ORAL HISTORY PROJECT

J. Alex Haller, Jr., MD

Interviewed by
Kurt Newman, MD

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Glencoe, Maryland

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Section on Surgery

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PREFACE

Oral history has its roots in the sharing of stories which has occurred throughout the centuries. It is a primary source of historical data, gathering information from living individuals via recorded interviews. Outstanding pediatricians and other leaders in child health care are being interviewed as part of the Oral History Project at the Pediatric History Center of the American Academy of Pediatrics. Under the direction of the Historical Archives Advisory Committee, its purpose is to record and preserve the recollections of those who have made important contributions to the advancement of the health care of children through the collection of spoken memories and personal narrations.

This volume is the written record of one oral history interview. The reader is reminded that this is a verbatim transcript of spoken rather than written prose. It is intended to supplement other available sources of information about the individuals, organizations, institutions, and events that are discussed. The use of face-to-face interviews provides a unique opportunity to capture a firsthand, eyewitness account of events in an interactive session. Its importance lies less in the recitation of facts, names, and dates than in the interpretation of these by the speaker.

ABOUT THE INTERVIEWER

Kurt Newman, MD

Kurt D. Newman, MD is the Executive Director of the Joseph E. Robert, Jr., Center for Surgical Care and Surgeon-in-Chief at Children's National Medical Center, Washington, D.C.

Dr. Newman graduated Phi Beta Kappa from the University of North Carolina and received his medical education at Duke University and has been elected to AOA. He began his surgical training in the Harvard program at the Brigham and Women's Hospital (formerly Peter Bent Brigham) in Boston, rising to the level of Chief Resident. He also served as the Arthur Tracy Cabot Fellow at Harvard Medical School. Dr. Newman had the opportunity to work with Dr. Haller's daughter, Julia, who was a medical student at Harvard and is now Chair of Ophthalmology at the Wills Eye Hospital in Philadelphia.

Dr. Newman is a member of the Board of Commissioners of the Joint Commission on Accreditation of Healthcare Organizations. He is a past member of the Board of Governors of the American Pediatric Surgical Association. He is also a past Chairman of the Section on Surgery of the American Academy of Pediatrics. He is a Professor of Surgery and Pediatrics at the George Washington University School of Medicine.

Interview of J. Alex Haller, Jr., MD

DR. NEWMAN: Here we are in Glencoe, Maryland. This is Kurt Newman, and I am talking with J. Alex Haller Jr. as part of the AAP [American Academy of Pediatrics] oral history project. It's April 3rd, 2008, and we're here in the living room of a house built back in 1810, and we're going to spend a couple of hours here talking about Dr. Haller and his contributions to pediatric surgery and reminisce on all of these subjects.

So, Alex, I'm thrilled to be here today to share this time with you, and, you know, as I've been looking through your just long, long bibliography and curriculum vitae, one of the first things that struck me was the first line, which was, "Born in Pulaski, Virginia, on May 20th, 1927." And I'm just very interested in your early life and what set you on a direction to become ultimately the professor and chair at probably the greatest medical institution in the world, the professor and chair of pediatric surgery there. So take us back to Pulaski and what was going on there and how you got where you are.

DR. HALLER: You're absolutely right. I am a country boy from the Appalachian Highlands, and the older of two boys. My dad was a dentist, or as they called them in the mountains, a tooth dentist, and practiced in Pulaski, although he was born in the next little town, Wytheville, Virginia, where the Haller family came to live, having migrated there from York, Pennsylvania originally, in the 1800s. And my family were largely in the dental profession. Both my grandfathers were dentists. My father, my aunt and two uncles were dentists, and as it turns out, my younger brother became a dentist, so I'm the only physician in the bunch, although a great-grandfather was a physician in Wytheville, Virginia, and the original Drs. Haller, who went down [to Virginia], were physicians from York.

They were actually run out of York because they persisted in digging up dead bodies for dissection. They were called resurrectionists in that time, and they were told—my great-great-grandfather and his nephew, who both were physicians trained in Philadelphia—that they must stop that; that was illegal. But that was the only way they had to learn anatomy, and in those days grave robbing was not that uncommon. And so when they persisted, the townspeople rose up and actually ran them out of town—put them on horseback out of town, and they went down into southwest Virginia to Wytheville, where there was at that time some type of diarrheic epidemic, apparently. And also they thought that maybe the populace was having some kind of water contamination or something, and they stopped in that little village, asked for a place to spend the night and learned about [the epidemic] and said that they were physicians and [that] maybe they could help. And so they checked on the water supply and what was happening, and lo and behold, they thought that they had come up with the explanation. They

cleaned up the water supply, the disease stopped, and the people were so grateful they invited them to stay and start to practice there in Wytheville, Virginia. So that's how they got there.

And then over the years, they continued to live there, and my father was born in Wytheville, went to dental school at the Medical College of Virginia in Richmond, as did all of the Hallers who were dentists, and he ended up then coming into Pulaski after he was married. He married a local girl in Wytheville, whose father was also a dentist, so I had both grandfathers as dentists.

In Pulaski, which was a small—mainly a town with a railroad station and one factory for building furniture and then a couple of plants where they had spinning mills for making cotton thread, things like that—otherwise, there was not a lot of industry. I always wanted to be a doctor, from the time I can remember, not a dentist. I think some of it may have come, Kurt, from the fact that when I was about two, I had a high fever, and—I don't remember it, but the details were that I also had some type of a red rash, and I think it probably, in retrospect, was scarlet fever, and after that, all my hair fell out, all my body hair, and it never came back in. And so from the time I was two and a half or three, I was totally bald. I think that contact with the physicians during that time may well have been important in terms of my thinking about that as a career. In any event, as I grew up, I continued to be interested. I was always focused on it, although a lot of people kept saying, "You'll be a brain surgeon," which sounded pretty dramatic. But I quickly gave that up when I got to medical school and saw neuroanatomy slides. I said, "No way can I learn about this complicated organ," and so abandoned neurosurgery as a focal point.

But I always wanted to be a doctor. I went to public school. That's all we had, Pulaski High School. And I played basketball and football and worked hard on my studies. And then, when the time came to apply to college, it was just assumed that in Virginia you went to "the university," which was the University of Virginia in Charlottesville. So I applied there, but I applied also to—my principal said, "Why don't you apply to Vanderbilt University?" I said, "Where is Vanderbilt University?" He said, "Well, it's over the mountains in Nashville, but it's a very good school." So he essentially applied for me.

I graduated from high school in 1944, so we'd been two and a half, almost three years in the Second World War, which had started when I was just starting high school in 1941. And they [Vanderbilt University] were hurting for students coming because so many young men were going into the service. I think that was one of the main reasons why they were looking for good high school graduates. And I graduated at seventeen, so I wasn't quite yet ready to be drafted. But lo and behold, I got a Founders Scholarship that paid my

total tuition all four years at Vanderbilt. When I got that, my dad said, "Well, I guess we'll not look at the University of Virginia any further." The University of Virginia gave me a half scholarship, but that didn't convince him. [Chuckles]

So another classmate graduating with me, who was interested in engineering, and I went to Vanderbilt, sight unseen. Our fathers drove us down there. And when we came into Nashville, we had no idea where it was, even. I showed up on campus, and—

DR. NEWMAN: And how long a ride was it at that time? That was through the mountains.

DR. HALLER: Yes, all through the mountains. Of course, there were no interstates at that time, and it was also wartime, so there weren't a lot of funds being used for resurfacing roads. But it was about a seven-hour drive from Pulaski to Nashville, going through Bristol, Tennessee, which is on the border of Tennessee and Virginia, and then right into Nashville. So that's how I got to Vanderbilt.

And I was immediately in a pre-med curriculum, which at that time—you won't remember, but those from that era will remember that it was a pretty rigid curriculum. You took a foreign language, English, biology and chemistry. That was it. And you did it all in three years [chuckles], and we marched right through, going into medical school. But during that time of the war, you were allowed to go into the medical school after your third year, as a so-called "senior in absentia." And I applied at that time to medical school at Vanderbilt [University School of Medicine], because I'd learned what an excellent school it was. But maybe I'm getting ahead of myself. Let me back up a little.

DR. NEWMAN: When you were in the college at Vanderbilt, what were the courses like? Were there big classes, small classes? Did you get to know people? Were they all the same people doing the same thing?

DR. HALLER: Vanderbilt was an interesting university—it still is—because at that time, in 1944, there were no black students at all. We were totally, of course, still segregated. And they had purposely tried to admit girls as about one-fourth of the student body, so it was looked upon as a great place for girls to go to find their husbands, and there were some wonderful southern ladies who came to school there. But it was a very small student body. At that time, during wartime, there were about a thousand in a class, so we got to know each other extremely well. The classes were small.

Vanderbilt had a strong English department and tradition, as well as in the sciences, because it had a strong pre-professional curriculum. And we had

fraternities and sororities. Everything was cut back in size because of the war, but most of the activities went on. Since there was such gasoline rationing, the varsity teams couldn't travel very much. I played varsity basketball and largely made the team because there were very few boys there who were athletes. Most had gone into service. I had played in high school, so I did know how to play basketball, and so I was on the varsity basketball team. But we couldn't travel very far because there were restrictions, so we played locally. We played Memphis, we played the University of Tennessee, we played Kentucky, so we played some good teams, but not at great distances. I enjoyed my basketball experience a great deal.

Unfortunately, I was not able to play in my senior year, not because I was injured, happily, but because I was taking organic chemistry, and the laboratories went so long that I was late by an hour or more for basketball practice, and I said to the coach, "I'm sorry. This is the way it is." He said, "How are you going to make your decision? You can't be coming in here an hour late for basketball practice and still stay on the varsity team. You can play intramural basketball if you want to." And there I was, a senior. I had looked forward to playing, but I said, "I'm going to medical school, so I've got to make a decision, and I guess I'll just have to give it up." So I didn't play in my senior year.

DR. NEWMAN: Good for you. I mean, that's hard to—

DR. HALLER: It was hard to do.

DR. NEWMAN: —even think about these days, with the student athletes and the emphasis on athletics the way it is.

Now, through your friendship and my friendship with Dr. [Judson G.] Randolph, I came to hear that there's a title on the Vanderbilt campus of the Ugly Man on Campus, but it's meant as a popularity thing. How did that come about? Tell us a little about that.

DR. HALLER: Oh. Well, you got the "Ugly" right, but it's called the Bachelor of Ugliness.

DR. NEWMAN: Oh, there you go. Thank you.

DR. HALLER: It's a title that goes with the president of the student body. And that came about—well, I don't know how it came about, being called the Bachelor of Ugliness; that was there for many decades. But I was active in the fraternities and inter-fraternity council, etcetera, and so I ran for office. I was the president of my junior class and was due to be president of my senior class, but then I got nominated to be candidate for Bachelor of Ugliness. The way Dr. Randolph, Dr. Jud [Judson G.] Randolph, knew

about it was that we were entirely contemporary. He was actually one year behind me, and so he was still in high school in Nashville when I came as a freshman. We had not known each other before. But at one of the high school mixers that I went to—I didn't know anybody on campus, and I knew there was a high school just down the road, so I decided to go to one of those high school mixers, since I figured I was still in high school, and I met Jud Randolph.

He couldn't have been more hospitable, introduced me to all his girlfriends and boyfriends there and ultimately got several dates for me with high school students that I carried through into college. But it was during that time that I got to know Jud's family. I was a Presbyterian, as he was, so we went to the same Presbyterian Church. The reason this story comes up that he's told you is that [chuckles] he was there in church shortly after I was elected president of the student body, or Bachelor of Ugliness, and his mother was with him, and when I came into church I sat down a couple of aisles from him, and he said to his mother, "That's Alex Haller. He's the new Bachelor of Ugliness." And she said, "Well, he certainly deserves it." [Laughter] We often tell that story in different forums, but he also came to some of our basketball games, so he knows about my "prowess" in playing basketball in the national area. And, having grown up as a Nashvillean, he knew all his contemporaries so well in the different high schools, and many of them came to Vanderbilt and became my friends, too. So it's been a wonderful friendship with Jud over all those years, and continues happily.

DR. NEWMAN: So then, as you were headed with the senior-in-absentia program to Vanderbilt, what was the Vanderbilt School of Medicine like at that time?

DR. HALLER: It was certainly one of the outstanding medical schools in the South. I think it compared well with Duke [University School of Medicine], with Emory [University School of Medicine], possibly also with Washington University [School of Medicine]. It focused on many specialties. Had a very strong surgery department, excellent OB/GYN [obstetrics/ gynecology]. We, of course, as undergraduates, didn't know too much about it except that since at least a third of the Vanderbilt Medical School class each year came from the Vanderbilt undergraduate group who matriculated then to medical school, we had some friends who were ahead of us who were in medical school. During my undergraduate years, I met and, happily, subsequently married my wife, Emily Simms. We were classmates and were to graduate together, but this was now during the last days or last time of the Second World War. I had been deferred by my draft board in Pulaski because I was at that time only the second—there were only two Pulaski boys who were in college. They wanted to have at least some graduates who might come back to Pulaski, so my draft board would get in touch with me. The secretary was named Mabel. Mabel got in touch with me every year to tell

me that as long I was passing my grades that the draft board was going to defer me.

So I didn't have to worry about being drafted to go into the service as long as I was continuing my work, but when it came time to think about going to medical school, I applied as a senior-in-absentia, and so did my wife, who was taking a pre-med course and was interested in obstetrics and gynecology, and about eleven of us in the class were accepted to Vanderbilt Medical School. I was delighted, and obviously we were all excited about it, and I went over to talk with some of the professors there. I didn't have any courses, of course, in the medical school and I didn't work in anybody's research laboratory. All my extra time, I spent in sports or in collegiate activities of various kinds, including the fraternity life.

But I went over and talked with several professors, and they said, "Haller, where else are you applying to medical school?" And I said, "I'm not applying anywhere else." They said, "Maybe you ought to apply to Johns Hopkins [School of Medicine]." I said, "Where is Johns Hopkins?" I had no idea. And they said, "It's in Baltimore. It's an excellent school, and we have had good relationships at Vanderbilt, a lot of exchange of professors back and forth, and students. They have a high-powered curriculum that's focused on surgery, which is what you're interested in, and a lot of research programs, maybe stronger than we have here. And maybe it would be good for you to go." I'm not quite sure, Kurt, why they said it, but I have a hunch that maybe they were saying, "You've caused enough trouble around Vanderbilt."

DR. NEWMAN: [Laughs.]

DR. HALLER: "We think it would be good for you to get out of town." [Laughs] So in any event, I said, "Well, what do I do?" And they said, "You just apply." It was a single-sheet application. I sent it in, and I got a call from Hopkins saying, "We're very much interested in your coming here, but can you come up for an interview?" And I said, "I don't have the funds to come all the way up to Baltimore." And they said, "We have set up regional interviews for Hopkins, and you could be interviewed by one of our graduates in Birmingham, Alabama." And I said, "I could go there on a Greyhound bus," and said, "Okay."

So I went down to Birmingham on a Sunday. It was in the spring of 1947. And I met the Hopkins gentleman. He was just coming home from church. He specialized in OB/GYN [obstetrics/gynecology]. Couldn't have been more gracious. Had Sunday dinner with him and his family. He interviewed me informally, asked about what I was interested in, etcetera, and never looked at my grades or anything, but I'm sure they had that already at Hopkins.

And then in about three weeks I got a telephone call from Hopkins saying I'd been accepted to the medical school.

So then I was really confused as to what to do and naturally worried also about the fact that I'd be leaving Emily. Although we were not engaged, we certainly had gotten to know each other very well during the undergraduate days. So I went over to talk with those professors again at Vanderbilt, and they said, "There's no question but that's what you should do. You should go to Hopkins." So I made my decision to come to Hopkins, sight unseen. I'd never even seen the campus, much less knew anything about it [chuckles] except by its reputation, and that was second hand.

DR. NEWMAN: Now, what did your family think?

DR. HALLER: Well, my family had never dealt with anybody going to medical school, of course. And they, I think, were pleased for me to go wherever I wanted to go. Those were the only two places. I know that my dad said, "Haven't you been happy there at Vanderbilt?" I said, "Very happy." I said, "This is just such a strong recommendation and it sounds like such a fine place, maybe I should be able to have the experience in both places," having been at Vanderbilt then to go to Hopkins to medical school. Emily was not happy that I was going, either, but she said, "Well, you know, if that's what you think you should do, clearly it's your life, you should do it. I'm going on into medical school here."

DR. NEWMAN: And where was she from?

DR. HALLER: She was from Huntsville, Alabama, long before it became a center for all the [Marshall Space Flight Center] rocket activities. It was just a cotton gin town at that time, a small rural village.

DR. NEWMAN: Before we go on to Hopkins, how did you two meet? What was your first date?

DR. HALLER: We met in German class, and that was the only class we actually shared. We were constantly seeing each other because, first of all, it was a very small student body, as I indicated earlier, and she came in the fall and I had come to summer school. At that time there might have been three hundred students on campus, four hundred. And so we'd see each other going up the steps and then in German class every morning, and we just said hello to each other, and that was it. We weren't dating. I wasn't dating—actually, I was dating a high school girl that Judson Randolph had found for me, so I was not dating anybody on campus, and neither was she. But we lived just about three hundred yards from each other. She lived in a girls' dorm, and I lived in a men's dormitory that had only five bedrooms in it, so it was just sort of a house, right on campus.

Then over the course of the next one and a half years, we saw each other occasionally. I went to the movies with her a couple of times, and then she came to a couple of our ATΩ [Alpha Tau Omega fraternity] dances. I was in ATΩ, a fraternity. And our friendship just grew, and we were accepted to medical school. She had skipped her senior year in high school because she was such a bright student, so she came right straight from the junior class at Huntsville, Alabama, to Vanderbilt. Since we went summers as well as the regular time for classes, she finished undergraduate school in less than two years and was ready to go to medical school. And, of course, I was about a half a year behind her because I had not skipped any high school years.

And in addition, I had not gone to summer school my second summer because I took off after V-E [Victory in Europe] Day (May 8, 1945), and we thought that the Second World War was beginning to be over. I relaxed a little and took that summer off. Actually, it was significant in terms of my going into pediatric surgery because it was during that time that I thought about going to Boston, to Boston Children's Hospital [Children's Hospital Boston]. I didn't have a chance to go at that time, but I thought about it that summer. Instead, I worked for my uncle, who was a general surgeon, to see whether I really was interested in surgery, during that summer. And I also taught plane geometry at my old high school back in Pulaski.

Emily and I were to be admitted as seniors-in-absentia, but after I was accepted to Hopkins, I decided, "The war is almost over. I'm not under pressure anymore. I'll take an additional undergraduate year. I won't go as a senior-in-absentia. I'll finish my regular baccalaureate course." So I had a whole additional year while she [Emily Simms] went to medical school at Vanderbilt. We dated more during that time and made more commitments to each other. But she was actively involved in gross anatomy and everything else as a freshman in the medical school, but I didn't have nearly as many restrictions, and I had a chance during that senior year to take Shakespeare studies, philosophy, all kinds of electives that I'd never had a chance to take before because I was in a lock-step pre-med program, taking my labs and all my sciences. So that was a wonderful year.

It prepared me, then, to come to Hopkins in 1947. We graduated together, but she graduated as a, quote, "senior-in-absentia," and we were both inducted into Phi Beta Kappa together, so we were closely associated all during that time. And every chance that I could get her out of that medical school I did, on weekends. But she was a very studious student and a very good one, and so we didn't have as much time free as you might think you would as a senior, because she was a freshman in medical school at the same time.

DR. NEWMAN: So you got to Hopkins. So here's the country boy. He's been shined up a little bit at Vanderbilt, but Hopkins was kind of the center of world medicine at that time. That must have been fairly intimidating.

DR. HALLER: It was. It certainly was intimidating to me, because first of all, I'd never seen the place, and I arrived in Baltimore that fall, on the train, Norfolk & Western Railroad [Norfolk & Western Railway, from Pulaski [Virginia], which was one of the stops along the Norfolk & Western Railroad, and got off at Penn[sylvania] Station [Baltimore], and I didn't know exactly where to go, but there was a Yellow Cab stand out there, so big ol' me, I went out and got in the cab, and the driver said, "Where to, mister?" And I said, "Johns Hopkins." Well, he took me to Johns Hopkins undergraduate campus, Homewood, which was much nearer than the medical school. I didn't even know there was such a thing. I got out of the cab, and—it's a beautiful campus, as you know—and I thought, "Boy, have I scored! What a fabulous place!"

So I walked around. I saw students and said, "Do you know where the admissions office is?" And they said, "Yes," and it was pointed out to me, and I went over there, and I came in, and I said to the lady at the desk, "I'm Alex Haller. I'm here to be registered for Johns Hopkins." She said, "What's your name, mister?" She looked and she said, "We don't have you listed here." I said, "You don't have me listed here?" I got my little piece of paper out; here was my letter. She said, "Oh, you're supposed to be at the medical school" and said, "That's all the way downtown, down in the slum area of East Baltimore."

DR. NEWMAN: [Laughs]

DR. HALLER: *Great.* I asked, "How do I get down there?" She said, "There's a streetcar right outside here, and it's called Wolfe and Aliceanna, and you just get on it and ride it until it comes to the end." [Laughs] So I got on it and we took off. It went down through every imaginable slum area, and it got worse and worse as I went deeper and deeper into East Baltimore and finally ended up right there at the hospital. But what a campus! The hospital and the medical school were just across the street from each other. And I got out and thought, "Oh, my, this is the end of a world." It was, you know, just nothing but slums, and this great institution with its imposing dome sticking up there on a hill. So that was my introduction to the Johns Hopkins Medical School. And yes, they did have my name there. [Laughs] So I registered, and that was the beginning of my medical school journey.

DR. NEWMAN: And was the curriculum pretty set? I mean, Hopkins had a reputation of being a leader in education, at the forefront of medical school education.

DR. HALLER: As you may know but may not remember, Hopkins was not an early medical school. The medical school opened in 1894 or 1895. The hospital opened in 1889, so the hospital opened first. But that's a century after Harvard [Medical School] and [University of] Penn[sylvania School of Medicine] and many other really good medical schools. It was founded by Johns Hopkins, a Quaker businessman, who'd never married, and the money from his endowment was to go for a medical school and a university. But there were two different endowments, so he had two different boards of trustees. And it was beautifully planned from the beginning to be primarily focused as a research medical school with strong emphasis on that day's science at the end of the nineteenth century.

The board of trustees, who were all Quakers, also carried out a very careful search to begin the selection of their faculty, and they chose Dr. William [H.] Welch, who was a well-known pathologist, outstanding scholar, even though he was only in his forties at that time, and chose him to be the first dean. And then he selected the other faculty. That first faculty included [William] Osler, who became Sir William Osler; Howard [A.] Kelly, who was the head of gynecology; and William Stewart Halsted, who was then at New York Hospital and then became the chief of surgery. They became what are now called The Big Four, because of the painting ["The Four Doctors"] by [John Singer] Sargent.

They began the medical school on the basis of being full time, which was unheard of in education in medicine at that time, because almost everyone, as you will recall, trained by being an apprentice to another physician and then actually paid that physician for being a student under him or her—well, there weren't any "hers" at that time, or practically none; I guess the women's medical college [Woman's Medical College of Pennsylvania] in Philadelphia had had a few graduates, but when the [Johns Hopkins School of Medicine] medical school was opened in 1895, one of the striking features of it was a requirement or the stipulation that men and women be admitted equally to the medical school, which had never been heard of before but came about because some of the money for the opening of the school came from the Garrett family.

Miss [Mary] Elizabeth Garrett was the daughter of one of the members of the board of trustees, and an early feminist. She and three of her debutante girlfriends were concerned that there were no women going into medicine. When the Board of Trustees didn't have enough money to open the medical school—they had enough to build the hospital, as I said, but then there was a depression, and the income was so low from their investments that they couldn't open the medical school—she and her three friends went to their fathers or uncles and offered to give part of their dowries to open the medical school, with three stipulations: that women be admitted on the same basis as men, that those who were admitted all have baccalaureate degrees, which

was unheard of in American medicine at that time, and that everyone who was admitted had to have a reading and writing knowledge of two foreign languages in addition to Latin.

DR. NEWMAN: Good gracious.

DR. HALLER: Well, the Board of Trustees, the fathers and uncles of those girls, said, "You girls are crazy! No way would we ever get anybody like that coming to Hopkins, and to think about admitting women to medical school? Be off. Go do your own thing, and generate your own activities and feminist movement, but leave us alone." Well, two years went by, and the trustees still didn't have enough money to open the school. They had the hospital going, the faculty was growing. So one of the trustee fathers came back to his daughter and said, "Are you girls still making that offer?" They said, "Yes, but our stipulations are the same." "We accept," said the Board of Trustees!

And so as a result, Hopkins admitted women from the beginning of opening its doors, and that's why so many outstanding women in medicine during that early part of the twentieth century were educated at Hopkins. That's why Dr. Helen Taussig came to Hopkins rather than going to Harvard. She was a Bostonian. She came from an outstanding Bostonian family. Went to Harvard undergraduate. Applied to medical school. No way, they wouldn't accept any women, so she came to Hopkins.

This is an aside: In her retirement, Harvard gave the then-famous Dr. Taussig of blue baby fame, an honorary degree from the medical school. When she got her degree she said, "Glad I got here and got my degree, even if I couldn't get in as an undergraduate." [Laughter] That was an interesting aspect of, just as an aside, in the history of Hopkins at that point. This began that tradition of a full-time salaried faculty. They saw some private patients, but the most important influence of the Hopkins endowment was it was to pay full salary. They had only one professor in each department. All the others were part-time people in private practice in the community, and they taught, and that's why there was always a really good town-and-gown relationship in Baltimore between Hopkins faculty and the practicing community, because Hopkins depended upon all the guys in practice to be the teachers.

DR. NEWMAN: Interesting.

DR. HALLER: And gave them faculty appointments, etcetera. But I, of course—here I am, a country boy, really lost in this city but very impressed with the curriculum. It was a standard curriculum of gross anatomy, all the other things at that time. And the only sort of contact that I had with my Vanderbilt background was that, unknown to me because I didn't even know

who Dr. Alfred Blalock was, but Dr. Blalock had just come back from Vanderbilt to Hopkins in 1941, which would have been six years or seven years before I got there, to be the chairman of the Department of Surgery. He had begun his research work on the blue baby surgery and patients [infants with tetralogy of Fallot] of Dr. Helen Taussig who was his pediatric cardiology partner. Dr. Blalock had been very supportive of sports in Nashville when he was there. He was not only a good golfer but he came to basketball games and was actively involved with the university sports programs.

Lo and behold, in the early part of my first year, I was walking down the hall in the hospital and here came this whole coterie of people in white coats, led by this gray-haired guy. It was Dr. Blalock, not known to me. They came down the hall, and when I came by—of course I'm easily recognized with my bald head—he stopped and said, "Haller, is that you?" And I said, "Yes, it's me. What have I done now?" And he said, "How's your basketball?" You know, you could have blown me over with a feather!

DR. NEWMAN: This is Dr. Alfred Blalock, the chief of surgery.

DR. HALLER: Yes, he had seen me play basketball at Vanderbilt.

DR. NEWMAN: Unbelievable.

DR. HALLER: [Laughs] So, I mean, I felt, you know, like, "Wow! Somebody knows who I am!" [Laughs] "Even up here!" And, I mean, that was the end of it. I didn't have any friendship with him or anything. I didn't even know him until I got further along and got in the surgical training program.

DR. NEWMAN: Well, tell me about your early contacts with the surgery department. You mentioned that you'd already developed an interest in surgery.

DR. HALLER: Right.

DR. NEWMAN: And so how did that play out at the medical school there?

DR. HALLER: In our first year in medical school at Hopkins, we had an elective course called dog surgery. It was an elective, but practically everybody took it because it was an opportunity to learn some things about anesthesia, because we had teams of four medical students and a dog, and we had to learn how to anesthetize the dog. And this is where we came in contact with a lot of the black technicians who worked in the laboratory, one of whom was Vivien [T.] Thomas, who was Dr. Blalock's senior technician, who actually ran the course. Vivien Thomas had come with him from

Vanderbilt in Nashville, where he had worked with Dr. Blalock as his technician in the research laboratory.

We medical students worked as a team of four—one would be the anesthesiologist, one would be the technician, one would be the operating room nurse and one would be the surgeon. Then we'd swap off. You learned how to take out a spleen. There were all kinds of really fascinating things. Well, that convinced me: *This is it.* There wasn't any question that I wanted to be a surgeon.

And so I took that as a part of my first course. And also, of course, we were taking gross anatomy, which I found just so stimulating, even though the cadavers were all pickled and there were horrible formaldehyde smells, etcetera, associated with doing the gross anatomy. But learning everything about the human body just solidified my feeling that that's exactly what I wanted to do.

In the summer between my freshman and sophomore years, I went to work in West Virginia in the coal fields, where my uncle was a doctor for one of the mining companies. He was a general practitioner, but he also was a very good surgeon. He did trauma particularly, but he did some appendectomies and regular kinds of gall bladder [surgery]. I got to work up some of the patients, learn how to do histories and physicals, and then he would take me to the operating room with him. That was terrific.

In the summer of 1948, between my first and second years at Hopkins, I decided that I needed to have more physical activity outside of the confines of the medical school, and so I took a course in Red Cross swimming instruction so that I could be a counselor at a boys' camp in North Carolina. The instruction was in Brevard, North Carolina, in a camp called Camp Carolina. Well, the faculty of it, interestingly enough, were largely from the University of Virginia, but I taught swimming. And at that time, I maintained my contact with Emily, who was of course continuing medical school. During that time, she was still working in the summer in medical school [at Vanderbilt University School of Medicine]. That summer, I also went over to take some other courses in water safety and small boating at another camp called Camp Mondamin [pronounced mon-DAM-uhn], which was just over the mountain ridge from Brevard, on Lake Summit. And there I met the director of that camp, Chief Frank Bell. During the course of time subsequently, we became—after we finished medical school, we became the doctors to that camp. That's how we made that early contact. But that will come up further when we talk about the summers after our children were born. But that was the beginning of my contact with summer camps in North Carolina.

After that summer, in my sophomore year, I took some electives also in surgical anatomy. I took an interesting course—there were just three of us who took it—in newborn anatomy. In that, we actually dissected a couple of newborn cadavers.

DR. NEWMAN: That was pretty unusual at the time.

DR. HALLER: Very unusual. But that really fascinated me and also got me interested in fetal development, intrauterine activities and what science there was at that time. And it was particularly interesting to me because Emily by that time was more and more interested in obstetrics, and so it gave us yet further things that we could discuss together, and that was nice. And every summer I made sure that I kept in contact with her. One summer I went down and spent some time in pathology at Vanderbilt so that I could be with Emily but, at the same time, so I could learn more about pathology. I worked under the great virologist, Dr. Ernest [William] Goodpasture.

Dr. Ernest Goodpasture developed the technique of growing viruses on chicken egg embryos. He personally developed that whole technique, which led to the development of virology as a science. He was able to thus make various kinds of vaccines as a result of growing viruses on chick embryos. Well, I worked under him, just as a medical student, but also they allowed me to do some autopsies, so it gave me further experience in gross anatomy and relationship of diseased organs. Working in pathology was very exciting, particularly at that time, because of Goodpasture's work, which was Nobel Prize work in developing that technique. But it gave me a chance to be with Emily. That was my ulterior motive. [Laughs]

DR. NEWMAN: What was your surgery rotation like at Hopkins?

DR. HALLER: Well, you see, at that time, of course, we didn't go on the wards at Hopkins until we were juniors. At Vanderbilt they went on when they were sophomores, but we didn't go on until we were juniors. So the rotations were set up so that you spent a quarter on whichever—medicine, pediatrics, the standard kinds of divisions of a medical school curriculum. My rotation was heavily loaded with all of these cardiac patients because we had so many children at Hopkins who were blue babies, coming from all over the world. This was that exciting era.

Of course, I didn't know anything about cardiac surgery at that time, because I was just coming up as a sophomore and then began my rotation as a junior. And my first rotation was on a general surgery service. That's where I first met Dr. [David C.] Sabiston, who was in the middle of the general surgery residency program. Actually, he was the cardiac resident under Dr. Blalock. And so I had a chance to make rounds with those

impressive guys, just as a medical student. What you did was you worked up the patients the night before, then went with them to the operating room the next day, and then you had your lectures somewhere in between, much different from now, where you don't even see the patient the night before, because they're not even admitted until the morning of their surgery, which I think makes it very difficult for today's medical students, don't you—

DR. NEWMAN: Absolutely.

DR. HALLER: —to get a feel for what's wrong with a patient. To meet them in the operating room, practically, or meet them in cardiology at the catheterization lab or whatever is going on, you hardly get to know the patient at all. They're a number, unfortunately. I think that's further degrading of our relationship with our patients. And it's something we have to work at all the time. In our curriculum we certainly are. I'm sure they're doing the same thing in the Harvard curriculum. At that time, it was just the standard rotation through those different services.

DR. NEWMAN: Were there any surgeons who stood out in your mind whom you came into contact with?

DR. HALLER: Certainly as I then finished my junior year, we had to take general surgery. That was the surgical entrance. After that, you could take electives. Hopkins was big on that, which I think was a great advantage for us. We had three required rotations: medicine, pediatrics and surgery; and the other quarter of that junior year and all four quarters of the senior year were electives. I mean, you couldn't go fishing or take vacation, but you could take whatever you wanted to, so then if you were interested in surgery, you could take surgery electives, or if you really were smarter and saw the long picture, you could take non-surgery things because you were never going to see them again, since you were in your surgical residency program.

But that was an opportunity to see some of the cardiac surgery patients and some of the cardiac surgery. I became quite interested in the children during that time, largely because there were so many of them with various congenital heart abnormalities, since that was the focus of the whole Department of Surgery. I mean, it was big time. We had so many blue children, Kurt, in the hospital that one of my patients developed appendicitis when he was in the hospital. Well, I just knew there had to be a relationship—you know, that cyanosis must do something to cause it. Well, it turned out that there were just so many of them; one of them was bound to get appendicitis.

DR. NEWMAN: [Chuckles]

DR. HALLER: **But I was all set to do a research thing [laughs] and do some kind of a paper on the relationship, but I remember then I think it was Dave Sabiston who said, "Don't waste your time on that, Haller. They're going to get something while they're in here, there are so many of them." But I had a good relationship with Dave, and he was always very good to me as a medical student. He was doing research work of his own. He was interested in coronary disease at that time. He did some of the early endarectomies in the coronaries long before it became—you know, carotids, etcetera, of course, became the standard. But he was trying to get some of those plaques out of the coronaries. Some of his techniques were partially successful, but it was very early on.**

But as a result of my continuing interest in children, I went and talked with Dr. Blalock about this as a junior, because I knew by that time I definitely wanted to go into surgery. I said, "I'd like to find out more about pediatric surgery, and I'd like to maybe spend some time at the Boston Children's Hospital." And he said, "Fine." He said, "Dr. [Robert E.] Gross is very good friend of mine." He said, "By the way, you know he is from Baltimore." He was born in Baltimore. And he said, "Just get in touch with them and see if they have some kind of an externship that you can go up there in the summer."

So I did, and contacted them, and they said, "Sure, we have two positions open at the Children's Hospital [Boston] each quarter, and that includes the first of the academic year." I wanted to go—I had an elective quarter from September to the middle of October. And they said, "We can take two strikers then." I said, "What are strikers?" They said, "That's the term we give for what you call an externship. We call it striker. You're striking," as though you're trying to get a job, I guess, you know. But anyway, I was called a striker. And I was the first Hopkins striker they'd ever had—

DR. NEWMAN: Wow.

DR. HALLER: **—at the Boston Children's.**

DR. NEWMAN: Big time.

DR. HALLER: **So they didn't know who or what was coming. But I had a Harvard medical student who was striking with me. We lived in Vanderbilt Hall, and I played tennis on the nurses' tennis court. That was a wonderful experience, because I not only got to see Dr. Gross operate often, but I worked in the emergency room, and that's where I came under the tutelage of Dr. Edwin Ide [pronounced eye-dee] [E. Ide] Smith. He was the surgical resident rotating through there, who was called "the pup." I guess the most junior person in the pediatric surgery training program was called "the pup." The lowest dog in the dog group. [Laughs] He was my advisor**

and supervisor in the emergency room. I worked up patients there, and I made rounds with all the residents there at the Children's.

I was so excited about it because it was just at the time that much of the work was being done on the early surgery for the pull-through operation for Hirschsprung's [disease]. The man, Orvar Swenson, himself, was there, and he walked around and would say, "The colon is too large in this patient. We'll have to take it out, or we'll pull it through." I watched him do some of the earliest pull-through procedures for Hirschsprung's, and I got in touch with Dr. Sabiston, just wrote him a note and said, "You won't believe what's going on up here. They found that this is due to a lack of ganglion cells in the colon, the first time it's ever been determined." I got a little note back. "Don't believe everything they tell you at Harvard," he said. [Laughter] Because he didn't believe that was the cause of it. [Laughs] So I thought, "Okay, I am learning."

DR. NEWMAN: Interesting.

DR. HALLER: But I was in the operating room when Dr. Gross did a number of his—

DR. NEWMAN: Now, when you were talking about the man walking around, that was Dr. Swenson.

DR. HALLER: Yes, I'm sorry. Yes, Orvar Swenson.

DR. NEWMAN: Orvar Swenson, who had made those observations.

DR. HALLER: And he was such a charismatic guy, because everything was exciting to him. I mean, anything. He really was a vibrant teacher. Gross wasn't. Gross was a technician, and he went to work, business, everything. Of course, I didn't get to know him personally, and Jud Randolph says that he could be very warm, but I didn't know him that way at all; I was the lowest guy on the totem pole. Actually, when I scrubbed, I was the lowest person, right down at the bottom of the table, right opposite the scrub nurse. But I was allowed to be in the operating room with patients that I worked up, and I worked up a number of patients who had coarctation. They were teenagers and young adults with all kinds of major collateral circulation. They were difficult technical cases, and Gross was a really terrific technician.

You probably know all this, since you went through there, but he had a whole set of instruments with gold-plated handles that had been given to him by one of the royal families of Europe. They were only for him. Nobody else could use those. His nurse made sure that they were there on the table. But they were pretty impressive, those gold handles. He had one specifically that

he used for doing the ductuses, because—you know, it was scary to watch him now, in retrospect, but it was scary to me then—but everything was scary to me then. [Laughs] They did those ductuses, Kurt, by just putting two clamps, just two hemostats across the ductus. They cut between it. The hemostats didn't have special teeth or anything. They didn't have Cooley [Classic™ Patent Ductus Clamp] or DeBakey [Classic™ Patent Ductus Clamp] kinds of teeth at all. They hadn't been invented. And so each side of that ductus was held by a hemostat, and then they sutured under the hemostat.

And, in any event, those are his gold snaps. So, you know, he'd say, "Gold snap," and whap! The nurse would put it in his hand, and he'd put them in there. Well, one day we were operating. That gold snap hit his hand too hard and fell on the floor. I thought the end of the world would happen. He said, "No, no!" And the circulating nurse—I heard her just practically stop in full stride, because they only had one other set of those, and they had to be quickly autoclaved, because they had to stop right there. He only had those two gold-plated ones, and he wasn't about to do it without it. And so we waited.

And then on another occasion, he was doing a coarctation, a very difficult dissection, with big collaterals in an eighteen-year-old who was a Roman Catholic student in—I'm not sure which one of the schools, but he had gotten a whole group of nuns to come in, and they were up in the observation tower, and those observation towers weren't glassed in or anything. I mean, they were just sitting up there, looking down, just like doctors. But they were all robed.

Well, when he got down to the dissection to put the clamps on to do the dissection for the coarctation, a fair amount of blood shot up, and I heard this funny swishing noise, and it was they up there, all those nuns, and they had their [rosary] beads going around. [Laughs] It was a tense moment, believe me!

DR. NEWMAN: —praying for him—

DR. HALLER: Yes. [Laughs] That was an eerie experience. But it was also the drama of it and being right there at a time when all those operations were being developed.

DR. NEWMAN: Awesome.

DR. HALLER: Oh! I came back from there and talked to Dr. Blalock. "I need to go up there for my turn in pediatric surgery." He said, "Alex, talk to Mark [M.] Ravitch." I talked to Dr. Ravitch, who was a wonderful mentor—you know, a bombastic kind of teacher, the kind that you see in

movies, and he was really one of those. He would teach by just scouring you. And then he would skewer you also if you were wrong. [Laughs] But a big heart, and unbelievably knowledgeable! That guy never forgot anything! I really don't think Mark Ravitch ever forgot anything.

So in any event, I came to Mark, and I said, "This is what I want to do. I would like to be a pediatric surgeon." He said, "Alex, I'm not sure there is such a thing as a pediatric surgeon alone." See, he was operating on adults, too. He said, "I look upon pediatric surgery as an interest area in surgery, but I don't think you can make a living being a pediatric surgeon." And he said, "What I would advise you is that if Dr. Blalock"—he called him "the professor"—"if the professor offers you the chief residency in surgery here, I would do that. Finish your general surgery, and then if you're still interested, think about going up there [Children's Hospital Boston] as a fellow."

Well, that was a hard bit of advice to take, because what I wanted to do was go through, like, three years and then go up—because you didn't have to finish your general surgery residence at that time to work at the Children's with Dr. Gross. He took a number of his residents after one or two years in surgery. For example, Dr. Ide Smith had not finished his general surgery residency. He ultimately finished it at Vanderbilt, but he hadn't then. A number of people didn't. He took them on the basis of how well they had done and whether he liked them, etcetera, all the various criteria for choosing residents. They were all really bright, but they didn't have the advanced technical skills you would get from going through a strong general surgery residency like you did, Kurt, and ultimately like I did with Dr. Blalock.

But, no, that was not what Dr. Blalock thought I should do, nor Dr. Ravitch. So I said, "Okay. I mean, it can't be all bad being here, being the resident with Dr. Blalock and doing cardiac surgery." And so I went through the general surgery program all the way, five years. And actually it takes longer than that, because you're in a research year. You may take another year off if you want to, and since I had to go in—the Korean War came along, and I was in the doctors' draft, so I got interrupted. I can give you the sequence. But ultimately it took me nine years to finish the general surgery residency.

And then, to make that story complete, before I forget, the reason I was emphasizing it is I was sure that's what I wanted to do, so I wrote to Dr. Gross and told him that I would like to apply but I would have to put it off until that time. He wrote me a very nice letter back, saying, "Haller, I'll take you any time." So I thought, "Okay, great." And so I went on with the Hopkins program.

Now, I need to back up because after my internship, which was—that was a very competitive time. Our internship, unlike the one at Harvard and at most other top medical schools, was a strict pyramid. The training program was five years, sometimes six, and there were maybe fourteen interns. Only two were chosen to go through the program.

DR. NEWMAN: Wow.

DR. HALLER: So it was a very steep pyramid, with a relatively wide bottom. Now, most of those people who weren't kept in, Kurt, went into specialty areas and became outstanding leaders in the various specialties. Some of them went to other programs. And at the time I'm talking about—I graduated in 1951; Dr. Blalock was so well known and so highly regarded and knew everybody—well, you know, there weren't that many professors of surgery, period—and if you weren't kept on in the program, he would call you in and say, "You're not going to be kept on in our program." This happened to my roommate, so I know the details. "What would you like to do?" And J. B. Price, who was my roommate and fraternity brother—I was a Phi Chi, a medical fraternity—said, "Dr. Blalock, I'm really disappointed because I wanted to stay in this training program. But since I can't, the other place I was interested in was the [Peter Bent] Brigham [Hospital], with Dr. [Francis] Moore, because I'm interested in electrolyte imbalances," and we referred to that institution as the salt capital of the world. And he said, "I want to go to the salt capital of the world."

And Dr. Blalock said, "Are you still interested in the Brigham?" He said, "Yes." "Sit down." He picked up the phone, got his secretary, said, "Get Frannie [Francis Moore] on the phone." Literally, right at that time. "Frannie, I've got an excellent intern that we can't keep on in our program. He'd make you a superb resident. He's got a bright future. Could you take him?" "Yes, I'll take him right now."

DR. NEWMAN: Oh, my gosh.

DR. HALLER: He got his appointment right there on the spot.

DR. NEWMAN: Really?

DR. HALLER: Right there. And that happened over and over again.

DR. NEWMAN: Wow.

DR. HALLER: Because he didn't abandon you. Those who left the Hopkins training program got great jobs. As a matter of fact [chuckles], when five years later I became the chief resident with Dr. Blalock, a couple of times we talked about somebody who hadn't been kept on the program and

had done very well elsewhere, like Tom [Thomas E.] Starzl, for example. He said, "I think the people I don't keep do better than the ones I keep. Present company excepted!" he said. [Laughs] So, you know, there were just so many bright people.

DR. NEWMAN: What kind of a man was he?

DR. HALLER: Just a southern gentleman, through and through, who valued friendship above everything else. I mean, when he said something about somebody, it was always good or else that person wasn't worth anything, as far as he was concerned. He was so totally committed to that friendship that he would do anything for those people. That's why so many of his residents, who obviously ultimately got to know him very well, remained so close to him. They called it the Old Hands Club. He didn't want it named the Blalock Club. We meet every year for a reunion. It's now been obviously broadened with the [George D.] Zuidema era and the [John L.] Cameron era, but that has been maintained. And it's just a very close group of people.

It was the birth of cardiac surgery at that time, so everybody finishing with Dr. Blalock became an outstanding leader in that region: William [P.] Longmire [Jr.] in California; David Sabiston subsequently, of course, went to Duke; Frank Spencer went to Lexington then to New York; Hank [Henry T. Bahnson] went to Pittsburgh. They all stayed for various periods of time, but the country was populated with Dr. Blalock's former chief residents. And me—I went to Louisville.

He was a good surgical technician, not as good as someone like Henry [Bahnson] or Denton Cooley. They were just spectacular technicians. Whew! He once said of Denton Cooley that he could operate so fast that no wonder you couldn't understand what he was talking about. Open heart surgery, he didn't even need to have an open heart surgery machine. [Laughs] Didn't need a pump! [Laughs] That wasn't quite true, but I mean, he was that good.

DR. NEWMAN: So how did you get back on track for pediatric surgery?

DR. HALLER: Okay.

DR. NEWMAN: Because I lost you, and I lost myself. You had gotten that advice from—

DR. HALLER: But I got that advice a little later on. See, that was after I was in the residency. After my internship, I was offered a position to stay, but I had already made up my mind that I wanted to get some more pathology training. In our general surgery training at Hopkins, you spent six

months in a rotation in pathology at Hopkins, but it was largely laboratory type of pathology, and what I was interested in was gross anatomy, gross pathology. So while I was an intern, before I knew whether I was going to stay on or not, I had enjoyed my rotation so much in pathology, with Dr. Arnold [R.] Rich—and you'll know his name because he's the one who wrote the treatise on tuberculosis [*Pathogenesis of Tuberculosis*], that enormous textbook. He was a fantastic pathologist, a great thinker, and was from Atlanta, of all things. Rich Department Stores is his family background.

I decided I'd go talk to Dr. Rich about what I'd like to do: to take a year off. By that time, of course,--Emily and I were married just before I began my internship. I should really back up there. I'll fill that hole in in just a minute. But Dr. Rich said, "Haller, what you need as a surgeon is more exposure to gross pathology, diseased organs. You don't need more microscopic and laboratory pathology." And I said, "You're one hundred percent correct. I'm happy to hear you say that. But where am I going to get that in this country?" He said, "You won't. You've got to go to Europe." And he said, "I think the best place for you to go"—since this is just after the war and everything else, Germany—they're all totally destroyed—"is to Switzerland. And I know the chief of pathology there [at the University of Zurich] very well. We've been on a number of international programs and things together. Professor [Hans] von Meyenburg. And let me get in touch with him and see if there might be something available there in Zurich."

Well, a couple of months went by, and he called me and said, "Von Meyenburg will take you, but he doesn't have any money to pay to support you. But," he said, "I think it would be great." And he said, "Also you could learn to speak German well and read the German literature," because we were still enamored of German medicine, even though the war had been so horrible. But before that, Germany was a place to which all American physicians went who were in the academic area. I mean, that's where [William Stewart] Halsted went and all of the surgeons went over to see the big guys and learn from them. Actually, that's where Halsted got his cocaine addiction. He was working in Vienna with an ophthalmologist who recognized that cocaine on the cornea made it insensitive and they could work on it, and so they tried it on themselves and got addicted.

DR. NEWMAN: Hmm.

DR. HALLER: But anyway, that's as an aside.

I didn't have any way to get money, but my dad was a Rotarian, Rotary International, and I talked with him, and he said, "You know, I think there's something called a Rotary International Fellow." He said, "I don't know whether they'll pay for postdoctoral students. I think it's largely for college students. But let me look into it." Well, they didn't have any restrictions

against it, and so I applied for a Rotary Foundation fellowship, international fellowship. And got it. They never had given one in Pulaski, Virginia, in southwest Virginia, so I guess they figured it was their turn in that area. And so the Rotary paid my travel expenses and paid at least half of my living expenses while Emily and I were in Zurich.

So I accepted the position to go to Zurich, at the University of Zurich, in the pathology department to learn gross pathology, do autopsies and participate in their training program, and at the same time, of course, learn how to speak and read German better. I had had scientific German at Vanderbilt, but that was it, and Emily the same. So we took off. We had no children at that time.

DR. NEWMAN: Did you study with my friend's grandfather, Dr. Frank?

DR. HALLER: Yes, that's exactly right. Dr. Frank was our German teacher. He was a funny guy, but a great teacher. We came in his class at Vanderbilt for the first time and he spoke only German. He said something that means, "Go to the blackboard and write your name." I had no idea what to do! But, yes, that was Dr. Frank, your friend's grandfather.

Emily and I went over to Switzerland on a French ship, the *Ile de France*, and came back on the *Nieuw Amsterdam*. But we went right into Zurich, where we knew nobody. They had made some contacts for us for a pension.

Professor von Meyenburg met me, in his imposing office—"Herr Haller," he said. "I'm happy to have you here. We're very happy to have you as the first American to work here in the institute." It turns out that he was a close friend of Winston Churchill, and when Churchill came to that area, he always stayed with the von Meyenburg family. But, he said, "I'm speaking English with you now and with your wife." He said, "This is the last English I want you to hear. I want you to learn to speak German well. High German," he said, "not Swiss German." Swiss German is—it's a German dialect—unwritten!

DR. NEWMAN: Like a southern accent?

DR. HALLER: [Laughs] That's right. It's a dialect. But it's a Germanic dialect. And he said, "So I've instructed all my instructors and all my fellows—my trainees—to speak only German with you from this point on." Well, I thought, "We'll do our best." It turned out, of course, wonderfully because that way, they knew I was trying to learn and they were going to be helping me. All of them spoke English well, so they were tempted. You know, it's like, "The idiot from America can't say—I could speak with him right now in English—but no." Hovering over was von Meyenburg's edict. [Laughs] We spoke Haller German!

And he [Hans von Meyenburg] said, "Now, what does your wife want to do?" And Emily said, "Maybe I could work somewhere in obstetrics." He said, "My best friend is the chief of obstetrics at the women's hospital in Phlegerenschule," and he contacted him, and the chief said, "We'd be happy to have her come. She's got excellent credentials from Vanderbilt" (and then she'd worked one year at Hopkins, when I was an intern, in obstetric pathology). So she went over and met him, and he introduced her to the other obstetricians. He said, "You can go to work any time you want to. You won't have to take weekend calls, because your husband is going to be off then, in pathology, so you will have your weekends free. You need to learn about Switzerland, and we need to learn about you."

And so Emily immediately had a white uniform and started delivering Swiss babies. Of course, the problem was she knew none of the dialect, and they were delivering babies, and I didn't think they'd be speaking *Hochdeutsch*. [Laughs] And so you learn by doing!

DR. NEWMAN: The real Swiss.

DR. HALLER: The real Swiss, and also terms, you know, that you don't normally use in polite company. [Laughs] But she didn't even know it. [Laughs] So she'd come home and I'd say to Emily, "What does that mean? That's not German."

DR. NEWMAN: And you'd be shocked?

DR. HALLER: Yes. [Laughs] But it was wonderful for her because what she likes most is obstetrics, and this was the main birthing center, so to speak, of all of Zurich.

DR. NEWMAN: What a grand year that must have been.

DR. HALLER: It was a great year. And we lived in Pension Bergheim, right within walking distance of both hospitals. And, of course, we were off every weekend, because my patients—I mean, they were already dead. I didn't have to worry about them. [Laughs] They just put them in the ice box. We would then go skiing and learn about Switzerland. And it was really an interesting time because that was 1952. Europe was just beginning to recover from the Second World War, but Switzerland hadn't been damaged at all. The Swiss students of our age were so interested in what was happening in America. This was their chance to have American colleagues for the first time, so they just accepted us as equals. We were invited to their homes which was unusual for the normally very private Swiss. I was also on the Rotary Foundation thing—they have strong Rotary International clubs there. Rotary invited me to speak all around Switzerland and would show

me the different special things about the different cities throughout the whole country. They couldn't have been more hospitable. And we learned to speak German pretty fast, not beautiful German, but so that we could get along pretty well in conversations. (Remember they all spoke good English!)

Actually, Emily had a harder time. I'm smiling because she would hear only the Swiss dialect at her hospital, and she just didn't know what to try to speak, because it's not written. There's nothing you can study. There are no vocabularies or grammars. But I spoke German every day. That's all I did, and so I got used to that, making errors but being corrected in a friendly way. She was very nervous about that, though. I finally just said, "Well, go for it. Just talk in German, and they'll help you." Then she got over being intimidated. But at first it was pretty intimidating.

And then, of course, the Swiss didn't like to speak High German, *Hochdeutsch*, because they hated the Germans. So they would only speak it when they had lectures and formal talks. The rest of the time, they would immediately go into their dialect. They would explain over and over to me because there I was, the only American making rounds on our autopsy presentations: what we call "organ recital." We were with the professors who would say, "Today we're going to speak *Hochdeutsch, Hochdeutsch* because *Herr Haller ist hier."* So I'd say, "Okay, great, I'll be able to understand." The very next sentence, they'd switch over [laughs] into their dialect, because they'd ask questions in the dialect. So I learned some of the dialect, to be able to at least pick up important concepts. But they did not use German as their normal, first language.

You probably know the Swiss use three languages. All Swiss students growing up learn to speak three languages very well: French, Italian and German. And the way they learn it is so clever. They take their children and farm them out during the summer with friends in those areas where they speak that particular language. So the eastern part of Switzerland, the Zurichers sent their children to friends who lived in those areas, Lausanne, Lucerne, the French-speaking areas. Or they would send them down to the southern part for another summer in Lugano or Tessin to learn Italian. They could learn quickly and painlessly!

DR. NEWMAN: I'm going to bring us back to—

DR. HALLER: Yes, okay.

DR. NEWMAN: Back to Hopkins.

DR. HALLER: Okay.

DR. NEWMAN: And then I want to take a little break.

DR. HALLER: Let me bring you back to Hopkins this way: I had a wonderful time in Zurich, and I did more than 120 autopsies, because everybody in Switzerland has national medical insurance, and included in that is a requirement that you have an autopsy to prove the cause of death, so you don't have to ask for permission, which is wonderful. So everybody gets autopsied. And so there are a huge number of patients being autopsied. And then you saw all the others that your colleagues were doing.

At the end of that year, then, I was due to come back to Hopkins. I'd gotten in touch with Dr. Blalock, who asked, "Have you checked with the draft board?" Well, I hadn't even thought about the draft board because I had been given permission to go over [to Switzerland], and when I did, they said, "We've already got a number for you. You're drafted." Because the doctors' draft had then come in for the Korean War. You probably don't even know that there was one. There was a doctors' draft. Nobody else was in the draft for the Korean War, only doctors. And since I hadn't been in before, I was obviously one of the first that should go, and so I told Dr. Blalock, There is no way I could come back?" And he said, "I thought that might be the case."

So I came back at the end of 1953 to find out where I was going into service, and I volunteered for the Navy and, during the examination, found out that I was color blind. Well, I knew I was color blind, red-green, but what difference does that make? Oh, the Navy said—

DR. NEWMAN: You can see the buoys.

DR. HALLER: But they made it even worse. They said, "We can't have defective doctors in the Navy." "That's my defect? I'm red-green color blind?" "Yes." Said, "Now, you could go in the Coast Guard. Their requirements are not as strict as ours." So rather than go in the Army, I said, "Okay, how do I do that?" And he said, "Well, we'll use the same application," because in wartime, the Coast Guard is part of the Navy. It's only in peacetime that the Coast Guard is in the Public Health Service. I didn't know that. But anyway, I was really in Navy uniform with the Coast Guard insignia, and the same rank and everything.

So they said, "Now, would you like to go to India?" I said, "Yes." I thought that would be a wonderful thing. I said, "How does that come about?" He said, "Well, all the travel groups have Coast Guard doctors on the reservation." I said, "I thought you said 'India'." He said, "I said 'Indian'." [Laughter] I said, "No, I don't think I'd like to go to the Indian reservation." He said, "Okay, then, you can go to one of the regular Coast Guard stations." So I was stationed—my station was in San Pedro, California, just south of Los Angeles, near Terminal Island, in a Coast Guard station. I was just a

general doctor there, taking care of a lot of fisherman from the commercial fleet that came in there, because they had a big fishing industry out of there; shark bites, sore backs, flat feet, everything. So that's where I was stationed for my military career!

And then the Korean War—that was—the only surgery I did, Kurt, was I took off tattoos. A lot of these guardsmen and fishermen had tattoos.

DR. NEWMAN: You'd get some business now, probably.

DR. HALLER: Probably could.

DR. NEWMAN: [Laughs]

DR. HALLER: Because, see, they changed girlfriends. They'd have "Dear Mary" on their thigh. "I'm dating somebody now named Naomi. Can you get that off there?" [Laughs] All these stages, because they were too big to pull together. Anyway, that's all the surgery I did during that year. And then I was supposed to be in for two years, and the Korean War was over. The chief of surgery at the NIH [National Institutes of Health], at the [National] Heart Institute, [Andrew] Glenn Morrow, had been my chief resident at Hopkins when I was an intern. He got in touch with me and said, "Haller, you're free now. I could transfer you back here to the Heart Institute if you'd like to come. You can switch now in peacetime to the Public Health Service, but you keep your rank and everything." And I said, "That sounds like a wonderful idea." I didn't want to see any more flat feet. I'd seen enough sore backs and tattoos.

So Dr. Glenn Morrow had me transferred—that's how I got to NIH. I was the first junior fellow working in the Heart Institute, and I did heart catheterizations, I worked with radiology in the interventional studies. I had a wonderful research laboratory. The animal laboratory was totally open to me.

DR. NEWMAN: You wrote a bunch of papers during that time?.

DR. HALLER: Yes, all that time. Really my first papers were as a result of being there at the NIH.

DR. NEWMAN: And it seemed like very novel things were happening—

DR. HALLER: They were.

DR. NEWMAN: —in that climate.

DR. HALLER: Yes. And, of course, he [Andrew Glenn Morrow] was the surgical head of the NIH Heart Institute, for crying out loud, so he had all the research money available to him. He could buy dogs for me, whatever, technicians, etcetera—well, everything there at the NIH. What a wonderful experience! He was doing cardiac surgery, so he needed an assistant in the operating room, so I'd be his first assistant on all the cases that they were doing for a couple of patients, but then I had all of my free time and I could go to the dog lab and do any kind of research I wanted. We had free quarters right there, just across the street from the clinical center. We were the first ones in it, by the way. We were the first occupants of that building. We didn't even have a bed when we came. We slept on the floor [laughs], in sleeping bags, and bought a card table for our dining room table up there [laughs] at the NIH.

And actually, I was on call right from the beginning. Glenn was so happy to have me there, he put me right on call. That night a knocking on the door woke me up out of a sound sleep, and I thought, "I'm paralyzed. I can't get out of bed." Well, I was on the floor. I forgot, and I thought, "Well, something's happened to my legs." [Laughs] I crawled over to the door, opened it, and here was a guard, a big guard, you know, with his badge and everything. He said, "The doctor needs you in the operating room." [Laughs] So I got up and went over to the operating room to help Glenn do a case. My paralysis disappeared!

So right from the time I was there, I was immediately put to work, which was terrific. I hadn't done any significant surgery or been involved in major cases at all. And then we were there for that year and a half, and that's when [our daughter] Julia was born. She was delivered at Hopkins. Emily had gotten a job working through Hopkins while we were there at the NIH, to continue her training in OB [obstetrics]. And then when it was time for Julia to come, we zoomed across the country, 40 miles, in time to get there for her delivery.

DR. NEWMAN: Wonderful.

DR. HALLER: [Laughs] And then at the end of that year, then was when I got back in touch, of course, with Dr. Blalock. Glenn Morrow had been one of his best residents and best friends, and Glenn gave me a very strong recommendation, and so I came back into the program in 1955. So that got me back to Hopkins.

DR. NEWMAN: Let's take a break now.

DR. HALLER: Okay.

[Recording interruption.]

DR. NEWMAN: We are now resuming our discussion here with Alex Haller and Kurt Newman. We were talking about the Hopkins residency and coming back after having spent a couple of years away and been at the NIH in the heady years of early cardiac surgery and research, and all the great things that were happening in medicine, and then to come back to the Johns Hopkins surgery program as a senior resident. That must have been just being on top of the world. I mean, it just doesn't get much better.

DR. HALLER: It was in a sense, but I came back in 1955 as a senior assistant resident. I didn't become resident until 1958, the chief resident, the so-called Halsted resident, a very traditional program and the most senior resident. There were two of us. My co-chief was Dr. Jack [M.] Zimmerman, who has had an outstanding career in general surgery, was in Kansas City as the chief of surgery at the VA [Veterans Administration] Hospital for several years and then had been the chief at Church Home and Hospital here in Baltimore, and just retired.

So there were two of us finishing, and we then matriculated right through the program from being senior assistant residents, moving up to the next resident level, as was the mode for being in the pyramid system of finishing two at the top. Along the way, the way the program was organized, you were the cardiac senior resident before you became the Halsted resident, so I had a close relationship with Dr. Alfred Blalock in my next to last year as his cardiac resident. And that's when not only did I get to know so many of his friends in general surgery around the country, but for that matter around the world, all the visitors coming and going!

But I was also the administrative resident for six months, which meant that I set up all of his rounds, saw all of his patients with him, and he also would give lectures to medical students, and it was my responsibility to get the proper patients. At that time we used the old-fashioned system of presenting a patient as an example of some topic, and then a professor would talk about that as a disease entity after the patient had been presented. We always had a nurse present, because that was traditional, in uniform, with cap. So it was a big deal, and it was always Friday at noon, so it was called Dr. Blalock's noon clinic. That was one of my responsibilities.

And then the other was to keep him up to date, abreast of everything happening in the hospital. He said on a number of occasions to me, "Alex, I don't want to hear about anything happening in the hospital that's of consequence except through you." He said, "I want you to know everything that's happening, and I want to know the second when you hear." So when I'd make early-morning rounds, I'd double check with all of the administrative places to be sure that something hadn't happened during the night that he would find out about.

So it was always an important position to be with him and to see how he functioned. I began learning what a chairman of a department has to do. He touched base on everything. He was very supportive of the basic sciences. As a matter of fact, the Department of Surgery supported the Department of Physiology for five years with their budget because they didn't have adequate funds coming in from other sources. I'm sure that has never been published per se, but nevertheless it's true. And he prided himself that he was able to do that and felt that that was an important part of his responsibility to the whole medical school effort, not just to the Department of Surgery.

He had enormous contacts around the world, friends. They would come by every time they were on the East Coast, and we'd have a chance to see them. And on a number of occasions, I was in sort of important positions to take care of some of these visitors. I got to see some really wonderful people and show them around the hospital, etcetera, at his request.

One of the things that stands out in my memory about that relationship is that at that time, in the middle fifties, the American College of Surgeons met every other year in Atlantic City. We don't meet there anymore. It now has too many gambling casinos, etcetera, I guess. But anyway, we did then. And, of course, as a resident I wasn't going to these meetings very often, but Dr. Blalock had to go, and all the other professors. And it was traditional to have a live clinic piped in by video to the American College of Surgeons. One year, when it was in Atlantic City, Hopkins was chosen to be the site for this live operating clinic.

And what happened was they had the videos ready in the operating room, showed the operation under way, piped it into a panel sitting over in Atlantic City who would comment, usually three or four experts in that same field, on the surgery as it was going on. And the surgeon had a little microphone, and he talked back and forth to them. Well, you know, when you think about it, the risks involved with that—[Laughs] The legal ramifications are unbelievable nowadays. But anyway, that was the traditional way to pass along technical information to the whole College and to have experts make critical evaluations right at the time it was going on.

Well, Dr. Blalock told me a couple of weeks before the meeting that he needed to have a certain number of patients with various diseases that were going to be shown during that time. He needed one with gall stones, he needed a patient who had gastroesophageal reflux, he needed one who needed a colon resection, and he needed a blue baby because he was going to do a Blalock-Taussig shunt. Well, of course, my job was to find those patients, and where are you going to find them except from what we then called the indigent patients, because I didn't have any private patients. So

we scoured through our lists and everything to get a gall bladder patient, let's say, for Dr. William [F.] Rienhoff, Jr. to operate on, because he didn't want to bring his private patients in for that. He'd operate on the ward patients, the indigent patients.

Well, you can imagine [chuckles] the complications of trying to find them, being sure they were there on time. We admitted them a couple of days before, to be sure, you know, that we had them there on the day of the surgery. But I called Dr. Taussig, and I said, "Dr. Taussig, Dr. Blalock wants to do a shunt, and he'd like to have a patient who's only moderately cyanotic so he won't have a whole lot of collateral vessels to deal with for this show operation, and if possible, he would like to have one with a right aortic arch, so it'll be easier to operate on the left side." She said, "Okay, I won't have any problem with that. I'll just look at my list." You could order your own blue babies!

DR. NEWMAN: [Laughs]

DR. HALLER: Any type of congenital heart abnormality through Dr. Taussig. [Laughs] And in came this eight-year-old with hematocrit of 55, not too cyanotic, and had a right aortic arch, ready to go for a Blalock-Taussig shunt. [Laughs] I give this as a background, because my job then was to operate with him on that. I didn't have to operate on the others. The other senior residents would operate with Dr. Ravitch and Dr. Rienhoff, Dr. Sabiston, the different people who were operating.

So we came in to operate on this little boy, and happily everything looked fine inside when I opened up the chest, and then Dr. Blalock came in, scrubbed and had his microphone in and said, "Good morning, Bob. How are you?" Bob [Robert E.] Gross was on a panel. "Good morning, Mike." Mike [Michael E.] DeBakey was on the panel. [Laughs] There I was. I didn't have a microphone, so I wasn't in on the conversation at all, but all during the operation, he would be talking, and they'd be asking questions and then they would discuss it over there in Atlantic City, but I was out of it. I was just his first assistant. But I had operated with him so many times, I knew exactly what his moves were. I practically made them before him. It must have been sort of like having his black technician, Vivien Thomas, standing behind him for some of the first [laughs] blue-baby operations, you know, because everybody was on the same page.

Well, fortunately everything went along well. The clamp that he used to occlude the pulmonary artery everybody else in the world called the Blalock clamp. He called it the Murray-Baumgartner clamp because that's the company [Murray-Baumgartner Surgical Instrument Co.] that made it. He never called it by the name that it was sold under. [Laughs] So he said, "Give me my Murray-Baumgartner." We put it on. We began the

anastomosis. Everything went fine. He was talking, talking. And I was pushing, pushing and pulling the sutures through, etcetera, and getting things ready. And when we took the clamps off, there was a fair amount of bleeding.

He quickly put his hand down to control it, leaned across and turned off his microphone for the first time—he could do it through his gown—and said, "Alex, suggest something. I'm a very suggestible man." [Laughter] I said, "Dr. Blalock, just hold it." [Laughs] And he held it for about three minutes, and it stopped. We know if you put the sutures in correctly with those drawstrings, they should hold, but on the other hand, sometimes you have a problem. But it stopped. And so the rest of it went well. He just discussed it, and it had a nice thrill in it, and he talked about how important that was to be able to feel the blood flowing through, through the subclavian pulmonary anastamosis.

And then he said, "I'll ask my assistant, Dr. Haller, our chief resident, to close." And then he backed off, and I closed, and they turned off the video, and he went into another room, I think to talk to them, to finish up the panel. Well, that went fine, but it was an experience. And then I was just about ready to leave the room when the chief resident in neurosurgery came in and said, "Alex, do you have just a minute?" I said, "Yes." He said, "We've got a real problem in the neurosurgery room" because the chief of neurosurgery was turning a flap to do some mapping, which was then new, for excision of a center for epilepsy. His patient had been having seizures, and they were going to remove that area. He said, "We brought the patient in the day before yesterday and turned the bone flap so we'd be ready for the TV show, and it's infected, so we can't use that patient, and the chief of neurosurgery asked if I would come talk with you and ask if you would be willing to sit in the operating room and let him draw the flap on your head so they could show where they *would* put it for the discussion that's going on over there in Atlantic City on the panel." [Laughs]

I said, "Under the circumstances, I'll do it, Bill." I said, "I think that's a strange request, but okay, I will." So down I went, right straight from Dr. Blalock's operation, still in my gown. I went down, sat down in the neurosurgery room. The chief of neurosurgery came in, introduced himself, and he said, "And this is Dr. Haller, whom some of you know through his operation with Dr. Blalock. And I'm going to be showing where the flap is on his head." So he drew the flap on, and they talked a little bit about how they were going to turn it, etcetera, and he said, "Thank you very much."

Well [laughs], when I came out, Dr. Blalock said, "Alex, what have you been doing?" I told him. He said, "I've gotten several calls from Atlantic City, saying, 'Is it necessary in the Halsted training program for you to use the residents as patients for this demonstration?'" [Laughter] He said, "That

was an unusual request." I said, "Yes, it was." [Laughter] But it was true. [Laughs]

DR. NEWMAN: Great story.

DR. HALLER: They sacrificed the residents, if they had to, to the program. And happily, that went along well, and they were able to get the discussion that they needed, even though they did not have their "live" patient.

DR. NEWMAN: Now, the residents were called residents because you actually—

DR. HALLER: Lived in the hospital.

DR. NEWMAN: You lived in the hospital.

DR. HALLER: Yes. And, of course, that's where it comes from. We actually lived in the hospital. Actually, during my internship, Emily and I lived in the hospital because they did not have, at that time, facilities for married couples, so they didn't know what to do with us. Actually, three of my classmates were married to classmates, so for the first time, they had married couples on the house staff. That was 1951. Before that, we had plenty of female residents, but they stayed in the nurses' quarters, and then we had a men's dormitory where the interns stayed.

DR. NEWMAN: And you didn't get paid very much.

DR. HALLER: Nothing. I didn't have any salary at all. Zero. I got my uniform and food. Emily was a first-year assistant resident because she had already interned at Vanderbilt before we were married, and then we were married just before my internship, since she was already one year ahead of me. I mean, she's always been ahead of me, but that was one example of it. But she, as an assistant resident, got paid eighteen dollars a month, so we had eighteen dollars between us.

DR. NEWMAN: Good gracious.

DR. HALLER: And we could go to a movie occasionally. You know where the statue of Christ is and where the dome is on the administration building? They decided we could live in those rooms, the big rooms on the top floor of the Johns Hopkins Hospital. Our address during that time was "Above Christ, the Johns Hopkins Hospital." [Laughter] We were above the statue of Christ. And there were no elevators, so we had to walk up four flights of stairs every day several times. And, of course, on call all the time, so you'd come down in the middle of the night, down those stairs.

Well, we complained and said, "You know, can't they put an elevator or something in there?" "Oh, no," they said, "this is a historic building. We can't do anything like that." Well, three years later, when they abandoned our rooms and found houses for married residents thereafter, the administration immediately put in an elevator because they said, "Well, we can't have our administrative staff walking up those stairs." [Laughs]

DR. NEWMAN: So now you're the chief resident, and you're looking at pediatric surgery.

DR. HALLER: Right. I finished my cardiac surgery rotation, and then I became the Halsted resident, which, again, was divided into two parts, as I mentioned earlier: half the time you were an administrative resident; half the time you had your own patients on whom you carried out independent operating. You could call on any member of the staff you wanted to for advice, but you were the responsible surgeon, which was the transition from being a resident to being a faculty person. I went to Dr. Blalock at the beginning of that year, when I was the administrative resident, when I got to know him so well, and I said, "Now, I want to fulfill my wish and go to Boston Children's with Dr. Gross." He said, "Oh, okay, fine." He said, "I'm proud of you. You've done a good job, and I think if that's what you want to do, that's what you should do." So he said, "I'll write him a letter today."

That was at the end of September or early October of my final year. Well, time went by, and we didn't hear anything from Dr. Gross. After Christmas, I said, "Dr. Blalock, I'm beginning to get nervous about this, because if I'm going to be up there next year, starting in that training program—it's a two-year program, and I need to know." He said, "You're absolutely right, but," he said, "I wrote him. I know he's received his letter because I talked with his office. If he doesn't write you, you're not going."

Well, Dr. Gross is known—and were he sitting here he would admit it: that he was not a wonderful correspondent. He didn't write a lot of letters. He sent notes to people, and he often called, but he didn't do a lot of writing. He didn't write. March, April came. And I asked, "What am I going to do?" And he said, "You're not going up there unless Dr. Gross gets in touch with me." So I said, "Okay. Well, I better start looking for a job, then." And he said, "Yes, you better." And then he said, "Where would you like to go if you don't go with Bob?" And I said, "There's no other place I would want to go to get training." I said, "I've actually had pediatric surgery training here with Mark Ravitch and with you and cardiac and everything, and I've done all the children's surgery we've had here. I'd like to go somewhere where I could both do cardiac and children's surgery, learn some more about it."

He asked, "Why don't you go look at several places?" I said, "Would you suggest some place for me to go?" He said, "Alex, I need to tell you that I will support you wherever you want to go, but I've learned not to suggest to people, because several people have been unhappy when they've made their final decision, and I felt that I was a part of their unhappiness, so you go wherever you want to. Look, I'll support you all the way. You find the place you want, and I'll do everything to get you a job." He asked, "Why don't you go down and look in North Carolina? You like that area down there, since you've been down to those camps and things." He said, "I've got a classmate who practices thoracic surgery in Asheville. Why don't you go down and talk with him?" I said, "Okay."

So I got on a Greyhound bus and rode down to Asheville. It took all night. I came into the thoracic surgeon's office, and when I came up, his secretary said, "Oh, you're Dr. Haller from Baltimore." She said, "You're Dr. Blalock's resident, aren't you?" I said, "Yes." She said, "Well, Dr. [--unidentified--] is expecting you. Just a minute." Well, I could see him through the door, an elderly, gray-haired guy. And he just sat there. He wasn't doing anything. I sat out there for what seemed like an eternity, but it must have been just half an hour later when finally this voice said, "Haller, come on in." I came in. He shook my hand warmly. He said, "How's Al?" And I said, "He's doing okay. I've had a wonderful experience with him, and now I need to have a job that can support my family." He said, "How many children do you have?" I said, "I've got three, and we're expecting a fourth." And he said, "Do you want to work here in the Asheville area?" And I said, "Yes, I wanted to find out whether you thought that was possible or whether you were looking for a partner." "Well," he said, "I've never had a partner, so I'm not looking for a partner, but I can tell you about the scene."

He said, "Three young thoracic surgeons have come in here in the last five years. Do you know what they're doing, son?" I said, "No, sir, I don't." He said, "They're putting chest tubes in each other." [Laughs] I got the message right away. [Laughs] I said, "Oh." I said, "That sounds like there's not a very good opportunity here." [Laughs] And he said, "That's the message, son." He said, "I wish I could be more helpful to you. If you want to come, you're welcome and I'll support you, but," he said, "we've got too many." That was the end of my conversation with him.

And so then I came back, and I had contact with the Hilton family, who were living in Louisville and were on the faculty there [University of Louisville School of Medicine]. We'd known each other in Baltimore when they were at Hopkins. They asked, "Why don't you apply down here? Because we don't have a cardiac surgery program, or it's not going well." So I applied, and I told Dr. Blalock I was applying. He said, "That's an excellent place, Alex." He said, "You know, while I was at Vanderbilt I went up there and looked at

a job when they were looking for a chief, and I thought the people were really nice, etcetera." He said, "I think that's worth going to look."

So I went down to be interviewed by Dr. [Rudolf J.] Noer, who was the chief and had been trained at Penn [University of Pennsylvania]. An excellent surgeon and a wonderful man. And, to make a long story short, they offered me the job to come and be the chief of cardiac surgery at the University of Louisville, right out of my residency. And I talked to Dr. Blalock, and Dr. Blalock said, "That's unusual." But he said, "You're as well trained as most cardiac surgeons who are practicing now. Why shouldn't you go now? And particularly since they've got a strong research stipend." They had just developed an endowment for a research position that would pay all my expenses and laboratory equipment, etcetera.

He said, "I think that would be a wonderful opportunity for you to go there." I said, "They're offering me $8,000 as my salary." And he asked, "Do you get to do any private practice?" And I said, "Yes, half of my time could be used in private practice." He said, "Well, you won't make much for the first couple of years because they won't know who you are, but," he said, "after that, that'll be enough, I think, for you to live on, because you could make money from private patients coming in, even though they would be admitted to the university hospital." And he said, "Besides, Alex, you know what I found in my life? You always spend a little more than you make." [Laughter] I decided that was very good advice, because it was true. It has remained true. [Laughs]

So I accepted the job and went there as the Price Fellow [Price Research Fellowship, Price Institute of Surgical Research, University of Louisville]. Dr. [John W.] Price [Jr.] was a surgeon who then decided that he would be better, as he put it, in the brokerage business and investments, and made millions of bucks, and he said to me, "And I've done all right, I think, Dr. Haller." He endowed this chair and fellowship in cardiac surgery. I arrived in Louisville to find a well-trained cardiothoracic surgeon from Ann Arbor, who had been trained in Michigan [Fielding Rubel], and one that had been trained there in Louisville, mainly at the TB hospital, who didn't do any cardiac, just thoracic. They both said, "Look, we can start the cardiac surgery program together. We just need to have the open heart machinery, etcetera, etcetera." Actually, they had tried to do (I think) maybe two or three cases and had not done well. Whether the patients died or not, I don't know, but anyway, they had shut down. And all of the Louisville cardiologists were sending their patients to Denton Cooley in Texas.

So the pediatricians were very anxious for us to get started so they could keep their patients locally as long as it was safe, and we got our team together. I came back up and spent three weeks with Glenn Morrow at the National Institutes of Health, just to get updated on machinery and what you

had to have, how to buy it, etcetera, because I didn't know anything about outfitting an operating room and the equipment for open heart surgery. I then got my laboratory organized there in Louisville, and we started the open heart surgery program.

The first five patients we chose had atrial septal defects, no complicated kinds of things. I wanted to be sure we didn't run into surprises and all kinds of complicated technical things. In retrospect, it's always made me nervous to think if we'd lost any of those kids with atrial septal defect—ostium secundum defect; all you needed to do was suture them—I'd have never forgiven myself. But happily all five of them did well. It opened the door to other complicated patients coming in, some tetralogies, some patients with aortic stenosis, various things. And so we got our program going in the [Louisville] Children's [Hospital] [now Kosair Children's Hospital]..

They said, "Well, now, we need to start doing adults." And I said, "Okay, I've had training in adults, and Fielding Rubel, the cardiothoracic surgeon from Michigan, had had some training also there in Ann Arbor in adult cardiac. So we petitioned the Louisville General Hospital [now University Hospital, University of Louisville] to start doing adults there. They said, "Listen, we're a public hospital. We can't have patients coming in here for a new program like that. We've got enough expenses like it is. You mean you want a half a million dollars to open a new operating room?" I said, "We'll bring in all kinds of money to the institution." But it was governed by a city board of trust, since it was a city hospital, and they said, "We don't want a new program. It's another headache." So we began doing the adults at the Children's Hospital, because the program was there, and that created quite a stir, because we had to open up a different ward in order to put in all these adults coming in with aortic stenosis and mitral valve replacements and things like that, so it was a headache. But that was the way it went. Fortunately, the program went very well.

The chief of pediatric surgery was Hugh Lynn, L-y-n-n, who was an outstanding pediatric surgeon who had trained with Dr. Gross and then had spent some time also with Chick [C. Everett] Koop in Philadelphia, and I believe he was a graduate of the University of Pennsylvania Medical School [University of Pennsylvania School of Medicine]. In any event, he was actively practicing general pediatric surgery. He did not do cardiac surgery. And he took me under his wing—he was a wonderful surgeon and man—and said, "You can operate on any of my patients. I'll help you in any you want to. If you have any questions, feel free to call on me at any time."

It couldn't have been a better opportunity for me to continue my interest in pediatric surgery, to carry out my responsibilities in cardiac surgery and to teach in the medical school. It was a good combination. We were very happy. Our last child was born three months before we left Baltimore, who

was a babe in arms, as they say a suckling when we arrived in Louisville with all four kids. Emily had already made up her mind that she was not going to practice anymore as long as the children were small. She said, "I can't do two such important jobs well at the same time." I was very surprised, but she was right, and she was a great mother for those kids, growing up there, and totally supportive of me and my work. We were happy there from 1959 to 1962, about three and a half years.

I was becoming more and more interested in organ transplantation. We didn't have such a program in Louisville. I was thinking mainly about kidney transplants but also ultimately liver. And I thought, "Well, if I'm going to do that, I really need to know more about it," so I asked Dr. [Rudolf J.] Noer, the chief of surgery, if I could take six months' leave of absence and take some basic immunology so I could be better prepared for managing the patients with transplantation and all aspects of the immunologic responses. And he said, "Yes, we can use some of your Price [fellowship] money that you have." In the meantime, I'd also gotten another scholarship [Markle], and that money would support me.

I had been searching the literature, thinking about where I might go, and found that really the best place for transplantation biology was the Wistar Institute in Philadelphia, which was headed by Rupert Billingham, who had been a co-worker with Peter Medawar in England, and together they shared the Nobel Prize. So I wrote to Professor Billingham; Dr. he was; he has a PhD—and asked if I might come up [to Philadelphia] and be a research fellow. He wrote back and said, "You know, I've never had an MD working under me, much less a surgeon, but you make such a good case for why you want to do it and you obviously must be technically good, I'll be happy to have you come up. If you can get funding to support yourself, we'll have a place for you."

He was working with another PhD named Will [Willys] Silvers, who also is an outstanding biologist, and that partnership published an enormous number of very basic transplantation immunology papers. Well, I couldn't have been luckier. We moved the whole family up to Philadelphia. Typically, Emily organized our move and together we pulled it off. The two older kids were in school. [My son] Alex was just starting kindergarten. We rented a home out from downtown Philadelphia, and I commuted in to the Wistar, which, you remember, is right next to the University of Pennsylvania Hospital [Hospital of the University of Pennsylvania].

As soon as I got myself there and got semi-settled, I went over to talk with them at the [University of Pennsylvania School of Medicine] Department of Surgery to see what was going on. They said, "Well, we're very delighted to have you up here. What are you doing?" I told them, and they said, "Well, we'll make you a visiting professor so you can come over and have all the

privileges of coming to rounds, etcetera, while you're here, and we're delighted to have you." They could not have been more hospitable, so that gave me that surgical tie. I worked on newborn mice, did splenectomies on newborn mice to try to see what the function of the spleen was in relationship to the development of their immunologic competence, because, you remember, at the time we were worried about splenectomy and what it did to the possibility of post-splenectomy sepsis and overwhelming infection.

DR. NEWMAN: Now, your intent was to go back to Louisville—

DR. HALLER: Yes. My whole intent was to go back, and I was being prepared in my laboratory as well as clinically, to go back and start a transplantation program at the Children's Hospital in Louisville.

DR. NEWMAN: And this was in 1960.

DR. HALLER: This was 1962.

DR. NEWMAN: 1962, so the first kidney transplants had been done without immunosuppression.

DR. HALLER: At the Brigham.

DR. NEWMAN: Twins.

DR. HALLER: Yes, the twins and the brothers.

DR. NEWMAN: Right.

DR. HALLER: But that had been done, it seems to me, about 1960. Would that sound right to you?

DR. NEWMAN: Perhaps.

DR. HALLER: Yes. I remember hearing Frannie Moore talk several times about their worry about the immunologic function and problems, and that rejection that you get in humans (in rodents is called "runt disease") because the dominant lymphocytes from the transplant attack the infant rodent, and it gets severe GI [gastrointestinal] damage, immunologic rejection, and that causes them to runt. They don't grow, and they're teeny little things, and they die before they reach maturity. That's what Billingham was working on, was runt disease, and so it was a perfect model for me and also to see what modifications could be made in that immune response, called graft-versus-host response.

So I was really happy with my project, and he was very supportive, and we published a number of papers, and through the transplantation forums I got to know Dr. Moore very well. What a guy he was! A terrific person, as you know, and had such a broad view of medicine in general. He said, "Now, what do you want to do, Haller?" And I said, "I want to be a pediatric surgeon, but I want to apply now these various immunologic principles." "Just what we need in the field," he said. "Just what we need. How can I be helpful?" And I said, "Well, gosh, it's wonderful for you to offer. You can be helpful by making sure that I can get on programs and give some of this kind of basic work that Billingham is doing, and Silvers, and [that] I'm his assistant." He said, "No problem." There were a number of papers on the transplant annual meeting that came about as a result of Frannie Moore being a supporter of work that would never have seen the surgical light of day [laughs], because they would all have been in immunologic literature. He was very, very supportive and wonderful to me.

So then, as I got ready to come back, which would have been then the end of 1962, about Christmas time, I got this call from Dr. Blalock: "Are you happy in Louisville?" I said, "We are very happy. We couldn't be happier." He said, "Dave Sabiston just talked with me today, and he and I want you to come back to Hopkins. We're opening a new children's hospital [Johns Hopkins Children's Medical and Surgical Center] in a year, and we'd like you to come back and work with David in developing pediatric surgery at Hopkins." I said, "There's never been pediatric surgery at Hopkins, Dr. Blalock. It's always been a part of general surgery. How's that going to work out?" He said, "We're going to establish it." He said, "I've become convinced that it's a true specialty." And he said, "The only thing is, I don't want to call it pediatric surgery, because it sounds like it's pediatricians doing the surgery. I want to call it children's surgery, so our hospital is going to be called the children's hospital, and you'd be one of the children's surgeons working with David, and he would be the chief, and you'd work under him."

Well, I had worked under David and admired him, and I called him, and I said, "David, I've got such a good job here in Louisville, I'm just wondering how this will work out with me coming back." And he said, "You'd do mainly cardiac. Are you really going to commit yourself to children's general surgery?" I said, "I surely am." And he said, "You mean you would turn down Dr. Blalock's offer?" [Laughs] I said, "David, I've got to think about my family and everything else here. I've got a great job. I'm just getting ready to start a transplant program." "Don't worry, we'll start it at Hopkins." He said, "We'll hire Billingham to come down and start the research laboratory at Hopkins." He said, "He won't turn it down." [Laughs] That sounds like David Sabiston, too.

I said, "I've got to think seriously about this." And he said, "If it's a matter of money," he said, "I'm sure we can work it out." I said, "No, I don't think it'll be that." I said, "I can live on the kind of salaries that I know are there." What I didn't realize was at that time, in 1963, Dr. Blalock's salary, Dr. *Blalock's* salary was twenty-one thousand dollars a year. Twenty-one thousand dollars a year.

DR. NEWMAN: Amazing.

DR. HALLER: That's all. I mean, he was full time. Now, he had a lot of fringe benefits, I'm sure, you know, retirement, medical, but that was his income. I said, "Dave, I'll come look." When I came back to Philadelphia and talked to Emily I said, "There goes my Louisville home." I'll never forget. She was in tears. "We love it down here, Alex. Do you have to go back?" And I said, "What am I going to do?" She said, "Well, at least you've got to go back and talk to them and look at it." So I came back to Hopkins. I had a Markle Scholarship. You may not know about the Markle Scholarships, but in the early fifties, the [John and Mary R.] Markle Foundation decided that it wanted to use its endowment to support academic medicine, and they were going to do it by supplementing full-time academic salaries of young professors who showed promise that they would be leaders.

You went through a process of selection, where they interviewed you. It was sort of like interviewing for a CEO job for companies. You know, they asked all kinds of weird things, and they had a psychiatrist talk to you. But it was a funny thing. I went to Williamsburg for my interview, and there were several other academic people there Hank [Bahnson] before me. Who else? Frank Spencer in New York. So there were a few surgeons. Most of them were interns and pediatricians, because I think the Markle Foundation felt that surgeons would not stay in academic areas [chuckles]; they would go out and practice for big bucks. You know, forget it.

But I was awarded one from Louisville. I think, again, one of the reasons I got it was that we were looked upon as being somewhere out there in the west, beyond the mountains. And here, we gave some of our money to some of these developing schools [laughs] in Louisville in the boondocks. In any event, I had a Markle Scholarship, which paid five thousand dollars a year to add to my salary, wherever I was. It doesn't sound like much now, but it sounded like a lot then.

So when I came and talked to Dr. Blalock, he outlined the program, just what he had told me. I said, "Now, I have one important question: Why are you appointing me or bringing somebody back? You've got one more year. You're retiring in 1964, and I remember when you came from Vanderbilt you told me in one of our discussion times that one of the greatest headaches you had was what to do with the people who were already at Hopkins, who

didn't have positions, who were ready to move on or do something, and you came back at that time on how to take care of them properly." And I said, "Why should I be coming back a year before you retire and your successor will—you know, what is he going to do with me? He'll have to worry the same way you did." "Not to worry, Alex. Dave Sabiston is going to succeed me. He loves you. He wants you to work with him. No problem."

Well, you know, what ultimately happened was that David wasn't chosen to be his successor, after a big internal hassle, etcetera, etcetera, and it ended up with George Zuidema coming and with David then going right away to Duke to be the chairman. I've said this to David and I would repeat it to him today, that I think in the long run it was to his best interest ultimately because he became the outstanding surgeon that he is because he *was* away from Hopkins. I think he would have been under Dr. Blalock's shadow. Even if Dr. Blalock retired, he would always feel that he had to do just what Dr. Blalock did, because he worshiped him and he was his surgical father figure. But he was free at Duke to be himself, and what an enormous program he built there and what an outstanding leader we have had in David Sabiston.

It also turned out, luckily for me, that George Zuidema and I were in medical school together, so we knew each other. So that ultimately worked out all right. But Dr. Blalock's answer was, "Don't worry, it's going to be Dave Sabiston. He's hand picked." Well, after that discussion, I then said, "Okay, now, I know what living in Baltimore is like, since we've lived here before, but we only lived down in the slum area. We'll have to find a house and stuff." He said, "We'll help you in every way." He said, "This is going to be a great time at Hopkins, Alex, a brand-new children's hospital. You can shape it. Research laboratories. You can assign them. Everything is just perfect for somebody who wants to be an academic pediatric surgeon." And he asked, "That's what you want to be, isn't it?" I said, "Yes." And he said, "And you can continue to do your cardiac surgery, because David will be doing cardiac surgery. He certainly needs assistance. He knows your qualifications. He helped train you, and that won't be any problem. And whoever comes in here," he said, "is going to want to keep you because if it isn't David, whoever comes will know you, and it won't be any problem."

I said, "I'm still worried about it." He said, "Okay, c'mon with me." He picked up the phone and called the president of the hospital, a guy named Russell Nelson, and he said, "You remember Alex Haller, don't you? He was here with us and spent a little time with us." "Oh, yes." He said, "Well, he's a little worried about coming back to Hopkins on our faculty. Would you mind talking with him and with me for a minute?" He said, "Come on over." So we went over to the administration building, right into that president's office and sat down, and he said to Dr. Nelson, "Alex is worried what's going to happen since I'm retiring and whether there'll be a place for him here,

and I can see that. But on the other hand, I've tried to reassure him." And Dr. Nelson said, "If Al says you should be here, you've got my total support. Don't worry." Well, you know, I mean, if somebody works like that and has the complete institution under control, you feel more comfortable.

DR. NEWMAN: Yes.

DR. HALLER: So I said, "Okay." I said, "Now, I do need to know about salary." And he said, "How much are you making in Louisville?" I said, "Well, my salary now has gone up to—I'm making about twenty-five thousand dollars, and then I have half of my time for private patients, so about double that." He said, "Oh, nobody has a salary like that at Hopkins." He didn't tell me at that time his salary was twenty thousand. He said, "I think I can offer you eighteen thousand." And I said, "Dr. Blalock, I don't think I can live on eighteen thousand dollars. I've been living off of twenty-five-plus with four kids, and I have a house, etcetera." And he said, "Well," he said, "our salaries are not very high here, Alex." But, you know, Baltimore was as expensive to live in certainly as Louisville. So I said, "Well, I just"—he said, "Wait a minute. Don't you have a Markle Scholarship?" And I said, "Yes, I have a Markle Scholarship." He said, "Well, you'll be bringing that with you. What, the second year of a five-year?" I said, "Yes." He said, "What does it pay?" I said, "It pays five thousand dollars a year." He said, "I'll split that with you." [Laughs]

Well, there was no way that was ever supposed to be split with a department. I mean, the way it was awarded, it went to the scholar. But he said, "I'll split it with you if you take two and a half and I'll take two and a half." [Laughs.] And so I got my eighteen plus two and a half, so I made twenty point five [laughs] as a pediatric surgeon-to-be at Johns Hopkins.

DR. NEWMAN: Unbelievable.

DR. HALLER: [Laughs.] So here I was, no further pediatric surgical training. As a matter of fact, I applied for membership from Louisville at Dr. Lynn's suggestion, for membership in the Surgical Section [Section on Surgery] of the American Academy of Pediatrics. And I had to put on there that of course I wasn't doing a hundred percent pediatric surgery, because I was doing some of those adult cardiacs, but they allowed a certain number under—you know, it was your job description. And I got a letter back from them saying I wasn't qualified.

DR. NEWMAN: Now, what kind of surgery was Dr. Lynn doing at that time?

DR. HALLER: Everything. He did everything except thoracic. He did not do any thoracic. But he did Hirschsprung's pull-throughs, newborn atresias, tumors, omphaloceles, the whole gamut of pediatric surgery.

DR. NEWMAN: I hear he was just a tremendous pediatric surgeon.

DR. HALLER: He was. And, you see, the year that I came up at the Wistar, he accepted a position as the chief of pediatric surgery at the Mayo Clinic, so he was leaving at the same time I was going to be coming back. I thought that was going to be okay because I'd be made chief of pediatric surgery there, and I could start the transplant program. I'd have a stronger position. When I came back or during the negotiations or talking with Dr. Blalock, they found out about it, of course, in Louisville, and I went over to talk with the administration and with Dr. Noer. They had a small committee, and they came and said, "Dr. Haller, we hate to tell you this, but we can't make you chief of pediatric surgery at Children's because you don't have your boards in pediatric surgery."

Well, at that time, there were no boards. It was a certificate of competence, which was sort of like a board. And some of those were grandfathered, but—see, the Clatworthy committee was just getting under way in the fifties, so that was the excuse they made, but politically I think I was not—since I was at the university and right at that time the university and the Children's Hospital were not too happy with each other, for reasons unrelated to me, Dr. Noer called me in and said, "Alex, I really feel horrible about this, but I can't force them to take you as the chief of pediatric surgery." And I said, "Well, then, all the more reason I guess that this is a good time for me to leave Louisville and take the job." He said, "Look, you should take that job with Dr. Blalock, whatever the job is here."

DR. NEWMAN: Hmm.

DR. HALLER: And so that sort of pushed my negotiations to come back. But that was very disappointing, because I had committed myself to bring the transplant program and everything else back, so I certainly did that in very good faith. And they simply would not go ahead with a full appointment. I could work there, no problem with that, and had privileges, but they were not going to make me the administrative chief.

DR. NEWMAN: So Hopkins—

DR. HALLER: So Hopkins won out. I, of course, came back not as the chief, because there was not a chief of pediatric surgery, but David [C. Sabiston] was the designated person who was going to be the chief. But then Dr. Blalock retired, we moved into the new Children's, David and I, and he took three months off and went to Great Ormond Street Hospital for

Children, London to see how they ran their children's hospital and what the programs were like over there. That's where he made many of his friends in the cardiac surgery field in Europe, although he had had contacts with Dr. Blalock over the years. And then we were all set to go into the Children's, which took its first patient in May of 1965, so I'd been back a year and a half.

DR. NEWMAN: What was taking care of a child in that hospital like?

DR. HALLER: What it had been like in the past—I mean, after all, we had taken care of children since opening the hospital, but it was in what was called the Harriet Lane Home, which was the first children's hospital at Hopkins. It was old. It had been built as a children's hospital, and it had the open type of ward, like you and I grew up with. Well, you still had some of that at the Brigham. The top floor was for infants. The floor assignments were determined by what you ate. If you had a bottle, you went onto that fourth floor, and if you could eat semi-solid or solid food, you came onto the other floors at the Harriet Lane. That determined where you went. It was about a hundred yards from the operating rooms at Hopkins, the Halsted operating room. So we had to bring them across. In the summertime we brought them actually right across the yard either in their bassinettes or on their stretchers; otherwise, in inclement weather we had to go all the way around the hospital.

DR. NEWMAN: Because the operating rooms were—

DR. HALLER: Were on one side of the hospital, and Harriet Lane was on the other side, which made it more difficult to take care of them over there, so Dr. Blalock solved that problem by saying, "Look, I'm going to keep my post-operative blue babies over in the Halsted Building right next to the operating rooms"—actually on Halsted Three, and the operating rooms were on Seven at that time. So he began a pediatric surgery floor in the Halsted Building for post-operative management of the heart patients. But they were admitted to Harriet Lane, and all non-surgical children were in the Harriet Lane building. That's why there are still pediatricians who have trained at Hopkins and are still referred to as Harriet Lane pediatricians. They continue to carry that name.

But when we moved into the new Children's, it was the Children's Medical and Surgical Center, the CMSC. They had one floor for infants and decided to retain the name Harriet Lane, so it was called the Harriet Lane floor. As soon as we opened it in 1965, they began tearing down the old Harriet Lane Home, because it was ancient.

DR. NEWMAN: So in the new hospital you had much nicer accommodations.

DR. HALLER: Oh, much nicer. Oh, it was beautiful. I mean, it was state of the art. We still didn't have private rooms for all the patients, because that was not considered big at that time, but we did have a pediatric intensive care unit before the Boston Children's had theirs. You may remember there at Boston Children's there was a critical care area for patients on every floor, down at the end of the floor, where they kept a couple of beds with critical care nurses, because Mel [Mary Ellen] Avery, who then became the chief of pediatrics there, did not want to have, for some reason, a specialty intensive care unit. I'm surprised also that the surgeons didn't push for it, but they never had.

DR. NEWMAN: So at that time you and Dr. Sabiston, Dr. Ravitch were still there?

DR. HALLER: Yes, Dr. Ravitch was the chief out at what was then called Baltimore City Hospital, which then became the Francis Scott Key Hospital, and he was the chief there. It was a part and parcel of the Department of Surgery, and the people who worked with him were all Hopkins surgeons.

DR. NEWMAN: I see in your curriculum vitae that around that time you describe, you were part of the team that described Cantrell's defect and all,—

DR. HALLER: Yes.

DR. NEWMAN: —the chest wall work with Dr. Ravitch.

DR. HALLER: You've been reading, haven't you? [Laughs]

DR. NEWMAN: Well, the chest wall work was being done by Dr. Ravitch, who was really one of the founders of the—

DR. HALLER: Pectus excavatum.

DR. NEWMAN: That must have been a real heady time. Dr. Sabiston had done a pull-through operation.

DR. HALLER: Right.

DR. NEWMAN: A different pull-through from Swenson,—

DR. HALLER: Different pull-through, right.

DR. NEWMAN: —which became really the foundation for the Soave procedure—

DR. HALLER: Right, exactly.

DR. NEWMAN: —and also the pull-through for ulcerative colitis. Those must have been very heady times for a young pediatric surgeon.

DR. HALLER: It was. And, see, those two guys were very innovative surgeons. Dr. Ravitch was so full of ideas, it was unbelievable, and they just—pccch!—came of out him all the time. He was also supportive of any young person who had ideas. My research was still on the cardiac side, because that was the simplest for me, coming from doing the cardiac surgery in Louisville, but I rapidly turned my attention to intrauterine surgery, which was very early on then. It was long before [Michael R.] Harrison was doing his. I began operating using fetal lambs, and had the whole research laboratory set up to create various kinds of congenital abnormalities: coarctation of the aorta, ductus arteriosus—various things in fetal animals to see what the transition was and to learn more about the fetal circulation.

At the same time, clinically we were seeing all kinds of interesting things, as you're pointing out, of course. Mark Ravitch had established this operative procedure for pectus excavatum. It was a very extensive procedure, but was very successful. And then Dave Sabiston was interested in pull-throughs as well as doing the cardiacs. See, everybody was a general surgeon, and that's why there never had been a specific pediatric surgery at Hopkins. But I made sure that that was going to be a commitment before I came back, and Dr. Blalock said, "Look, you got a whole building. Doesn't that sound like a commitment to you?" [Laughs] And he said, "We're going to have a Garrett endowment fund to support pediatric surgery activities, so it's a golden time to be starting children's surgery, and you're the one to do it."

I said, "I can work with David very well." I was comfortable with that, even though I was not the designated chief. And then Dr. [James R.] Cantrell, who was co-resident, Halsted resident with David Sabiston, also had an interest in children, and Cantrell's syndrome and the operative procedure for it came about, maybe in that paper [Cantrell JR, Haller JA, Ravitch MM. A syndrome of congenital defects involving the abdominal wall, sternum, diaphragm, pericardium, and heart. *Surg Gynecol Obstet.* 1958 Nov;107(5):602-14], that—Dr. Ravitch never forgot anything. He had seen a patient who didn't have a total abdominal wall defect but had a very thin skin covering of that upper part of the abdomen and had associated with it what they call ectopia cordis. The heart was down through a diaphragmatic defect into this pouch, and beating.

He had operated on that patient and pushed it back up in and closed the diaphragm but didn't know it was a syndrome. Then comes Jim Cantrell, who had a newborn patient with a high omphalocele, but it was not in the right place; it wasn't around the umbilicus. I was the resident on the service with him, and I thought that was really strange, and so we tried to look into

the literature. There was no description of anything like this. I helped him operate, and when we operated on that patient, the heart was down through this diaphragmatic defect, in the inferior defect. Happily it was a baby, so you could still push it back. It hadn't lost its right of—

DR. NEWMAN: Domain.

DR. HALLER: —domain, and the heart wasn't compressed, and then we could close the diaphragmatic defect and then close the omphalocele, because it was a small one. That patient did fine. Interestingly enough, the patient then became cyanotic about two years later, and he came back on the cardiology service to be evaluated for the cyanotic congenital heart disease, and had a tetralogy. So they called me, because there I was, doing the cardiac, and I looked at him and said, "I know this patient. I know that incision," etcetera. And the mother spoke up and said, "Oh, Dr. Haller, are you still here?" [Laughs] I had to go ahead and do a Blalock-Taussig shunt on that Cantrell baby, and that's how we learned that there was a combination or could be a combination with congenital heart abnormalities, as described in the paper. And that's how we got to see the patient again.

Interestingly enough, when I came back from Louisville, that little boy came back, having outgrown his shunt, and I had to do an open heart procedure—

DR. NEWMAN: Oh, my goodness.

DR. HALLER: —and correct the anomaly completely. It was a nice combination of operations on one kid. But it was on that basis along with Mark Ravitch's unbelievable memory—he had several other patients who had parts of that syndrome—we then began putting them all together and realized that that was an entity, the Cantrell syndrome.

DR. NEWMAN: So in a routine week you might be doing some heart surgery, some pediatric surgery, fetal research, and then at the same time—

DR. HALLER: Teaching the medical students.

DR. NEWMAN: —teaching the medical students, and you had your family.

DR. HALLER: It was busy!

DR. NEWMAN: And this is all for twenty thousand dollars a year.

DR. HALLER: Yes. It was a bargain. [Laughs]

DR. NEWMAN: What a great life!

DR. HALLER: It was a wonderful life, too. I mean, I couldn't wait to go to work because, you know, I remember—you may remember the movie series of *Lifeline*?

DR. NEWMAN: Yes.

DR. HALLER: Have you seen the one that has Jud Randolph in it?

DR. NEWMAN: Yes.

DR. HALLER: He made the first of those *Lifeline* series about pediatric surgeons, and there's a wonderful scene in that of Jud in the operating room, just outside, in the dressing room, tying his white shoes, and he said, "What a great job!" He said, "I've got white shoes, I've got a uniform, and I get to go in there and operate!" [Laughter] This is Jud all over. It was great. And I felt the same way. I mean, every day was exciting, with all kinds of things going on.

DR. NEWMAN: You had the best surgery residents in the world coming here.

DR. HALLER: Oh, yes. And so many of them were interested in cardiac and in children. The only sad thing about those wonderful first years was Dr. Blalock retiring the next year—see, I came in 1963; he retired in 1964 and died in the fall of that same year. That was emotionally difficult, but it was also administratively difficult because he clearly had been the leader of the hospital. When he retired, a lot of other people who wanted power began taking over or exerting their influences.

Then Jimmy [James R.] Jude, the cardiac surgeon who developed external cardiac massage and electrical defibrillation along with the professor of electrical engineering, Bill [William B.] Kouwenhoven, and then subsequently practiced in Miami, left Hopkins. He had been a junior faculty member who left to go into private practice in Miami. Dave Sabiston was not made chairman after that first year I was back, and that was a tumultuous year because there were people being interviewed, there was the whole search committee, Dr. Blalock was upset that David wasn't the clear choice and then, when he wasn't chosen, he turned right around—I mean, within a month he was at Duke. They had been trying to get him for a couple of years at Duke, but he wasn't leaving because he thought he was going to be chief at Hopkins.

Then the selection committee chose George Zuidema, who hadn't trained in the Halsted training programs at Hopkins Medical School but at the Mass[achusetts] General [Hospital]. George had just gotten to Ann Arbor for his first faculty job away from Boston. He was thirty-five years old. A

year and a half before that, he came down to Louisville when I was still there and was our ΑΩΑ [Alpha Omega Alpha] lecturer. He was sitting in my office when he got a call from the search committee at Hopkins, asking him if he would be a candidate. I heard him say, "Yes. Well, yes, I'll be glad to come up." And then he hung up. He sat there for just a minute, and he said, "Guess who that was, Alex." And I said, "I don't know who that was." He said, "That was the chairman of the Hopkins search committee," who happened to be the professor of medicine, "asking me to come up and be a candidate to succeed Dr. Blalock." [Laughs] I said, "George, you've just gotten to Ann Arbor. You've been there, what, two or three years. You've got a great program going." His area of research was portal hypertension, and he did some really excellent basic work in portal hypertension. And I said, "Why do you want to go and be chairman now? You're thirty-five." He said, "Alex, I've always wanted to be a chairman of a department of surgery. And just because I get offered it when I'm thirty-five, I'm not going to turn it down." [Laughs] I can hear him now.

And George was not, you know, an—

DR. NEWMAN: Effusive.

DR. HALLER: —effusive guy at all. I mean, he was always calm and always straightforward. A wonderful, wonderful friend. But that's what he said. [Laughs] And the next phone call that came was from his wife, Joan, at Ann Arbor, saying that their golden retriever had just had six puppies. [Laughs] He said, "I have got to get out of here, Alex, as soon as I give my lecture. She needs me." [Laughs] I've often reminded him that that was a pretty stupendous number of activities going on in that one office at one time.

But anyway, David was gone, and George then came to be the chairman. I was there, the designated chief now of pediatric surgery. Jim Jude, who had been doing the cardiac surgery, left. There was one other person doing cardiac surgery, one of Dr. Blalock's trainees who had remained, but he was sick. I was essentially doing all the cardiac surgery at Hopkins. Just before David left, the two of us—we had a huge number of cases, and then he left, and there I was, alone. The moment George got there, I'll never forget. I sat down, and I said, "George, we have got to do something about cardiac surgery." And he said, "What do you mean?" He said, "This place is famous for cardiac surgery and all the people here." And I said, "Here I am! I'm your buddy from medical school." And I said, "There's nobody else doing it. I'm supposed to be developing pediatric surgery in this brand-new children's hospital."

He said, "We'll have to go recruit somebody, Alex." The first major appointment he made was Dr. Vincent [L.] Gott, who was a fantastic choice. He's retired now, too. We had known him actually through the Markle

Foundation because he was a Markle Scholar from Minnesota. He trained with [C. Walton] Lillehei and then went to Wisconsin, and so George called him on the phone. To make a long story short, he agreed to come the following year, so he came in 1965. But that was strenuous. As I mentioned to you, that year, before the selection was made, was very traumatic to everybody because David was unhappy, and Mark Ravitch was saying, "Why can't they get their act together? Clearly Dr. Sabiston is the right person for this."

Then internists would call me and say, "What do you think?" And I said, "Look," I said, "I came back here to work with Dave. What do you think I think?" But, on the other hand, I knew that as an academic institution they had to have the process of finding a surgeon. Any time you've been in an institution for a long time, you're going to have some people that don't like you particularly, and I think also they recognized what I said earlier, that Dr. Sabiston would not change things very much more than Dr. Blalock, and Dr. Blalock had been there twenty-five years. You know, "We need to get some new blood in, a new idea. And here's a Hopkins medical student, top graduate, Mass General trained, strong academic credentials. Get him." To his credit, Dr. Blalock was very supportive of George Zuidema. He didn't think he was the right person for that chair, but he had been very supportive nationally of him, and he considered him an outstanding academic surgeon.

DR. NEWMAN: So then what happened with pediatric surgery after Dr. Sabiston left for Duke?

DR. HALLER: What happened was that David left, and there I was, and I didn't have anybody helping me, and I was doing cardiac also, so that was a pretty busy time clinically. Of course, I had Mark Ravitch not only as a consultant all the time, but he was doing a lot of the chest work. He was doing a lot of the pectuses. I would do an occasional one. But they came to Hopkins to see Mark Ravitch, and that was proper. He didn't do newborn surgery, but he did some other children's surgery procedures: splenectomies, he'd do—

DR. NEWMAN: Were you on call all the time?

DR. HALLER: Mm-hm, yes.

DR. NEWMAN: For anything.

DR. HALLER: Anything, all the time. And so I—

DR. NEWMAN: The chief resident would call you up and say,—

DR. HALLER: Yes.

DR. NEWMAN: "We've got"—

DR. HALLER: "Got a child with—"

DR. NEWMAN: —"gastroschisis and—"

DR. HALLER: "We need you right now."

DR. NEWMAN: —"needs an operation."

DR. HALLER: "Need you now."

DR. NEWMAN: "Need you right now."

DR. HALLER: I, of course, depended—to save my life, I depended on our Halsted residents to work with me, because that's the most senior people I had available to me.

DR. NEWMAN: Who were some of those people?

DR. HALLER: Jim [James L.] Talbert was one, and he became my first, "fellow." But what he did was he just came right over from the Halsted program and was a fellow with me. He had worked with me as a Halsted senior resident. But at that time, we didn't have a training program. I then talked with George, who had been there about a year, and I said, "You know, I can't survive without having somebody else with me. I'll never get any of my research done or anything else. I'm certainly comfortable having the Halsted residents operating with me. They're superb technically. But they're not pediatric surgeons." And he said, "You're talking to the right person." He said, "I came from Boston, and I thought one of the things that was good up there was that there was a children's hospital with pediatric surgery." And he said, "If I had been coming just from Hopkins, I wouldn't have understood." And he was right, because, see, there never had been pediatric surgery at Hopkins.

So that was a change, and also I got great support from him, although Dr. Blalock had himself changed [things], as I told you earlier, and felt that there was an entity called pediatric surgery as long as it was called "children's surgery." So I just got to work and did my labs and did everything I could in the cardiac, and then happily, we got Vince Gott to come the following year, so that took a great deal of load off of me cardiac-wise. He had a particular interest in adult cardiac surgery, mitral valve disease, aortic disease, and not much in children. So he said to me, "Alex, why don't you keep doing the pediatric cardiac surgery?"—(which is what I love doing)—"and I'll do the adult. You can get me to help you, and I'll help you. But," he said, "I'd like

you to be the person who is the primary person to relate to the pediatricians, to Helen Taussig and the bunch over there."

So that was working fine, and that was the second year I was there. [Calculates to himself.] Yes, 1963, 1964. And so in 1965 George Zuidema called me and said that the Garrett Board, which supported children's surgery, and had, through part of Dr. Blalock's term—their board had contacted him, and they wanted to have a professorship. And I was to be the designated Garrett professor. Up to that time, I was just a professor. So I asked. "What does that mean?" And he said, "It means that all the Garrett money will be available to you, not just coming into the regular cardiac general fund." They had supported Dr. Blalock during the war for the work that led up to the blue baby operation. A lot of people don't know that. When the NIH funds practically dried up because of the need for money for the war, there were practically no grants being funded from the NIH in the late forties. The work in the lab was completely supported by the income from the Garrett fund. We wouldn't have had the Blalock-Taussig shunt without their support.

DR. NEWMAN: Interesting.

DR. HALLER: And so he said, "They now want to have a full professor with their name, and I'm designating you to be that person." So I met with them, and they said, "What else would you like to do?" I said, "I'd like to be doing more general pediatric surgery and less cardiac surgery, but I want to continue to keep my hand in with the children, particularly in the infants." "Fine," they said, "no problem with that, and then you just report to us on activities, and any money you need for research, just write out a handwritten grant and we'll fund it. It will be carte blanche."

DR. NEWMAN: My gosh!

DR. HALLER: [Laughs] I said, "Wow! Okay!" So that got me started on the intrauterine surgery, because I immediately had their support.

DR. NEWMAN: How did you figure out the model to use?

DR. HALLER: When I was at the Wistar, I had thought about what might be a good intrauterine model, and I knew at Hopkins, in ophthalmology of all things, there was a professor who was supported by the Odd Fellows Association; therefore he was called the Odd Fellow professor, which I've always liked. [Arthur M.] Silverstein. And he was interested in the development aspects of the eye and had used lambs, and so he already had a sheep farm and intrauterine opportunities, but he didn't have any particular surgical skills. Well, Billingham knew him, and I should have, but I didn't know the people over there in the Wilmer Eye Institute at that time.

As soon as I got back, I contacted Art, and he said, "Come over and look at my setup." It was beautiful. He had a farm. They brought the pregnant ewes in. He operated on them—roughly [chuckles]—and did various things about their eye development, etcetera. And I asked, "Is it possible I could do some of that kind of work?" "No problem," he said.

And that's been one of the neat things about Hopkins over the years. (I think I can particularly say that to a Harvard guy.) I have very few criticisms of Harvard, but one is that I don't think they have shared in a cross-disciplinary way nearly as well as we have at Hopkins. There's been too much competition between investigators working in the same area in many of the places at Harvard, on the basis, I guess, of some kind of jealousy. That's never been a problem at Hopkins. It has been wonderful how free and open has been the exchange of ideas in different disciplines. This was one example. He just said, "Use my lab. Use my farm."

DR. NEWMAN: Wow.

DR. HALLER: The guy who ran the farm was named Morris. He said, "Call Morris." [Laughs] I called Morris. He said, "Where do you want me to deliver the lambs—the ewes—to you, Dr. Haller?" We had to set up the place and everything to get it going, but I used the Garrett money to set that right up.

DR. NEWMAN: And you were looking at diaphragmatic hernia and abdominal wall defects.

DR. HALLER: Yes. And creating—

DR. NEWMAN: fetal anomalies.

DR. HALLER: And seeing what happened to the fetus on the basis of those abnormalities, how they interfered with their growth and development. As you would expect, I naturally started looking at some of the cardiac problems. I created coarctation of the aorta because I wanted to see why it was that patients with so-called class one coarctation, where the coarctation is preductal, always do worse than the ones that have the coarctation distal to the ductus, downstream. This is known. It's been known clinically for decades. But it didn't make any sense to me because it was the same obstruction problem. But in looking into the research on it, I learned that it had already been described by a cardiologist, actually a cardiac anatomist in Canada, Maude—oh, what's the last name? I'll think of her. [Maude [E.] Abbott] She had shown that if there was a coarctation in a preductal position, it's more likely that there was also an intracardiac defect. It was the intracardiac defect that was responsible for the higher mortality, not the position of the ductus.

DR. NEWMAN: Interesting.

DR. HALLER: When I put the coarctation in the experimental animals in either position, it didn't change their survival at all, and so that confirmed the fact that it wasn't the position, it was the intracardiac abnormality that went along with the preductal that didn't go with the postductal.

DR. NEWMAN: So there was this great intersection—

DR. HALLER: Abbott. Her name is Maude Abbott.

DR. NEWMAN: There was a great intersection here of the prepared mind and the young academic surgeon, the great medical center, the endowment that allowed—

DR. HALLER: Just like serendipity.

DR. HALLER: —some freedom to pursue investigations which really set the stage for having an academically based pediatric surgery fellowship.

DR. HALLER: Right.

DR. NEWMAN: Because many of them—

DR. HALLER: Weren't—

DR. NEWMAN: —up to that time were almost all clinical.

DR. HALLER: Exactly right. I've discussed this with your former chief, [Judson G.] Jud [Randolph], and with—who else? Oh, Tom [Thomas Holder]—in Kansas City.

DR. NEWMAN: Dr. Holder?

DR. HALLER: Tom Holder. In about 1968 or 1969, the three of us got together at one of the meetings and said, "We need to have a pediatric surgery biology club." At that time Jud and I had been invited to become members of a biology club through the American College of Surgeons. You know, they have biology clubs, and that is one of the earliest things they did academically through the College; otherwise, the College was largely a group of operating surgeons. They were the forerunners, actually, of the forum. I talked to Jud and then talked to Tom, and we said, "Why should we join the general surgery biology clubs? We should have one of our own in pediatric surgery, because we've got special interests and special problems."

So we began a pediatric surgery biology club, and we invited a couple of people like—[Robert J.] Bob Izant was a member. I'll think of other names. But we were sort of the young Turks in pediatric surgery; we were the second generation. In the process, I said to Jud, "Maybe we should have a training program at Hopkins focused on strong research background, because we've already got the research there traditionally. It would be easy to do, and that's something we don't have in many of our training programs." And Jud said, "That's one of the things I've missed most from Harvard, coming to Washington, that we don't have a strong research opportunity."

So with the Garrett Board, I said, "Okay, we will set up a training program and talk with George Zuidema," who was very supportive, as you might expect, with his Harvard background. I said, "Let's start a training program. We'll have one year in the research laboratory and one year in pediatric surgery for clinical training." And he asked, "Aren't there other programs like that?" I said, "No." He said, "I think that's a great idea. How will you support the guy during the time he's in the research lab?" And I said, "The Garrett fund. I'll have a Garrett fellowship. I'll talk with them." They said, "Fine, whatever you want to do, Dr. Haller, the money's yours." A million bucks a year. A million bucks a year. I didn't even have to go to the NIH.

DR. NEWMAN: Wow. That was real money then, too.

DR. HALLER: Real money. But it was the income from their endowment. It wasn't their endowment. They protected it like anything, and they were building it all the time. But I said, "Okay," and George asked, "What do you do to do that?" And I said, "I don't know. I'll have to find out what the directors of the other training programs are doing." At that time there must have been maybe seven or eight programs: in Chicago, two in Canada, Toronto and McGill.

DR. NEWMAN: Philadelphia.

DR. HALLER: Philadelphia.

DR. NEWMAN: Cincinnati.

DR. HALLER: Boston, Cincinnati, New York at Mt. Sinai Hospital, Washington. Jud had just come to Washington [DC]. See, he came to Washington about the same time I came back from Louisville. I think he—

DR. NEWMAN: 1964.

DR. HALLER: 1964. But he did not have any research program of any consequence. There wasn't any experimental surgery being done at the Children's [Children's National Medical Center]. Much of theirs was coming through either George Washington [University], which was way across town, or through the NIH, some basic science people who just sort of remained for a long time.

So I got in touch with a couple of the training directors. I remember talking with Chick Koop. Chick Koop said, "Why do they need to have research? I mean, we need to operate." And I said, "I think we need to have the same kind of qualifications as other academic surgeons, because ultimately pediatric surgeons should be peers with their general surgeons in academic centers." And he said, "Well, that is a new idea."

DR. NEWMAN: [Chuckles]

DR. HALLER: And I said, "Yes, it is a new idea." But I said, "Oh, we're not going to be able to hold our own in organized surgery if we don't have the same critical mass but are just as well qualified." He said, "Come up and talk with me about it, and talk with me about your intrauterine surgery." The first visiting professorship I went to was with Chick, and I showed those first slides of an intrauterine surgery and anomalies. He was amazed. He said, "This is the most exciting thing." He said, "How do you have time for it?" I said, "I don't!" [Laughs] "That's why I need to have some resident fellows." [Laughs] He said, "Okay." He said, "Then by all means, you should have a training program if you're going to do that." And I said, "Okay." And so George Zuidema went with me to the dean and talked with him and told him what we wanted, and he said, "You have my blessings if you think that's what's necessary in pediatric surgery in the future." And so then I talked with the rest of the Halsted residents and told them what I was going to do, and they said, "It won't impact on us." They said, "You've already impacted on us, Dr. Haller, by coming back from Louisville. You know, you and our residents have learned so much more about children's surgery as a result of your being here than we ever had before, because we didn't have much chance to work with Mark Ravitch on newborns," because nobody did it. Or it was being done by everybody.

I said, "Now, one of the things that you've got to recognize is that if I bring some fellows in here for training, they're going to take these cases away from you Halsted residents. They looked at each other and said, "Hmm." They hadn't thought of that. And I said, "That may make you very unhappy, because there are some neat cases that you're doing now. You're doing TE [tracheoesophageal] fistulas, and you're doing diaphragmatic hernias with me. But I'll be doing it with them." They asked, "Can't we bring some of the Halsted residents through your program?" I said, "Yes, we can, but we can't bring the chief resident through; he's got to work with whoever the

chairman of the department is. He'll be with Dr. Zuidema and people at that level." Okay, so I said, "But I will take anybody in the Halsted residency who's interested in pediatric surgery. I'll give them first pick if they want to be a fellow." And Jimmy Talbert raised his hand. That's how I got Jimmy. So he came over, and he finished his—

DR. NEWMAN: So he was the first fellow.

DR. HALLER: He was the first one. The next one was Jack [John J.] White, who had finished his general surgery training in Canada—yes, that's right—at—

DR. NEWMAN: McGill [University]?

DR. HALLER: At McGill, thank you. David Sabiston actually had talked with him about coming as an extra resident. We weren't thinking about a fellowship at that time. And so I got back in touch with Jack, and Jack said, "If you're going to have a training program, I'll be interested in coming. I'll be finishing in just the right time to follow Jim Talbert." So then he came in.

That created a problem because for the first time, the Halsted residents recognized that those cases weren't going to them. They came to me. I had a big meeting, and I said, "Look, I warned you about this. I'll see to it that as junior residents you have more experience with children, because we'll have a larger volume coming through Hopkins as a result of having a designated pediatric surgery program, but you won't be doing the TE fistulas and the diaphragmatic hernias. You'll be doing hernias and maybe a splenectomy or doing pyloric stenosis."

DR. NEWMAN: Pylorics.

DR. HALLER: "—pylorics. But you'll be on the team. I mean, you will help manage these cases. You just won't be doing the surgery." Well, there was some scowling going on about that. To be honest with you—I've said this to a few people at Hopkins before—I really think that I might not have been able to get our pediatric surgery training program at Hopkins had I not been a product of the Halsted program, but since I was, they knew that I was not going to short-change them, that I was not going to undermine the importance of that general surgery program. Indeed, I was going to do everything I could to augment it.

On the other hand, in the interest of the care of children, we needed a stronger training program and a stronger kind of academic program, so ultimately that got us over that bridge, and we got the training program underway. Our program was approved first as a year of research and a year

of clinical training. There were many Clatworthy-type discussions and uncertain criteria, until we ultimately decided we had to have a two-year program but with only six months in the laboratory, not a year. Kurt, you probably haven't heard about this?

DR. NEWMAN: Not a year.

DR. HALLER: Actually in many of the programs, which didn't have strong research programs anyway, the curriculum went to being two clinical years, with very little research, but ours always maintained at least six months. For quite a while I held it to a full laboratory year, and so excellent work came out of that first research year.

Let me recall people who were really productive during that time, that research year. I'll think of them as we go along. Brad [Bradley M.] Rodgers spent a year in the laboratory. Brad was going to come into my training program, but he came as a Hopkins medical student and he did not get an internship at Hopkins. Instead, he matched at Duke. You know Brad's background. He went to Duke as an intern in general surgery—

DR. NEWMAN: Yes.

DR. HALLER: —and finished there. He was one of Dave Sabiston's choices to be the chief resident in Duke's training program. He was chosen then to go to the NIH, which was a part of their training program for two years. Then something happened either to his relationship with Dr. Sabiston or to what was happening at Duke. He was not offered a job to come back into the residency, and that's when Brad called me. I had already filled my fellowship slot, and so it was not possible for him to come back to Hopkins. I knew that there was a possibility of having an additional resident in Canada, because they were permitted to train one Canadian and one from outside. In any event, I helped him get his job to go up and complete the pediatric surgery training program there in Canada.

DR. NEWMAN: So now you got this fellowship training program, you got the research going and the laboratory, you got great residents now coming in to the fellowship, you're doing pediatric surgery, and you're kind of moving out of the cardiac surgery, which is becoming a separate specialty. And then I see in your CV, which probably was totally revolutionary thinking at the time, an interesting [reference to] pediatric trauma, which was probably not on many other people's radar screens. How did that come up?

DR. HALLER: It was just as an inspiration that became founded upon facts! I realized that trauma was a major problem, but I didn't realize how relatively significant it was until I began documenting the patients in our pediatric intensive care unit. These trauma children were in the hospital

under my aegis even though they were in orthopaedics and neurosurgery. I had the responsibility for all the surgical patients in the Children's hospital. I found that there were twice as many children with trauma-related problems in our pediatric intensive care unit than there were cardiac or general pediatric surgery patients.

I asked myself, "What are we doing about trauma? We're not at all focusing on their special needs. Post-traumatic brain injury, for example. What are we doing about that? What about the patients who are coming in with severe orthopaedic injuries and shock? Who's taking care of them, and what kind of monitoring are we giving them?" And as I looked at our critical care figures, it became increasingly obvious to me that we weren't really focused on the special needs of children. I had learned a good bit about trauma care in Louisville because Dr. Noer, my chief of general adult surgery, had set up one of the premier trauma programs in the country. This trauma service had a huge number of patients coming into it off of the then circular highways around Louisville, where there was so much automobile trauma. He had established a wonderful system of getting them right off of the highway, where they were injured, directly into the hospital and not resuscitated in the emergency room. No, they took the severely injured patients straight to the operating room. Well, this system revolutionized the management of blunt trauma in the United States because the Louisville surgeons were able then to resuscitate the patient in the operating room! If they needed to be operated on, they were operated on within a few minutes, rather than being partially resuscitated in the emergency room, evaluated, and after were in shock.

I was really impressed with this Louisville trauma system and saw how that could have a positive impact, but I hadn't had a chance to think about it in Baltimore until I finally looked at the injured children at Hopkins. That realization occurred in about 1970 or 1971. Would that have been right? Yes. It may have been a little earlier than that, because Jim Talbert was interested in it also, and he was there 1966 or 1967. Maybe it was as early as 1967. He and I began thinking about systems of trauma care. We did not at that time have any formal program at all in the Baltimore-Washington area for the care of injured children. At the University of Maryland Medical Center Dr. [R.] Adams Cowley became the first head of the shock-trauma program at Maryland [R. Adams Cowley Shock Trauma Center]. Cowley, by the way, had learned all of his skills and seen many traumatic injuries while he was in service in the European theater during World War II. When he came back to Maryland as a thoracic surgeon, he said, "We've got to do something about trauma care for our civilians."

He used his thoracic surgery intensive care beds at Maryland for trauma victims coming in by ambulance and helicopter. A lot of them had chest trauma, which interested him, but ultimately it expanded into—the first

system of trauma care in the United States which was right there in the Shock Trauma Center. I knew Dr. Cowley through thoracic and cardiac surgery meetings. He knew of my positive experience in the trauma system in Louisville. One day, he called me and said, "Alex, I need you to help visit some of the hospitals around this area, to reassure them that we're not trying to steal their patients by having them all come in directly from the site of injury to our hospital." He said, "I've got the data that shows that the multiply-injured patients actually cost the hospital for their care and that if we can get funding from the state for a shock-trauma program, we can just identify those patients at the scene of the injury who need intensive care and prolonged hospital stay that would ultimately cost that hospital. Those patients would be the ones we'd triage from the scene to come directly here to us at the Shock Trauma Center. Now I've got to sell that information to the area hospitals. Will you help me?"

So I went over and looked at his data, and it was reliable data, so I accompanied him to about eight or nine hospitals in the Baltimore area, and talked to adult surgeons and we convinced them. Cowley said, "Now we must have a means of selecting the severely injured victims to send to the Center. If they have open fractures, head injury, unconscious, need airway control—they will come directly from the scene by rapid transport." With careful protocols, the hospitals signed off on it. It was a wonderful system from the beginning. It took three or four years to catch on and be tested enough so that they trusted Cowley and his team, that they weren't trying to steal patients who could pay for a simple fracture, a major laceration and/or a temporary concussion.

Cowley said to me, "You know, from the European battlefield, it was perfectly clear that severely injured soldiers should be coming by air transport." So Cowley had them build a helicopter pad on top of the Shock Trauma Center. Then he turned to me, at about the end of the 1960s, and asked, "Alex, what are we going to do about the children?" I said, "What do you mean what are we going to do about the children? Aren't they coming over to you at Maryland?" He said, "We don't have anybody who knows anything about children's trauma. We don't know anything about hemorrhagic shock in kids or infant resuscitation. Head injuries and post-traumatic brain injury in children are very different from adults." I said, "So what am I supposed to do about it?" He said, "Alex, trauma care for children is your responsibility."

DR. NEWMAN: [Chuckles]

DR. HALLER: I said, "I agree with the concept, but I'm not sure my hospital [Hopkins] is going to be interested in children's shock/trauma." I went back immediately and talked to the president of the [Johns] Hopkins Hospital, and he said, "Tell me a little more about it." Then he said, "Let's

talk to the [Robert] Garrett [Fund] board." I went and talked to the Garrett board and said, "Trauma is the number one killer of children. We've got the data." Nobody had that kind of information, because we didn't have a trauma registry at that time. But we could go by shock-trauma at Maryland, and by the state data systems. It was true. I know now that it was the number one killer of children. So I wrote an article in the *JAMA* [Haller JA Jr. Pediatric trauma. The No. 1 killer of children. *JAMA*. 1983 Jan 7;249(1):47], in which I asked, "What are we doing about the number one killer of children?" Boy, did I get back responses from that article. Colleagues were saying, "What are you trying to do? What are you pushing?" I was simply identifying that we weren't doing anything to expedite the transport of injured children to appropriate specialized pediatric trauma centers which would be staffed with emergency pediatricians and critical care physicians. And that's how I got launched into it.

But with talking to the Garrett Board, they said, "You have sold us on the idea. How can we be supportive?" I said, "We've got to build a helicopter landing pad on top of the Children's." They asked, "Do any other children's hospital have things like that?" "Nope." "So why don't they?" And I said, "I don't know why." I said, "Nobody's ever thought of it. The children who have had to come by emergency transport are usually newborn infants, and they come in their own little ambulances that are beautifully designed for transporting newborns. We've never had a five-, ten-, fifteen-year-old seriously injured child come in by air. They just come in by regular ambulance. They come from the end of the state; it takes them four hours to get here. They can easily die en route."

"Well," the practical business executives who are members of the Garrett board said, "let's get a helicopter landing pad." [Laughs] I said, "Okay, but it costs so much money." They said, "We'll get the money." And so a number of the members of the board of trustees, talked to several people in the Baltimore area, and we got several other gift funds together, and presented it to the hospital. The hospital said, "Go for it." The chief of pediatrics, bless his soul—I often smile when I'm talking about those special colleagues, the chiefs of pediatrics; I've lived through four chiefs of pediatrics, and not one of them has known much about pediatric surgery. [Laughs] So I had to teach each one of them why it's important to have pediatric critical care units, and then make sure that we as surgeons should be taking care of our own patients with their guidance. Surgeons are essentially the physiologists in the team. But anyway, that's another story, but an interesting one, because Jud [Randolph] had the same experience at the Children's in Washington.

Bob [Robert E.] Cooke, our first pediatrician in charge in the new CMSC, was concerned about the possibility of aviation gasoline coming out of all

those helicopters and pouring down over the outside of the Children's building and catching everything on fire and injuring all the children. I said, "Bob, I'm sure they have ways of preventing that. They have other helicopter landing pads [elsewhere]." "No," he said, "I think we should build it out there on the street somewhere, away from the hospital." Well, we looked at that option, actually, for a couple of months, but then it finally dawned on me that that was a stupid concept because then we would have to have secondary transport, and you'd have to bring the critically injured children in an ambulance. We would have to intubate them to protect their airways. So we finally got approval on the basis of the fact that roof top landing was safe and that it was dangerous to perform a secondary land transport. But, you know, a lot of hospitals, including Washington Hospital Center, have their helicopter pad on the ground some distance from the resuscitation building and require secondary land transport.

DR. NEWMAN: In the Washington Hospital Center—

DR. HALLER: Yes, separate. But, you know, the helicopter pad should be on top of the hospital, and then the patient goes straight to the operating room or PICU [pediatric intensive care unit] with the elevators. So we built it on top of the CMSC. The other selling point was to adult cardiology, who said, "Whoa! Wow! Could we use it to bring in cardiovascular patients, for adult strokes, etcetera?" And immediately the hospital adopted it as their thing, and ever since then, it's been a big plus. I mean, it totally paid for itself in no time flat, bringing every kind of emergency in, not just children's trauma, but it was built for children's trauma. So I often say that my main contribution to the Johns Hopkins Hospital is that helicopter landing pad. [Laughs]

With the helicopter pad, we were established as a regional trauma center. Cowley immediately signed off. He said, "All children under fourteen, then, are coming to you, by protocol." And I said, "Why fourteen?" He said, "Well, you've got to pick an age, and," he said, "it seems to me"—at that time—"we see more gunshot wounds and that type of trauma above fourteen years. Under that age, they're more like kids." He said, "Why don't we just say fourteen?" Well, I don't need to tell you, you've got some thirteen- and fourteen-year-olds that have got guns. But that's how it came about. It was entirely arbitrary.

DR. NEWMAN: It's still a pretty good—

DR. HALLER: It's still a good cut-off point. In any event, that's the way we started. My only problem for the first couple of years was occasionally a fourteen-year-old would end up in the MIEMSS [Maryland Institute for Emergency Medical Services Systems] over there, but the administrative people were so good, they would call me and say, "Look,

we've got one of your patients over here, and we'll transfer him as soon as we can." I said, "Don't transfer him, because you've already taken care of the life-threatening thing. We don't want him filling a bed over here for an orthopaedic problem." So we've had good relationships. And Maryland, with Dr. Lawrence Hill's total agreement, turned children's trauma over to Hopkins.

DR. NEWMAN: And you take it not only from a clinical program at a hospital but really state and national advocacy.

DR. HALLER: Yes.

DR. NEWMAN: I think that is another thing I admire when I look at your contributions.

DR. HALLER: Well, it was obvious when we established children's shock/trauma that this was something that could be transported anywhere in the United States, anywhere in the world. It required only a commitment, a leader and a system. A system was key. That meant you needed to have a cadre of EMTs [emergency medical technicians] trained, who had skills in the resuscitation of children as well as adults. I mean, heroic paramedics are scared to death of babies. I mean, the most experienced EMT will tell you, they're terrified to think about working with babies. Well, we just needed to train them and give them the skills; then they could handle it. To do that, you need to have a system of training that goes throughout the program, which was one of Cowley's gifts. He had it all beautifully worked out, had the governor's ear and got money to support that whole pre-hospital shock-trauma program.

One of the evolving concepts that has been so important in pediatric surgery, and something that Jud Randolph and Tom Holder and I discussed, is that at the national level, we needed to be working through our surgical organization, not just through the Academy of Pediatrics. I've always been supportive of the Surgical Section [of the American Academy of Pediatrics], but I've always felt that that's not where we were going to have our most important influence. It should be through the American College of Surgeons. And yet it was difficult to get the College to accept pediatric surgeons on equal footing with adult surgeons. It was difficult to convince them until we began showing that we had skills and competence that were equal to our counterparts in adult surgery. The [American College of Surgeons] Committee on Trauma and the ATLS [Advanced Trauma Life Support] courses gave pediatric surgeons a chance to be equal with our adult surgery colleagues.

You know, Kurt, we had to be able to do cardiac surgery for children as well. Pediatric surgeons had to be able to do general abdominal surgery, just as—

well, laparoscopic, whatever, just as well as the adults. That's why Jud Randolph came out with his definition of pediatric surgeons in his APSA presidential address, as "General Surgeon Plus, or Plus Plus." We had to be more, and we had to show that we were as good as the academic surgeons with whom we worked, or we didn't have a right to stand up and demand some of the academic supports and recognition that come from being in a part of an academic institution. That was the whole reason for emphasizing that our pediatric surgery training program at Hopkins had something to offer that hadn't been offered before in training, and that was a strong academic background with research and with opportunities to offer university leadership.

So what did we do? We joined the adult surgical programs. I was an officer of the American Association for the Surgery of Trauma. Why? Because I thought we needed to carry the word about trauma and the differences in trauma in children to our adult counterparts. Well, they were resistant. They said, "Whoa! We can take care of a fourteen-year-old. For crying out loud, Alex, what are you talking about?" I said, "Yes, and you can probably take care of an eleven-year-old, too, but can you take care of a two-year-old?" And they'd say, "Ooh, well, okay." I said, "Maybe fourteen isn't the right cut-off for you in your region. Whatever it is, there should be a pediatric surgery component."

This idea eventually became accepted, but that's why it had to be worked out through the [American] College [of Surgeons]. We'd never work it out through the [American] Academy [of Pediatrics]. The Academy doesn't have any voice in surgical policies. I mean, a Surgical Section is fine, excellent for us, but it doesn't have any influence on the American College of Surgeons. Don't fool yourself. It doesn't. But APSA [American Pediatric Surgical Association] does. And by going through them and by being a part of general surgery, not being separated from them—the [American] Trauma Society is an example—we were able to get input into the training of trauma surgeons, the advanced life support course, the ATLS [Advanced Trauma Life Support]. I was the first pediatric surgeon to be on the faculty of the ATLS, because I showed them that we needed to have some pediatric input.

If you look at the history of the ATLS—by the way, I've said before; you may have already heard me say it—I believe that probably one of the most important contributions the American College of Surgeons has ever made to surgery is the ATLS course and all the skills necessary for the resuscitation of seriously injured patients. I mean, it's had enormous influence around the world.

When the first ATLS course came out, it didn't have anything in it at all on pediatric surgery. Nothing! Well, I was beside myself. I said, "Look, I'm working here"—they said, "Look, Alex, the next edition will have it, but you

have to write it." So I got together a group, and we wrote up the criteria for management of serious injuries in children, non-operative management of splenic injury, but we had to have a register. You had to get data. You can't just spout off, as you know. You've got to have something to support it. And so we had to get some information that we didn't have. As we collected it, we turned it over to them. When the next edition of the ATLS came out; there was a whole chapter on pediatric trauma care.

The next problem was the pediatricians. The pediatricians said to me, "Alex, we're seeing these injured children here, coming in on pediatric shock-trauma at Hopkins. We're being excluded from their acute care. We don't see any of those patients now that you have them on the surgical side, because they used to come through our general pediatric emergency room." And I said, "Come join us, then, but you've got to have the same skills." So we then developed the APLS, the Advanced Pediatric Life Support, which was a modification of the ALS [Advanced Life Support] course given by the American Heart Association, the basic course.

Lo and behold, the American Academy of Pediatrics wouldn't even support it. The Academy of Pediatrics wouldn't support it. They said, "Let the Society of Emergency Medicine develop the APLS course with you." I said, "You guys are crazy! They don't know anything about children. They won't look out for the relationships within the family, the social implications of trauma and injuries associated with it at all. This is a pediatric issue. This is very important. Plus the fact," I said, "where trauma goes is where emergency pediatrics goes. That's where children with life-threatening pneumonias, life-threatening, overwhelming infections, etcetera, go. They'll go with the helicopter, just as will the trauma. And if you don't take them, they're going to go to the adult emergency physicians." Oh, boy. "Wait a minute," they said. That was the only way. If I hadn't threatened that scenario, we would never have had the APLS course for the American Academy of Pediatrics.

DR. NEWMAN: Interesting.

DR. HALLER: Indeed, the AAP didn't even want to support it financially. We had a meeting about it. It's amazing, because traditional pediatricians had grown up saying, "Send trauma to the surgeons." It was correct at that time. But they hadn't realized that the skills that were necessary for resuscitating a child with a serious injury, who didn't need an operation, were the same skills as treating life-threatening medical conditions, airway problems, etcetera. As soon as we showed them that, then they said, "We're on board." But it took, you know, a lot of sweat and some tears.

DR. NEWMAN: Yes. As I look at your career, innovation stands out as a common theme in a lot of your publications and ideas. You always seemed to be coming up with new things and ways to measure and quantify and standardize. For example—it even bears your name now, the Haller Index.

DR. HALLER: Right.

DR. NEWMAN: The measurement of the—

DR. HALLER: Chest wall deformities.

DR. NEWMAN: Where did that come from? How did you get involved with that?

DR. HALLER: I was thinking about how we might measure the severity of pectus excavatum, because pediatricians kept calling me and saying, "I've got a child with a sunken sternum, but I don't know whether it's significant enough to interfere with any physiologic function, and the parents don't want to have anything done for just cosmetics." That irritated me, that "just cosmetics," because cosmetics is important, as you and I know. But to try to make it more objective, I said, "Okay, well, first of all you need to know what the physiologic impact of deep pectus is." As an aside, I spent a lot of my time trying to find out what a sunken sternum caused, because that was a burning issue with Mark Ravitch also. From the moment he talked with me about pectus excavatum, he was sure that the problem was going to turn out to be a cardiac one, and I was just as sure it was going to turn out to be a pulmonary one, because the deformity interfered with normal chest wall dynamics. He was ultimately right, as so often he was.

But we didn't learn about the cardiac dysfunction until just the last four or five years, by being able to show that the sunken sternum is pushing on the outflow tract of the right ventricle and interfering with cardiac ejection that decreases outflow with exercise, because the right ventricle can't fill. It's almost like constrictive pericarditis on that side. Well, you know, until we had newer modalities of studying function, including being able to do cardiac outputs at the same time you're doing echoes, which is what the Poles did—imagine such studies coming from Poland! The Poles did it first. We didn't do it. But as soon as I saw their abstract, I knew that that was it.

Before that I thought at least we can find out which ones are likely to get into trouble because we followed some of them long enough to know when they began having symptoms, even though I couldn't figure out why they were having symptoms. Several instructive patients convinced me that we ought to be able to measure it.

One was a fourteen-year-old boy from Cumberland, who called me and said that he was thinking about going into the military service. He had a sunken chest, and he had talked with one of the recruiters, and they said, "No way can you go into the military with that sunken chest. We won't take you." I think he was talking about cosmetics. You know, it looked deformed. So I said, "Well, let me see you." And I saw him, and he had a moderately severe case. I need to make him a little older because I want to shorten this story. I think maybe he was seventeen, and just about to finish high school. And he wanted to go into the Marines. He wanted to go to Officer Candidates School. A bright boy. I asked him, "Well, why do you want to have it done?" He said, "Because I get tired, and I can't keep up with the other guys." And he said, "And I don't like the way it looks. I would just like to have it fixed." I said, "Well, give me another year to see how you are going to grow, and if you still feel that way and they won't take you in the Marines and you want to go in, I'll operate on you."

So in a year he called me, a year to the day. [Chuckles] He called me and came back. He said, "It's gotten worse, and I now notice that I can't keep up with my peers" in things like running track and basketball, things that require a lot of energy. He said, "And I do want to have the surgery just as soon as I graduate from high school." So I called the recruiting officer and asked, "If that's fixed and he's normal looking even though he's got a scar, will you take him?" "Oh, yeah, we don't mind about scars," he said, "not in the Marine Corps. We have a lot of people with scars. But we just can't have one with a chest wall defect."

So I operated on him, and he fortunately got an excellent result and volunteered the next year. They took him. And then about a year after that, after he finished going all the way through training, he came back and he said, "Dr. Haller, it's wonderful. I can keep up with everybody. I can go under the various bunkers and climb over walls and run and keep up." And I said, "Tell me: Do you remember that as a senior you were the captain of your football team in Cumberland?" He said, "Yes, I was." I asked, "How did you do that with it sunken in like that if you're telling me you were having all this kind of trouble?" And he said, "You won't believe it, Dr. Haller," he said, "I'm so much better now." He said, "What I did in order to be captain of the football team was I had to train very hard, I had to do a lot of extra exercises." And he said, "After every football game, the team members would go to the school dances to celebrate the end of the football game. But I had to go home and go to bed because I was totally exhausted, because what I did was I forced myself against this lack of cardiac output"—he didn't say those words—"lack of cardiac output to be able to keep up with the rest of them." And I said, "You know, I really had not recognized the impact of this on cardiac function."

And then, of course, the Polish studies came out, and I said, "I know your measurements, because we got CT scans before and after surgery." We began getting CT scans, just to see how deep they were. And I asked a medical student working with me (who has gone into orthopaedic surgery, practicing in Baltimore, a bright guy) to look up our CT scans. He looked up all the patients that I'd operated on, not all I had seen but all that I'd operated on, and made an index, what we now call the pectus index, which compares cross diameter of the chest with the AP [anteroposterior] diameter. And every one that fit in a ratio above a certain number, 2.5, were the ones that I had operated on. The others, I didn't operate on, just because I didn't think they were severe enough and I didn't think they were symptomatic enough. So it wasn't pure science, but clearly the ones that were deep enough to fit in our index number had been operated on, so I began telling the pediatricians if it's that ratio or higher, we'll see them with the possibility of operating if they become symptomatic. And that's the way it finally evolved. The medical student got all that data for me. He went through all those charts, looked at X-rays and everything. He was really a meticulous worker. He's a hard worker and today a very good orthopaedic surgeon. Thus, the Haller Index was born.

DR. NEWMAN: Over the years, you've had a number of associates and partners, and those relationships are very important. Larry Hill comes to mind, [David L.] Dave Dudgeon—I'm sure there are others.

DR. HALLER: Denny [Dennis W.] Shermeta.

DR. NEWMAN: Denny Shermeta.

DR. HALLER: Jack White.

DR. NEWMAN: It must be very meaningful to have those associations and friendships, collegial relationships.

DR. HALLER: It is, and we've all remained very good friends. Each of them had great strengths. Some of them had weaknesses, as we all do. And in some ways, we were supportive of each other. I think the thing that I was looking for in an associate was someone who wasn't afraid to think outside the box, so to speak, wasn't afraid to think there was a better way to do it, and then to look into how that might be done. I was totally supportive of them in doing that.

The other thing I tried to do with my junior colleagues was to choose someone who would have an area of interest that was different from mine and they could also have their research activities be supportive of their clinical work. One of the things I have observed—and this is not just of pediatric surgeons but of academic surgeons—is that the surgeons who are

the happiest, and also often the most productive, are those who can have a research interest that complements their clinical activity, because that way, they can carry their clinical worries and problems to the lab, where they're solving things that are related, and then they can bring those experimental results back from the lab to help in patient care.

I guess an extension of that concept is to work sometimes with PhDs or with other basic scientists who have laboratory interests that can be transported to the operating room, because they are very stimulating kinds of colleagues to have. Happily, I was able to convince the Garrett Board to support my concept by coming forward with—about fifteen years ago—a new scholarship in pediatric research, professor of pediatric surgery research, which was to support a PhD in the lab who had a particular interest in something that was related to our pediatric surgery activities. The first one was primarily focused on hemorrhagic shock and its basic ingredients in terms of vascular activity and response, and then the second one was very much interested in pulmonary function, particularly associated with obstructive conditions in the pulmonary system.

These professors of pediatric surgery research ran the laboratory, and supported it, because I finally realized that you could no longer do surgical research like my mentor, Dr. Blalock, did by having a Vivien Thomas over in the animal lab, putting a dog to sleep. Research was much more sophisticated and much more complex. You need to recruit somebody who's got a better brain than you have and has got more intellectual power to run that laboratory so your fellows can benefit from working in an environment which is so stimulating because of its scientific intensity. I couldn't do it. But I recognized that it needed to be done.

DR. NEWMAN: Another legacy, I would think, is the incredible fellows you've trained who are now pediatric surgeons: Paul [M.] Colombani, who succeeded you as the chief there—you know, all across the board.

DR. HALLER: Just like Judson [G. Randolph].

DR. NEWMAN: There's Charlie [Charles] Turner at Bowman Gray [Wake Forest University School of Medicine] in North Carolina.

DR. HALLER: Yes, Charlie Turner comes to mind.

DR. NEWMAN: Some really great pediatric surgeons.

DR. HALLER: And Chuck [Charles] Paidas now.

DR. NEWMAN: Chuck Paidas. That must be really satisfying, to see a trainee develop into a leader.

DR. HALLER: Oh, it is.

DR. NEWMAN: To sit back and see that.

DR. HALLER: It gives me a chance to repeat what Dr. Blalock said to me. Very near his retirement and early death, he told me, "I've had a wonderful career, and I realize that people have congratulated me on my work in shock," which is one of the research protocols he first started, you remember, in the laboratory, and then all the blue baby surgery, etcetera. "But," he said, "you know, Alex, I think the greatest satisfaction to me has been the people I've trained and how well they've done and how much they've contributed to American surgery, because," he said, "that's a living legacy." I like that.

DR. NEWMAN: Yes. The other legacy I see is several hundred papers, book chapters. I remember the book on neonatal surgery was one of the first pediatric surgery books I had, which was just a beautiful exposition of neonatal operations.

DR. HALLER: That was with Jim Talbert.

DR. NEWMAN: As a general surgeon, not having really seen that—and, by the way, you were about the first pediatric surgeon I ever met,—

DR. HALLER: Is that right?

DR. NEWMAN: —through my relationship through your daughter, Julia.

DR. HALLER: Oh, okay.

DR. NEWMAN: —who was my student at Harvard Medical School.

DR. HALLER: Yes.

DR. NEWMAN: We shared, I think, a graduation party.

DR. HALLER: You did, indeed, and she told me that it was all right for me to call you "Flash." [Laughter] And I even know why. [Laughs]

DR. NEWMAN: There are a lot of legacies here for a lot of pediatric surgeons and others who may see or hear this interview. But I did want to mention that when I think of Alex Haller, of course, I think of all the science and all the pediatric surgery or whatever, but what really comes to my mind is a balanced, happy life, centered on family. I know that your relationship with Emily and your children, the summers at camp, have been really important to you.

I'm sitting here in this wonderful house with so many memories and pictures. If there's any legacy, it is how you've created the ideal, happy balance between your career and your family life, and how you've managed to keep that going. It's just such a model for the rest of us.

DR. HALLER: Well, you're very kind to recognize that. You're right. I have had a wonderful life and career, and I'm still enjoying it. The primary reason has been my wife, Emily, because she has been responsible for keeping the home and the family. I mean, I recognize many times I missed so many things with my kids, growing up, because I was in the operating room or in a trauma resuscitation or some dumb conference that I didn't need to be at. But she was always there. A lot of people don't realize that not only does she have a professional career, she actually had two professional careers, because she had her obstetrical professional career before the children were born, and then she decided that she couldn't do two such important things at the same time as have four children to rear and also be a busy obstetrician, so she stopped obstetrics completely, and for twenty years she took care of the children and me and the home and all aspects of our life. My happiness is entirely related to that.

Then she came back into medicine when our youngest child was a senior in high school. We discussed it, and she asked, "What am I going to do now with the rest of my life?" I asked, "What are you thinking about?" She said, "Well, I could always teach biology in one of the high schools." I said, "Well, you didn't enjoy it that much when you were taking it. Why would you want to teach it now?"

DR. NEWMAN: [Chuckles]

DR. HALLER: And she said, "I'm qualified to do it." I said, "You're surely qualified." And she said, "Maybe I could even teach in a girls' school, like hygiene or something." I said, "That would be overkill for somebody with as much obstetrical experience as you have, but," I said, "you're certainly qualified if you want to do it." And I said, "You loved medicine so. You were the most gung-ho pre-med I've ever known." I asked, "Why don't you come back into medicine?" And she said, "I don't know whether I can, after twenty years." Just think what had happened during that twenty years. All antibiotics changed. The whole management of—

DR. NEWMAN: Anesthesia.

DR. HALLER: --pregnant women, anesthesia, all kinds of medication for—

DR. NEWMAN: TPN [total parenteral nutrition].

DR. HALLER: Yes, TPN, high blood pressure, all kinds of areas. I thought she'd work in an outpatient clinic and sort of get back into it that way, since she hadn't read a single journal during those 20 years. She didn't keep up with medicine at all. She said, "Okay, let me go down and talk with them at OB/GYN at Hopkins." And so she went down, and she came bouncing out of that office. I was there waiting for her. She said, "Guess what. I'm going to start work as an intern."

DR. NEWMAN: [Laughs]

DR. HALLER: I said, "What?? I'll be the only person who's ever been married to an intern twice."

DR. NEWMAN: [Laughs]

DR. HALLER: She said, "No, no, you won't be. I was an assistant resident when you married me." [Laughter] But they had an illness in the new intern group coming into Hopkins, and they needed somebody badly for the rotations, and the chief asked, "Do you think you could do that?" And she said, "I'll be glad to try it." So she was on call from that point on every other night. She was on call, and loved it, and got her skills back very rapidly. Our last child, Fritz, was a senior at Gilman School, and I'd pick him up after school every afternoon. I was always late, and he would be there in the dark, waiting for me. And then we'd stop somewhere and get a hamburger or something at a short-order place on the way home, because we didn't have a mother at home. She was an OB intern.

I remember one night several months into Emily's internship, I must have looked tired or something sitting there with him. I suddenly realized that here was this big wrestler's hand that had come across the table onto mine. I looked up, and it was Fritz, who said, "Dad, don't worry, we'll get through Mom's internship together." [Laughter] And we did. [Laughs] He went on and finished high school and went on to college, at Vanderbilt. She then took a second year as an assistant resident, because she said, "You know, there are so many new skills and techniques." Amniocentesis had been developed and some of the newer X-ray studies, etcetera, and she said, "I really don't know how to do any of those or to be a part of it," so she took a second year in training. Then, they made her a junior faculty member at Hopkins, and she immediately began delivering babies. Of course, she was much sought out by all the house staff who were having babies, plus all the junior faculty who wanted her to be their obstetrician, so she had a great practice from then on.

DR. NEWMAN: Wonderful.

DR. HALLER: And it's just been a revitalizing life for her until we both retired. She really did have two careers. I've enjoyed both of them with her. [Laughs]

DR. NEWMAN: I know also you've gotten about every recognition there is to get in pediatric surgery and even in American surgery. You've been president of APSA, the Southern Surgical Association; you've won the Ladd Medal; you've given the Gross Lecture of the AAP Section on Surgery; you've gotten the Kafka Medal from the Czech Republic; and the Denis Browne Medal of BAPS [British Association of Paediatric Surgeons], two of the great honors in surgery in Europe. But knowing you as a person, I think probably your greatest satisfaction is sitting there watching your boys paddling whitewater slalom canoeing in the Olympics or being on the medical team for the US canoe/kayak team or watching the girls in a pony show, and now your grandchildren on the lacrosse fields. You know, I think that's a real tribute to you

DR. HALLER: Well, thank you, but, of course, I wouldn't have had any of those without Emily, so it's a partnership, and we've both thoroughly enjoyed our four children, and they've had remarkable careers, all very different but all indicative of a commitment to some great love that they wanted to do, and we've tried to be supportive. Now with sixteen grandchildren to grow up, it's wonderful. But that's why I think pediatric surgeons are basically happy. We're used to taking care of kids and watching them grow up. And I don't need to tell you, since you've got your own children, that one of the neat things about having children is that if you've had a happy life yourself, you get to relive it again, through them. And let me tell you, when you start having grandchildren, you relive it doubly.

DR. NEWMAN: [Laughs]

DR. HALLER: So it's a great life, and I think for all the hardships of training that used to be, if anything, more stringent on you in terms of time and commitment, it all seems not that difficult now. At the time, there was so much camaraderie—I've often said that particularly in a surgical residency, you're there together for a long time. You get to know people extremely well. There are some losers, and they find a way out pretty soon, but the real winners are just fabulous people whom you're going to enjoy knowing all your life. [Telephone rings.] It's a privilege to be in medicine, and especially to be in pediatric surgery.

DR. NEWMAN: I have a feeling you'd do it again in a heartbeat.

DR. HALLER: I would. [Laughter] I'm not sure I *could* do it again. [Laughter] But if I could handle it physically, I would sure do it in a heartbeat.

DR. NEWMAN: Well, this sure isn't too bad for a guy from Pulaski, Virginia.

DR. HALLER: [Laughs.]

DR. NEWMAN: You've come a long way, and you'd do it again.

DR. HALLER: Who's in his eightieth year!

DR. NEWMAN: Who's in his eightieth year.

DR. HALLER: Yes! [Laughs]

DR. NEWMAN: Well, thank you very much. This has been one of the great days of my life.

DR. HALLER: Well, you're very kind to take the time off to come over and do this. I'm not sure it'll be helpful to many other people, but it's fun recalling my career with you.

DR. NEWMAN: I look forward to doing it maybe just on my own every year, just to sit around—

DR. HALLER: [Laughs] Right!

DR. NEWMAN: —and talk about all these things.

DR. HALLER: You're welcome any time, as you know. [Laughs]

DR. NEWMAN: Thank you very much.

DR. HALLER: Thank *you*.

[End of interview.]

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CURRICULUM VITAE

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BORN:
Pulaski, Virginia May 20, 1927

HOME ADDRESS:

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Children's Medical and Surgical Center
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MARRIED:

Emily M. Simms, M.D. - June 16, 1951

CHILDREN:

Julia - November 10, 1954
Alex III - August 2, 1957
Clare - April 10, 1956
Fritz - March 29, 1959

DEGREES: B.A., 1947, Vanderbflt University M.D., 195 1, The Johns Hopkins University School of Medicine

LICENSE: Maryland, 1959 (D04926) Kentucky, 1959

MEDICAL TRAINING:

Internship: The Johns Hopkins Hospital Department of Surgery Baltimore, Maryland 1951-1952

Rotary Foundation Fellowship in Pathology: University of Zurich Switzerland, 1952-1953

Senior Assistant Surgeon: U.S.P.H.S., Section of Surgery National Heart Institute Bethesda, Maryland 1953-1955

Assistant Resident Surgeon: The Johns Hopkins Hospital 1955-1958

Resident Surgeon: The Johns Hopkins Hospital 1958-1959

Visiting Assistant Professor of Surgery: University of Pennsylvania School of Medicine Wistar Institute Philadelphia, Pennsylvania, 1962-1963 (Leave of absence to study organ transplantation and tissue immunology under Dr. Rupert E. Billingham)

MILITARY SERVICE:

Entered Armed Forces in 1953 and served six months at Coast Guard Surgical Unit in California. Transferred to Surgical Section of National Heart Institute as Clinical Associate until July 1955.

Surgeon, U.S.P.H.S., 1955

UNIVERSITY AND HOSPITAL APPOINTMENTS:

Instructor in Surgery, The Johns Hopkins University School of Medicine	1958-1959
Instructor in Surgery, The University of Louisville School of Medicine	1959-1961
Price Fellow in Cardiovascular Research, The University of Louisville School of Medicine	1959-1961
Assistant Professor of Surgery, The University of Louisville School of Medicine	1962-1963
Chief, Section of Pediatric Surgery, The University of Louisville School of Medicine	1962-1963
Assistant Professor of Surgery, The Johns Hopkins University School of Medicine	1963-1967
Children's Surgeon-in-Charge, The Johns Hopkins Hospital	1964-
Robert Garrett Professor of Pediatric Surgery, The Johns Hopkins University School of Medicine	1967
Professor of Emergency Medicine, The Johns Hopkins University School of Medicine	1974

Professor of Surgery and Professor of Pediatric Surgery,
The University of Maryland
School of Medicine 1978-

Professor of Pediatrics,
The Johns Hopkins University
School of Medicine 1982-

Professor Emeritus, Pediatric Surgery, PED, and Emergency Medicine 1993-

CERTIFICATIONS:

Diplomate, National Board of Medical Examiners 1952
American Board of Surgery (#9607) 1960
American Board of Thoracic Surgery (#875) 1961
American Board of Surgery - Special Competence in
Pediatric Surgery (#97) 1976
Instructor, National Faculty - Advanced Trauma Life
Support Course, American College of Surgeons 1982
American Board of Surgery - Recertification Special
Competence in Pediatric Surgery 1983
Instructor, National Faculty - Advanced Pediatric
Life Support Course – AAP 1989

HONORS AND AWARDS:

Markle Scholar in Medical Science 1961-1965
Outstanding Clinical Professor, University of
Louisville, School of Medicine 1963

ORGANIZATIONS:

Society of University Surgeons 1962
Fellow, American College of Surgeons 1962
Chairman, Pediatric Surgery Program Committee 1981-1983
Southern Thoracic Surgical Association 1962
Chairman, membership Committee 1975
Vice President 1984
President 1987
Southern Society for Pediatric Research 1963
Southeastern Surgical Congress 1964
President 1977
Southern Surgical Association 1964
Vice president 1997-1998
President 2001-2002
American Association for Thoracic Surgery 1965
American Academy of Pediatrics, Surgical Section 1965
Program Chairman 1977-1979

American Academy of Pediatrics, Committee
Pediatric Emergency Medicine 1988 -
American Academy of Pediatrics, Maryland Chapter 1965
Chairman, Committee Ped. Emergency Medicine 1988 -
Society for Vascular Surgery 1965
Medical and Chirurgical Faculty, State of Maryland 1965
American Association for the Surgery of Trauma 1966
Treasurer 1982-1985
Halsted Society 1966
Chairman, Membership Committee 1977
Heart Association of Maryland 1966
Pediatric Surgery Biology Club 1966
Secretary 1966-1980
Johns Hopkins Medical and Surgical Association 1966
Co-chairman 2002
Kansas City Surgical Society 1966
American Association for Child Care in the Hospital 1967
Baltimore Academy of Surgery 1968
British Association of Pediatric Surgery 1969
Executive Council 1984
American Surgical Association 1969
American Pediatric Surgical Association 1970
Treasurer 1981-1984
President 1987
Swiss Society of Pediatric Surgery 1971
Pan American Trauma Society
Vice President 1990 -
American Trauma Society 1972
University Association for Emergency Medicine 1972
Johns Hopkins Medical School Council 1971-1975
Chairman 1973-1974
Johns Hopkins Medical Society
President 1978
American Heart Association
Council on Cardiovascular Surgery 1978
Maryland State Committee on Trauma – American
College of Surgeons, Chairman 1981-1986

HONORARY SOCIETIES:

Phi Beta Kappa, Vanderbilt University 1947

Alpha omega alpha, Honorary Medical Fraternity
Johns Hopkins University School of Medicine 1951

Society of Sigma Xi, University of Louisville
School of Medicine 1960

EDITORIAL BOARDS:

Pediatrics
American Surgeon
Journal of Trauma

FRATERNITIES:

Alpha Tau Omega Social Fraternity,	
Vanderbilt University	1945
Phi Chi Medical Fraternity,	
Johns Hopkins University School of Medicine	1948

PUBLICATIONS

1. Isaacs JP, Carter BN II, Haller JA Jr: Experimental pericarditis: The pathologic physiology of constrictive pericarditis. Bulletin of The Johns Hopkins Hospital.90:259-300, April 1952.

2. Haller JA Jr and Morrow AG: Experimental mitral insufficiency: An operative method with chronic survival. Ann of Surg, 142:37-51, July 1955.

3. Haller JA Jr and Morrow AG: Experimental mitral insufficiency: Studies of left atrial pressure by transbronchial puncture. Surgery, 38:518-528, September 1955.

4. Roshe J and Haller JA Jr: Hemodynamic effects of the hufnagel valve. Clinical Research Proceedings, 4:9, 1956.

5. Roshe J, Haller JA Jr and Morrow AG: Combined aortic and femoral pressure pulses in aortic v valve disease. Clinical Research Proceedings, 4:97, 1956.

6. Roshe J, Haller JA Jr, and Morrow AG: Combined aortic and mitral insufficiency - hemodynamic effects of the hufnagel valve. Ann Surg, 144:854-860, November 1956. Presented at the Eastern Section Meeting of the American Federation for Clinical Research, December 1, 1955.

7. London F, Stevenson TD, Morrow AG, and Haller JA Jr: Patent ductus arteriosus with reverse f flow. South Med J, 50:160-168, February 1957.

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9. Morrow, AG, Braunwald E, Haller JA Jr, and Sharp EH: Left atrial pressure pulse in mitral valve disease: A correlation of pressures obtained by transbronchial puncture with the valvular lesion. Circulation, 16:399-405, September 1957.

10. Morrow AG, Braunwald E, Haller JA Jr, and Sharp EH: Left heart catheterization by the transbronchial route, technic and applications in physiologic and diagnostic investigations. Circulation 16:1033 1039 December 1957.

11. Haller JA Jr: Second shunting operations for pulmonary stenosis with cyanosis following failure of original systemic pulmonary anastomoses. Surgery, 44:919-926, November 1958.

12. Cantrel JR, Haller JA Jr, and Ravitch MM: A syndrome of congenital defects involving the abdominal wall, sternum, diaphragm, pericardium, and heart. Surg Gynecol Obstet, 107:602-614, November 1958.

13. Horton ES and Haller JA Jr: Chronic intussusception with spontaneous separation of necrotic colon. Ann Surg 149:600-604, April 1959.

14. Haller JA Jr and William GR: Isolated midline thyroid in the thyroglossal duct. Surgery, 46:437-439, August 1959.

15. Gibson LE and Haller JA Jr: Acute pancreatitis associated with congenital cyst of the common bile duct. J Pediatr, 55:650-657, November 1959.

16. Haller JA Jr: Injuries of major arteries (a case report). J Ky St Ed Assoc, 57:1518-1521, December 1959.

17. Cantrel JR and Haller JA Jr: Peritoneal reconstruction after extensive abdominal wall resection. Surg Gynecol Obstet, 110:363-366, March 1960.

18. Haller JA Jr: Thrombectomy for acute iliofemoral venous thrombosis. Surgical Forum, 11:435-437, 1960.

19. Haller JA Jr and Leight L: The use of left heart catheterization in the study of acquired heart disease. South Med J, 53:15501557, December 1960.

20. Haller JA Jr: Thrombectomy for acute iliofemoral venous thrombosis in the postpartum period. Surg Gynecol Obstet, 112:75-81, January 1961.

21. Haller JA Jr: Traumatic rupture of the thoracic aorta. J Ky St Med Assoc, 59:25-28, January 1961.

22. Haller JA Jr: Thrombectomy for acute iliofemoral venous thrombosis. Archives of Surgery, 93:488-457, September 1961. Presented at the 18th Annual Meeting of the Central Surgical Association, St. Louis, February 17, 1961.

23. Haller JA Jr: Use of thrombectomy in the treatment of deep thrombophlebitis of the leg. Circulation, 24:950, 1961.

24. Cook FW and Haller JA Jr: Penetrating injuries of the subclavian vessels with associated venous complications. Ann Surg, 155:370-372, March 1962. Presented before the Kentucky Surgical Society Meeting, French Lick, Indiana, May 1961.

25. Haller JA Jr: Bullet transection of both common carotid arteries with immediate repair and survival. Am J Surg, 103:532-535, May 1962.

26. Haller JA Jr: Treatment of acute femoral thrombophlebitis. Postgraduate Course Book, American College of Surgeons, 1962.

27. Haller JA Jr: Extracardiac congenital heart disease. J Ky St Med Assoc, 60:739-742, August 1962.

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34. McGaff Ci, Haller JA Jr, Leight L and Towery, BT: Subvalvular pulmonary stenosis due to constriction of the right ventricular outflow tract by a pericardial band. Am J Med, 34:142-146, January 1963.

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37. Haller JA Jr and Billingham RE: Preliminary studies on the origin of the vasculature in free skin grafts. Chapter X. Symposium on Wound Healing, Brown University Press, 1963.

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41. Haller JA Jr and Mays T: Experimental studies on iliofemoral venous thrombosis. Am Surg 29:56-571, August 1963. Presented at the Southeastern Surgical Congress, March 1962.

42. Little JA, Leight L, David LA, and Haller JA Jr: Coarctation of the aorta associated with aortic s tenosis and a patent ductus arteriosus. Am J Cardiol, 12:570-574, October 1963.

43. Haller JA Jr and Abrams BL: Use of thrombectomy in the treatment of acute iliofemoral venous thrombosis in forty-five patients. Ann Surg, 158:561-569, October 1963. Presented before the American Surgical Association, Phoenix, Arizona, April 3-5, 1963.

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45. Haller JA Jr: Effect of neonatal splenectomy on mortality from runt disease in mice. Surgical Forum, 14:180-182, 1963.

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53. Ebert PA and Haller JA Jr: Distribution of tritium labeled thymocytes in newborn mice. Surgical forum, 15:125-126, October 1964.

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70. Haller JA Jr, Wagner HN and Jackson DP: Conjoint clinic on thrombophlebitis. J Chronic Dis, 19:785-798, 1966. Presented at The Johns Hopkins Hospital, December 12, 1964.

71. Haller JA Jr: Injuries of the gastro-intestinal tract in children. Clin Pediatr, 5:476-480, August 1966. Presented at the Postgraduate Course in Ped Surg of the American College of Surgeons, Atlantic City, October 1965.

72. Haller JA Jr: Current concepts in the treatment of acute thrombophlebitis. Medical Times, 94:1039-1042, September 1966.

73. Haller JA Jr: Editorial Comment on "The Treatment of Iliofemoral Vein Thrombosis (Phlegmasia Dolens) by Thrombectomy." Authors: Sapirstein W, et al. Review of Surgery, 23:177-178, May-June 1966.

74. Haller JA Jr and Shelley WM: Clinicopathological Conference. Case Presentation (JHH 480654). Bulletin of The Johns Hopkins Hospital, 119:235-243, September 1966.

75. Cornell WP, Mawell RE, Haller JA Jr, and Sabiston DC Jr: Results of the Blalock-Hanlon operation in 90 patients with transposition of the great vessels. J Thorac Cardiovasc Surg, 52:525-532, October 1966.

76. Talbert JL and Haller JA Jr: Recent advances in the postoperative care of infants and children. J Surg Res, 6:502-509, November 1966.

77. Talbert JL, Cheek DB, Karmen A and Haller JA Jr: Assessment of the infant's response to stress. (Abstract) Proceedings of the Southern Society for Pediatric Research, South Med J, November 1966. Presented before the Southern Society for Pediatric Research, Norman, Oklahoma, November 11, 1966.

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81. Talbert JL, Haslam RHA, and Haller JA Jr: Gangrene of the foot following intramuscular injection in the lateral thigh: A case report with recommendations for prevention. J Pediatr, 70:110-114, January 1967.

82. Haller JA Jr, Van derSalm T, and Rauenhorst J: Effect of newborn splenectomy on homograft survival in inbred mice. J Surg Res, 7:110-112, March 1967.

83. Talbert JL, Karmen A, Graystone JE, Haller JA Jr, and Cheek DB: Assessment of the infants response to stress. Surgery, 61:626-633, April 1967.

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85. Cahill JL, Talbert JL, Ottesen OE, Rowe RD, and Haller JA Jr: Arterial complications following cardiac catheterization in infants and children. J Pediatr Surg, 2:134-143, April 1967.

86. Murray GR, Talbert JL, and Haller JA Jr: Obstructive lobar emphysema of the newborn: Documentation of the "Mucus Plug Syndrome" with successful treatment of bronchotomy. J Thorac Cardiovasc Surg, 53:886-890, June 1967.

87. Haller JA Jr, Ward MJ, and Cahill JL: Metabolic alterations in shock: The effect on controlled reduction of blood flow on oxidative metabolism and catecholamine response. J Trauma, 7:727, September 1967.

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