says, you're OK, go back to work."

Chitwood [00:47:22] That changed my relationship with him completely because after that, he would call me in for counsel about this and that. He was very nice to me and listened to suggestions that I would make for the residents. He'd listen to me. You know, he might say, "Well, I'm not sure I want to do that." But, you know, it was a different relationship. You know, I'd get a 2-8-3-1 at 8:00 at night. That's his telephone number. Everybody remembers that. And so, I'd get a 2-8-3-1. He'd say, "Well, come on up here. I want to talk about some stuff." So, not that we were a buddy, but it was a different relationship. You know after that; I never had a lot of trouble. But one thing about it, you wouldn't rat on your buddies and you would never throw somebody in the residency program under the bus. That was sacrosanct. But if you could engineer things that would make it better for the residents, better for the patients, then, you know, he would listen sometimes. Clearly, he was the chairman and the field marshal and what he said went for the other attendings, the residents and everyone. Let me make a side comment, it wasn't just Dr. Sabiston that made it great training. It was the faculty that made a lot of it great. Many of the faculty had gone through the residency program. We were with some of the brightest people in surgery at that time. Most of these attendings had NIH grants and a laboratory. They were excellent surgeons. They would be friendly with the residents. We were generally on a first name basis with the attendings. And There were great people like Andy Wechsler and Fred Crawford, Walt Wolfe, who was a superb surgeon, Newland Oldham, who just passed away this week. And there were many others. Jimmy Cox is one of the smartest guys I've ever met. He basically developed all the arrhythmia surgeries. Dr. Will Sealy was in charge of thoracic surgery at Duke when Dr. Sabiston arrives and between the two of them, they were not friendly. Dr. Sealy lost a lot of, "power" when Dr. Sabiston came. Dr. Sealy had developed the Wolff-Parkinson-White operation. And so, all of the attending surgeons were very much individuals. Each would come in and round on their patients on the weekends, rather than having one-person round on all the patients. Once Jim Cox told me, "Dr. Sabiston was really good at making a silk purse out of a silk purse." You know, you've heard the old story, make a silk purse out of a sow's ear. Well, in

other words he was able to recruit the best residents. After they finished the training, many became world renowned on their own. Most went out to become division chiefs or department chairs. Sam Wells became Chair at Washington University. Jim Cox became Chief of Cardiothoracic Surgery at Washington University. Andy Wechsler was a Chair in Richmond later in Philadelphia. Fred Crawford became a chair at the Medical University of South Carolina. So, there are many later chairs that came out of that residency and I don't know how many .....amount 40 in number. So, it was a place to train professors and maybe only 20 percent went into private practice, but most of us went into an academic practice.

**Stewart [00:50:47] So your kind of... you've talked about it a little bit already, but do you want to tell the story about how you transitioned, where you went after Duke and how Dr. Sabiston was involved in that decision?**

Chitwood [00:51:08] Well, yes. I think it was a very important point in my life, equally as important as going to Duke for my training. By the time we finished at Duke, we all had published widely. We were used to presenting things at national meetings. I mean, if you were working with someone in the laboratory, an attending, you would do the presentation at the national meeting. And you would write the paper and it wouldn't be the attending [who was] supervising you. Usually the first authorship and the last authorship are the most important. The first is the one who wrote the paper, did the work and the last one, the last name is usually the sponsor, the attending surgeon with whom you worked. When I was in my last year as super chief, Jim Cox had already gone to Washington University as chief of cardiothoracic surgery and so had Sam Wells, .... he'd gone as Chairman. Jim asked me to come out and look at a job. When we flew out to St. Louis it was the first time, I'd ever flown first class. We met everybody there and it was a good job I thought. Before that Walt Wolfe had come to me as Dr. Sabiston never wanted you to turn him down. So, what he would do, send Walt Wolfe to say, "Dr. Sabiston would like you to stay here." I'm a funny guy. So, I said, "Well, you know, just have Dr. Sabiston call me up. We'll talk about." He says, "You don't understand. Ranny, it doesn't work that way here." Because what happens if you're going to say, "I'm not going to stay there", he would rather have Walt come back to him and say, "I think he's looking to something else." Rather, than turn Dr. Sabiston down, I am thinking about either staying at Duke or going to Wash. U. So, one afternoon I am paged to 2-8-3-1 and Dr. Sabiston calls me down to the office. I go down there and he says, "Now Ranny, I know you're thinking about either staying here or going to Wash. U., but I'd like you to do something. I was just called by the dean at that new medical school, East Carolina

University and Dr. Pories," who he was always very friendly with Walter Pories, who was the Chairman of Surgery there. Now, Walter was totally different than Dr. Sabiston. Dr. Sabiston just wanted the facts. Walter would say, "Now Ranny, tell me about your family. Isn't that a beautiful sunset out there?", before you get into a discussion. Dr. Sabiston was just the facts man. Just the facts. So anyway, so... "And I think you should go down there and be polite. They want to start a cardiac surgery program, and they want an experienced guy. And I said, "Well, Dr. Sabiston, you know, I just finished the residency here." He says, "Yes, but you are experienced." I think they were thinking... they wanted the gray headed guy to come down there and start the program. He said, "Go down and be nice as those people great people..." His Aggie was from New Bern and all the Sabiston's were from eastern North Carolina. His cousins, the Sabiston's were surgeons in eastern North Carolina. And so, I said, "Alright." So, I went over to East Carolina University in Greenville. And of course, everybody welcomed me with open arms. I met with the board of trustees of the hospital and they said, "This is going to cost over a million dollars to start this program." And I said, "Well, we can do this." The next time I came to ECU, my wife said, "We're not moving to Greenville." And I said, "Well actually, Dr. Pories' offered me twice as much money as they offered us in St. Louis." She says, "I think we can at least talk about it." [laughs] Because everything we had was broken. I mean, the cars were dying the, furniture was broken, the kids were [laughs] .... the kids looked like ragamuffins. I'd had some stock and I had sold it. I mean, Tammy was working at Duke, but we were down on our reserves, so to speak. So, for my second visit, I had a statistician do a demographic study of eastern North Carolina for me to tell me, what is the outmigration of surgical patients. What is the death rate from cardiovascular diseases? You know, what is the population. What is the payor mix? All these different questions which most residents probably wouldn't know to ask but I had trained with Sabiston. So, I determined that this region had the highest incidence of cardiac disease in the United States, except for a couple places in Kentucky and Mississippi. I'm talking about mortality in a lot of underserved patients.... pork, cigarettes at that end of state. There was a lot of cardiovascular disease there in under treated patients. And so, I start thinking about this thing. In October of that year [1983], I said, "Dr. Sabiston, I think I'm going to take this job, but let me talk about the academics." But, I said, "I haven't even taken my boards yet, Dr. Sabiston." And of course, I'd be an assistant professor. But I can't be an assistant professor if I am a chief, So I talked to Dr. Pories. And he said, "Well, how many papers do you have?" "Well, I've got 60 papers and tons of presentations and other stuff." And I said, "How many papers do your associate professors have?" He says, "Probably about 20, 25." Then, I said, "Well, how many papers do your professors have?" Said, "Probably 45." And

so, I said, "Well, it looks like I ought to be a professor." So, of course, they didn't give me tenure and, but he said, "OK we'll do that." And I go back and say Dr. Sabiston, "I don't know. They've offered me a full professorship." I said, "Should I take it?" He says, "You're damn right you should take it. You'd be the only person since William Stuart Halsted who's left the residency program as the man in charge and a full professor." So, I took the job with his blessings and he always supported me, and I said, "Can I take some people from Duke?" And I did. I took Kathy Baer from the ICU, who was one of the assistant head nurses and Sara Hill, who was one of the assistant head nurses in the operating room and Larry King, who was perfusionist PA. I'm still a super chief resident and we start pulling together all the lists of instruments and pumps and everything that we would need. At the same time, Tammy and I started building a house in Greenville. So, I would come to Greenville on a Saturday and meet with the banker. He says, "Well, you know, you're gonna need some earnest money." And I said, "Well, I am earnest, but I don't have any money." I had to borrow the earnest money from them. So, now we're building a house down here. At the same time, I'm leaving on Saturday afternoon, after Dr. Sabiston's rounds, because we had conferences on Saturday. And starting to build this program and I brought my hires, Kathy and Sara. They joined the hospital here in January [1984]. Now I'm still the chief resident. And then we started building ICU beds, just for cardiac surgery. It was kind of interesting because there were a lot of other surgeons in the hospital who didn't want cardiac surgery there because we would be taking resources away from them. But the town's people wanted us to be there. I mean, the biggest dog in town was the neurosurgeon. And quite frankly, he was not going to be the big dog anymore. You know, I got a lot of pushback especially there were just some things that I didn't like about clinical practices there. I'd see the anesthesiologists drinking coffee in the operating room, they would lift their masks for a sip. So, I made a bunch of new rules. And the most powerful guy then was Frank Longino who was a Duke trainee and he was in his 60s the head operating room nurse said, "Well, we're going to give you the biggest room for the Heart Program." And it's Dr. Longino's room. And I said, "I don't want to do that. That would not be smart. So, give me another room." They gave me a room that was so small, that I had to put the operating table in diagonally. And I said, "We will operate within two weeks of me finishing a Duke." And we did. Within two weeks we did the first coronary artery bypass operation... We had the graduating dinner at Duke and in two weeks we did the first coronary bypass operation. And so, the first week we did two cases. And the next week, we did three cases. Next week, we did one a day. The next month we're doing two a day, three days a week. And after a while, we are swamped. It's just me, operating with a second-year general surgery resident and who I had to train. I slept in the

hospital when we did these early cases. So, I had to train nurses on pacemakers, balloon pumps, and all of the ICU care. And that same year, I started the research laboratory with one technician. We started making teaching rounds like Dr. Sabiston did, professors' rounds. And, you know, we started an academic program. We were the first ones to have standardized orders there. That year I did about 300 open hearts and the next year I hired Erle Austin, who has started with me at Duke. He had also gone to the National Cancer Institute, spending an extra year training. So, he really became a year behind me in the residency. Erle was a Harvard medical school grad, smart as can be, a wonderful guy, very close friends and he had an interest in congenital heart surgery. I said, "Well, if you'll come, then I will get you to the Boston Children's Hospital after we hire the next surgeon. And we'll pay your salary for six months to go there." So, Erle comes. Then I hired Mark Williams, who was actually Dr. Will Sealy's son-in-law. Mark is still here as a program mainstay. Mark came, and I said, "Well Mark, the good news is we're happy to have you the bad news is we're sending Erle to the Boston Children's Hospital..." Because I was doing the kids then. He would be on call every other night until Erle returned.

[01:02:06] I was doing king of cardiothoracic surgery. I was doing pediatric chest surgery. I was doing lung surgery, esophageal surgery, heart surgery, doing everything on which you could get into your hands. I was **the** surgeon. so, Erle was going to do the kids. He comes back from the Boston Children's and starts doing the congenital heart surgery. Erle became the Chief of Pediatric Heart surgery at the University of Louisville 5 or 6 any years later. Mark's is still here. But the point is we started out as three musketeers. When people say, "Ranny, you built the program." And I say, "No, no no. The three of us built the program because each of us did a little piece." I was the first to put cameras in the operating room, so that I could sit in the office and see exactly what was going on in the operating room, because I didn't have somebody down there as the patient was getting prepared. When the PAs were closing the incisions, I had to have some connectivity. I hooked our information system up so I could look at all the laboratory data at home. I remember, I asked for brand new Hewlett-Packard monitors, which they didn't have anything like that here. These were the ones we had a Duke. The Greenville Service League ladies had cigarettes on the candy cart. One day I said to one of the ladies, "You know, you've got to take those cigarettes off the cart in my ICU." Well, I got a call from the CEO of the hospital and he said, "Ranny, don't tell them to take the cigarettes off the cart. They just gave three hundred thousand dollars for those monitors you want." And I said, "Put the cigarettes back on the cart." [laughs] So, everybody joined in in building this program. And it was a booming success. It also was a

success from the research laboratory standpoint. We started publishing. We hired really good people. And that story went to about 1989. And then I was recruited at the University of Kentucky as chief of cardiothoracic surgery and that was a mistake. They had a CT residency program there, and I got promised a lot of stuff that never happened. After about two years, I was not very happy, but I wasn't coming back to Greenville because Earl was then chief, and he was a good friend of mine. He became chief after I left. And I was looking at jobs at the University of Washington in Seattle, and the University of Wisconsin and almost took a job at Presbyterian Hospital in Philadelphia, which is now one of the University of Pennsylvania hospitals. These jobs paid lot more money than I was going to get here. Then Erle calls me up and says, "You know, Ranny, I'm thinking about going to Louisville to just do children's surgery and take the job at the Norton Children's Hospital. He said, "Would you come back here?" And I said, "Yeah. I would consider coming back. But I don't want to step on your toes." He says, "Well, if I take this job..." and he did take the job. So, I said, "But they're going to have to recruit me back." I said, "Because we weren't getting paid enough, at that time, to recruit other surgeons." At the then Pitt County Memorial Hospital we had cardiac services over the hospital .... the cath lab is over here the echo lab is over there and I said, "I want to build a Heart Center." And they said, "Well, what would that be?" I said, "Well, you're getting ready to build the north tower there. Put another floor it. It will cost you another ten million dollars at that time." And so, we built the first Heart Center here and I organized this as a matrix between cardiology and cardiac surgery, which was really beginning of the current East Carolina Heart Institute. When I came back the program grew to eight or nine hundred open hearts, which at that time was twice as many as they were doing at Chapel Hill. See the University of North Carolina is very proud of their everything. But we were doing twice as many back in 1994, than they were doing. Everything was hunky dory and moving along and hired some great surgeons who did super clinical work. Then I started working with some of the professional surgical societies and moving into various committees. I asked, when I came back from Kentucky, to be Vice Chairman of Surgery. In this position I was on the practice plan board and I was always supported by Dr. Pories. He was really a great person. He taught me a lot of things that Dr. Sabiston didn't teach, not necessarily about surgery, but about life and about how to manage departmental money. So, around 2004, I was asked to look at the Brigham and Women's Hospital, Harvard Medical School as the Chief. Well, I made like four or five trips. And almost was there... Tammy wasn't really happy about going. But a Harvard named Chair for a hillbilly from the western part of Virginia is a pretty heavy offer. I knew some things weren't going to come true at Harvard. A lot of things like the lab space was in the near future and there were a

couple of things that weren't great. I did like the intellectual capital there. By that time, I started cardiac robotics in the United States, and we bought the first DaVinci device at ECU. So, we were going to do all that stuff in Boston. One snowy night in January, I got a call from both the hospital board of trustees as well as the ECU board chairman. They wanted to have dinner with me, so we had dinner with the exec committee of both boards. The president the hospital, Dave McRae, said "Well Ranny, we don't want you to leave." And I said, "Well, this is a big deal. Going to Harvard." He said, "What do you want?" I said, "I want build the Heart Institute that I've been talking about for years." And said, "Well how much will it cost?" I said, "At least 300 million dollars". And they said, "Well, what does that entail? I said, "It would entail a heart hospital. It would be hooked to the main hospital, but it entails all services for cardiovascular diseases. That is thoracic surgery, vascular surgery, cardiology, and cardiac surgery. It would have operating rooms dedicated to this mission. It would have C.T. scanners dedicated to cardiovascular disease and it would be a near separate heart hospital. And on the school side" I said, "I want a building for education, research, and clinical care ... yes, clinics and clinics." And the chairman of the board of ECU said, "Well, we can't really give you a building it is up to the legislature" So, I talked to Bill Muse who was the ECU Chancellor, and I said, "Bill, if you'll just let me go to the legislature, you know, I don't need any help." I said, " I just don't need anybody to say no and I don't need much help, you know, administrators." And so, he said, "Okay." So, we started working on this with the politicians in our area. And UNC [University of North Carolina] comes up and wants a hundred million dollars for the Lineberger Cancer center. So, of course, the first time we ran this thing up in the short legislative session, legislator from the central part of the state voted against us and our people voted against them and basically, nobody got any money. So, in the next session our politicians got together and ours voted for the UNC money and they voted for our money and we got the building. Our whole community was behind this project and went to the state house for the final vote. Governor Easley signed the statute as the North Carolina Cardiovascular Diseases Institute, not just East Carolina. Molly Broad was president of the UNC system, as they always have done with ECU, they believe UNC people were superlative to us, I never got push back from Duke at all. Dr. Sabiston liked everything that we were doing, he was always laudatory. But Molly Broad made us call it the East Carolina Heart Institute. The money for the project came from hospital issued bonds and legislature directed bonds. Then we started building these two buildings and operationalize them. now, my next plan was to form a Department of Cardiovascular Sciences. It would be the first in the United States, where you would have in one department cardiac, vascular surgery, non-cardiac thoracic surgeons and all cardiologists. That means having to extract

cardiology out of the ECU Department of Medicine. Well, you can see how well that was going to go. By that time, I had become Chairman of the Department of Surgery following Dr. Pories. The Chairman of Medicine was apoplectic about this and I said, "Well, you know I've seen this vision. It's going to happen." And I got the administration, the dean, and many faculty people on my side to do this project and we did that, and we formed that department. This required a vote of the ECU faculty senate which took some lobbying. The next part was trying to pull the finances of the hospital and school together for Heart Institute. And that's still in progress. As can read in the newspapers recently, that has been very difficult. We tried to do this through Operation Unify which allowed association between the school and hospital finances. It was blocked by the state treasurer because of politics. Our ECU part of the Institute is a beautiful building... It's has an auditorium that seats 250-people, C.T. scanners, a diagnostic area, educational breakout rooms, and clinics. Then we commingled cardiology in the same office areas with the surgeons. We only had enough money to build three floors. So, we shelled in the top floor and later on we got 10 million to finish the research floor that contains a robotic and new technology training center and space for NIH and other funded investigators. So that's a beautiful building. And it's a beautiful heart hospital. I mean, my goodness it's got everything you'd ever want and need in a major cardiovascular center. It is easy to recruit people here because of the facilities and organizational structure. Now, we do about twelve hundred open heart operations, and we've virtually done kind of cardiac operation and cardiology intervention. Mark and I did the first transplants here. I did transplants for a while until they changed the rules about donor allocation. We did pediatric heart surgery for 30 years, and we recently have aligned with Duke on the pediatric heart surgery program because we were doing a small volume. It is my belief is that there should be specific centers doing children's heart surgery. So now we're very closely now aligned with Duke regarding the ventricular assist program, the pediatric program. We're planning to do some other things with Duke as Allan Kirk is now the Chairman of surgery there making that alignment very good. I think, a lot of it was spawned from the fact that people used to call us Duke East, because it was started by a bunch of Duke surgeons. Dr. Sabiston was always so supportive and I know he would be very proud of these former residents. He didn't live to see the Heart Institute, but I had him here as visiting professor three times. So, he saw how the program was developing and, he'd make comments how pleased he was that the people of eastern North Carolina are getting served by our program. Currently, we have metrics to show that we've improved the cardiovascular health of the people of eastern North Carolina over the last 30 years by

bringing top notch cardiologists and surgeons together in an organized patient directed program.

**Stewart [01:15:07] Wow. Well, you mentioned it earlier, will you talk about what it was like to perform the first robot assisted heart valve surgery in the United States?**

Chitwood [01:15:19] Yeah, I'll tell you about it. And Sabiston was alive for this little caveat. So, in 1994, I decided that... and I'd had heart surgery a year before because I have a bad family history and I decided that you could do heart operations minimally invasive with small incisions. At that time, I started using endoscopic cameras, and hand-held long endoscopic instruments. I called Dr. Sabiston after I did the first one – the first videoscopic mitral valve replacement. And that was the world's first mitral valve replacement done videoscopically. I had been trained in mitral valve surgery by Alain Carpentier in Paris. I'd gone over to Broussais Hospital in Paris to learn from him when I first came here to start our program, so I was... I was actually doing mitral repairs before they were doing them at Duke. So, I was pretty skilled at doing repairs. It's interesting because my colleagues would say, "Are we going to the lab and operate on some pigs." I said, "No." Said, "We're going to do the operation in a patient." So, I informed this patient, a young man, that if I couldn't do it with a camera and had a problem, I would just make a bigger incision and do it traditionally. So, he agreed, and I did this operation and it worked out fine. His heart lung machine times were a little longer than with a traditional sternotomy. The next day he was doing very well. And so, I call Dr. Sabiston to tell him about the operation. Dr. Sabiston said, "You did what?" [laughs] He says, "Ranny, well that sounds very interesting but did the patient live?" I said, "Yes sir. He was great." And "Well, you know, I would be interested in following this,". He wasn't going to say that is wonderful... because he was a traditionalist. I don't know what he really thought, but he was nice, and I published the report in the Annals of Thoracic Surgery. I called Tom Ferguson, who was the editor, and I said, "Tom, you've got a publish this thing rapidly, before somebody catches up." I'd done 30 cases and presented the results at the American Association of Thoracic Surgery, which is the big academic cardiac surgeon society. And they were lined up at the microphone to shoot me out of the podium. It was interesting because my critics said, "And why would you do this. It's dangerous. You won't get a good result. You can't see well enough; you are using a two-dimensional scope. You don't have three-dimensional vision." Just on and on and on. So, I defended this, and the

Annals published it. I came home and said to Tammy, my wife, "You know, I think I will be highly successful. I got really beaten up." So, I started doing these operations routinely with success and safety. I did about five hundred minimally invasive mitral operations using the 2 D video endoscope IN 1998, I was in a meeting in Minnapolis and presented a paper on our minimally invasive results. A young MBA, named Daniel Hawkins, grabs me and says, "I want you to come to California and look at a surgical robot." And I said, "Young man, I'm not... You can't operate with a robot." He said, "Will you just come to California?" So, I went to California. I sat at the prototype of what now is the DaVinci Robot . And said, "This is the future." I said, "But this piece of equipment looks like junk. You've got to make it look better and it's a little clunky and this isn't good." And so, they worked on the prototype and then in May of 1998 I was called, and the CEO of the Intuitive startup company says, "Can you be in Paris on Monday?" And this was like Thursday. I said, "Well no, I can't be in Paris on Monday, I've got cases." Ranny if going to do the first one in the US with the robot. "Can you be in Leipzig on Friday?" "I can be Leipzig on Friday." So, Carpentier did one in Paris on Monday. He always liked to be the first person to do every new operation and then never he did another one I flew to Leipzig [the new University of Leipzig Heart Center] to work with Fredrich Mohr, who I'd known, who'd trained at in Bonn and then in Los Angeles and started the Leipzig Heart Center. A lot of his surgeons had trained at Stanford. So, we did like eight cases with the prototype robot , and it worked out very well ... proof of concept ....no deaths and no valve failures and no morbidity. So, I had the opportunity to buy the first commercial Da Vinci robot in the United States in 1999. I went to our board of trustees of our hospital and said, "I want y'all to buy this robot. I think it's six or seven hundred thousand dollars." And they said, "Well, we want a business plan." I said, "There's no business plan." And I said, "I started the heart surgery program here and it's made a lot of money for the hospital and the school of medicine. Just trust me." So, they bought this device. And we went to the laboratory, because we couldn't use it clinically. There we developed all of the techniques for robotic mitral valve surgery as well as some of the robotic instruments. Then went to the FDA and was awarded a safety and efficacy clinical trial in 2000 to operate on 20 patients. Then we operated on 20 patients. The first patient was a Swiss lady from New Bern, North Carolina. It was May 22<sup>nd</sup> of 2000. We did those operations they went fine, and then we headed a 10 center multi-center FDA clinical trial that included places like Johns Hopkins, Columbia and the Brigham and Women's Hospital. At that time, Duke wasn't interested at all in minimally invasive anything. It was very interesting because I think Nan Keohane was the president and they didn't have a Da Vinci. And Wiley Nifong, who really has been key in helping me develop this program, had a Duke Endowment Grant on

robotics. So, about the same time they Wiley went to New York to present to the Duke Foundation board for our work in surgical robotics. So, he presented all the robotic story and she said, "Don't we have this at Duke?" And they didn't. And so, then they bought a robot at Duke, but it was kind of interesting, we were at little East Carolina and they didn't do this kind of stuff at Duke then.

Chitwood [01:22:15] So, anyway we got it approved for open cardiac surgery in 2002. Then we started training people all over the country. We trained people at Cedars-Sinai, at Hopkins, at Columbia, you know we trained almost all the surgeons who planned to do robotic mitral valve surgery. We trained over 450 surgeons worldwide. And we started programs in 19 different countries now. In fact, the last one was in Poland. I was over there last November. I proctored the surgeon. His team had good pretraining in Liverpool with one of my trainees Paul Modi. I had done the first robotic mitral valve repair in England about 2005. We developed protocols for team training. It's very important to have team training. Today in many big centers like the Cleveland Clinic, Mayo Clinic, New York University and many others it's now a standard of care, as it is at ECU. At Duke, Don Glower is an excellent mitral surgeon. He does it minimally invasive, but he's had little trouble getting access to the robot. I think they are buying some robots. So now, it's become a standard of care, but it's only in the beginning because these devices are getting better and better and better. You have real good dexterity with these devices. Also, one has three-dimensional vision and you're basically ensconced in the operative topography as if you were feeling the tissue. Now, you don't have touch feedback, but that's been replaced by excellent optical acuity. I mean, you can tell when knots are tied, and a suture is not going to break. You can tell if tissue is hard or soft with this device. And so, as this moves ahead now, my interest is being able to integrate imaging with these devices, essentially to calculate where you should put your arms to the chest. People are also developing nanorobots, tiny robots. So, this is just the beginning. It's like when I was a boy and amateur radio operator, I started with vacuum tubes and then transistors, and then integrated circuits. Now you have the Internet and instant cell phone communication. So, this is basically it's going to happen it's going to continue to change. We have robotic simulators now. We train people using simulation and this is in evolution also.

**Stewart [01:24:25] Right. Well, thanks for talking about that. Very interesting and that brings us right up to today, which is great. Kind of as a concluding question, is there anything that you want to make sure we know about Dr. Sabiston?**

Chitwood [01:24:46] I think you'll get varying stories about Dr Sabiston. And some people were not as happy as I was in the training program. I was not happy with the length of it. So, you'll get very interesting stories. But the overwhelming theme you will get is that he was probably the best surgical educator, even better than Dr. Blalock, number one. Number two, that he knew how to pick the right people who had the right mindset to be trained. He developed a certain pathway, the training, and it was all predicated-on things like attention to detail, numbers please. He used to say... when you would say, "Well, a patient is doing OK." He'd say, "What are the numbers? Numbers please. Remember what Lord Kelvin said, if you can't measure a thing in numbers, you don't know anything about it." Attention to detail, hard work, honesty, imperturbability, and that you have to have a good work product, whether it's academic work product or a good patient outcomes. The patient was sacrosanct. That it was the patient first. He says, "You know, if you need to get something done, if it improves patient care" and that's what I used all my life to get things done here, it's going to improve patient care. What I was going to do was to reach more of the populace, which will be an economic benefit to the state of North Carolina and is the right thing to do for patients. And so, he taught you a certain number of things. Surgically, he was probably a good surgeon, but he was not what I call having the magic and maybe some of it was because of his training and doing traditional surgery and but I think a lot of it was because everything was a teaching moment. And if you were a surgeon like Denton Cooley, you weren't necessarily teaching along the way, you were just doing an operation very fast and very expertly. So, with Dr. Sabiston, , "We're going to do this operation such and such." And then, everything was a teaching moment. He did the variety of surgeries. He did general surgery, chest surgery and heart surgery and everything was a teaching moment. So, I mean, he got good results. But I think, the residents were better at doing coronary surgery than he. But for traditional bowel surgery and old-time cardiac pediatric surgery he did OK. That was before we were doing neonatal cardiac surgery. So, I don't think he'll be known as the most, and I don't mean to say anything negative, but the most expert as far as speed, adroitness in surgery. Patients did well, because we took good care of them. We had the "gold" surgical team. So, if you were on the "gold" team, you had to scrub with him on all of his cases. He had the same team every time. So, and I think that was important. The other beneficial thing is the science is he that taught us. Just after returning from Oxford, where he worked with Professor Allison on pulmonary embolism, he began to work with Dr. Greg on coronary surgery. It wasn't the basic science research that we see today with a genetic bent, but it was mechanistic animal research. But he got you interested in the research

method. He also kept everyone interested in surgical history. Now, the history is only important because if you dig back to the first operation and read about it you realize that some of these people were pretty smart a long time ago. I mean, like Earnest Starling, who was the physiologist that studied the heart and the formulated Starling's Law of the heart. Later on, we had all the different ways to measure things, but it still was the basic principles that Starling had set forth. He taught us many things and then later on he taught us the administrative matters. But it wasn't like a course, it was a way of life. I used to call it like being a cardiovascular monk. Basically, his personality was different. He wasn't a friendly man. He didn't yuk it up. I didn't see him laugh too much. Whereas, Aggie was always friendly and wonderful.... Was he cold? Yes, sometimes. He had a somewhat dual personality., When he was out of the hospital and as a visiting professor everybody said he was wonderful. But then he would take you to a meeting and say, "Oh you're a wonderful surgeon." But you get home, he's a totally different person when he was in his training element. I think he's given us all a lifelong interest in science. Former Duke residents like Jim Cox are still working on innovative things. I'm still working on developing new instruments, reviewing programs, and teaching. I'm not operating now on patients now. If you read my paper, that I wrote in *Annals* about Dr. Sabiston entitled a *Heritage of Excellence*, there's a whole series of successful Duke residents. But he also liked to be self-aggrandizing too. I will tell you that he was not a humble man, I don't think he would ever try to be humble or act humble. He loved every award he got. Even after his first stroke, I remember he told me that, "I'm still getting awards Ranny." He was a good politician. He wouldn't have been president of all the major surgical societies unless he was a good politician. So, I think he taught us an awful lot, but we may have happier if we'd been with Norman Shumway at Stanford, who was very friendly to his residents. Shumway was a pal to his residents but would still get things done and was respected. They were totally different people. Denton Cooley, who was at Hopkins with Dr. Sabiston was a very friendly, gentlemanly like kind of guy. And Dr. Sabiston was all business and he expected you to be all business. Having said all of this, there was never a better cardiothoracic surgical residency, or teacher.

**End of Interview**