



ORAL HISTORY PROJECT

**Marc I.
Rowe, MD**

**Interviewed by
Jay L. Grosfeld, MD**

February 3, 2008
Sanibel, Florida

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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.

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ABOUT THE INTERVIEWER

Jay L. Grosfeld, MD

Dr. Jay L. Grosfeld is the Lafayette Page Professor of Pediatric Surgery at the Indiana University School of Medicine in Indianapolis, Indiana. He attended both undergraduate school and medical school at New York University (NYU), graduating from the latter in 1961. He trained in general surgery at NYU under Dr. Frank C. Spencer from 1961-1966. After two years as a captain in the US Army Medical Corps (1966-1968), he obtained postgraduate training in pediatric surgery at the Columbus Children's Hospital, Ohio State University (1968-1970) under the direction of Dr. H. William Clatworthy, Jr. At the conclusion of training, Dr. Grosfeld's first full-time academic position was assistant professor of surgery at NYU School of Medicine from 1970-1972. In 1972 Dr. Grosfeld was appointed professor of pediatric surgery at Indiana University School of Medicine and the first surgeon-in-chief of the Riley Children's Hospital in Indianapolis. He has remained at Indiana in that position for the past 32 years.

From 1985-2003, Dr. Grosfeld served as chairman of the Department of Surgery at Indiana University School of Medicine and training program director of the general and pediatric surgical residencies. He was chairman of the American Board of Surgery in 1997 and also served as vice-chair of the ACGME-Residency Review Committee for Surgery. In 1995 Dr. Grosfeld was elected president of the American Pediatric Surgical Association and was secretary and then chairman of the Section on Surgery of the American Academy of Pediatrics (AAP). He has been a member of the AAP for 30 years and is a previous William E. Ladd Medal recipient.

Interview of Marc I. Rowe, MD

DR. GROSFELD: This is Jay [L.] Grosfeld, and I'm interviewing Dr. Marc [I.] Rowe. Today's date is February 3, 2008. It's Sunday morning in Sanibel, Florida, at Dr. Grosfeld's home. Dr. Rowe was the 1996 recipient of the William E. Ladd Medal [American Academy of Pediatrics, Section on Surgery].

Dr. Rowe, we certainly appreciate you coming today and spending some time with us, giving us a little background of your experience as a children's surgeon. I'd like to begin with a few questions perhaps about your personal background, a little bit about where you were born, what your folks did, and about family life, and how this influenced your later career choices.

DR. ROWE: Okay, I was born in a beach town in Massachusetts, Revere, that had a beach and ferris wheel and all that. My folks were first-generation from an immigrant background from Russia.

My father was an interesting man. He grew up in Boston, in the West End, which then was one of the first drop-off of immigrant families. His parents didn't speak English. He worked, and he was unique in that he was a superb athlete, particularly a baseball player, which had an amazing effect on his life and he actually wanted to be a professional baseball player. He was offered a contract, but in those days immigrant families didn't think that that type of work was becoming, so he went to night school and became a CPA [certified public accountant].

My mother grew up in Revere, Massachusetts; her father ran a little stand on the beach. When my parents were married, they had a daughter and then a son, and then I came along as a mistake that was not a planned pregnancy. At that time, during the Depression, financial things were very bad. As a result, my father actually wanted my mother to have an abortion. My uncle, who had a tremendous effect on me, was a doctor. He was horrified by this and refused to allow it. But that made a big difference, because I was sort of, in many ways from my father's point of view, the unwanted child, plus the youngest son.

My father was working as a CPA in an iron company. He decided to start his own business. My mother, who helped him, would go to work in Boston, which left us alone to be brought up by my older sister. We used to joke that we were the first latchkey children. We cooked our own food. We lived in a broken-down tenement. We came home to an empty house since both my folks didn't come home until the evening. And we lived on hand-off clothes from my other relatives because the business went bad. Finally the business shut down. My father went bankrupt, had to sell his one car, and used to

work part time in the various racetracks as a CPA. Things were rather difficult.

The other problem I had is that I had a learning disability. I had difficulty in those days of reading, writing and arithmetic. It was pretty well determined that I was a retarded person, and I was always taken out of the regular class and put into what was then considered politely the “dumb class.” It was a rather frustrating period in my life because I had a good deal of difficulty in school and was considered not very bright by all the teachers. I had a good memory, I saw things visually, but I had difficulty with manipulation of words and numbers. I was also color blind, which also made school difficult.

I spent an enormous amount of time reading, and I used to write, even as a very young person, but I didn’t do well in school. My father was unhappy with me because I was a poor student. My brother, who was a three-letter athlete, who also played baseball, was sort of the apple of his eye, and I was kind of big and clumsy, but very strong. At that point, I was struggling through school. My mother would go and talk the teachers into passing me on to the next grade. We finally moved from Revere to the neighboring town of Winthrop [Massachusetts]. At this time, we still were having a lot of financial difficulties, and we were living in my uncle’s house.

At that time, I met somebody next door who became a very close friend. His father was a wrestling coach and a rather famous wrestler. He had decided that he would get together with some of his other wrestler friends and train their sons to become wrestlers. Since I was a friend, they dragged me along, and we began a wrestling club that was made up of four people.

DR. GROSFELD: How old were you at this time?

DR. ROWE: I was, oh, maybe fourteen. One person was Davie [David] Smith, whose father was Lyman [B.] Smith, a famous botanist from Harvard [University]. Another was Jimmy [James] Peckham, whose father was a telephone lineman. The other one was Dick [Richard] Myerson. His father was the wrestling coach. So we began to wrestle. We’d go to the gym, and we spent all our time there. It’s interesting that eventually Davie became the captain of the Harvard wrestling team, Dick became a New England AAU [Amateur Athletic Union] champion, and all four of us won the New England AAU championship while we were in high school. Jimmy eventually went to the Olympics as a wrestler, and then finally turned out to be one of the wrestling coaches for the Greco-Roman Olympic wrestling team.

DR. GROSFELD: Did you wrestle for a school team?

DR. ROWE: No, there were no school teams because wrestling wasn't a recognized sport in school. I played football, and I threw the shotput in track, but I continued to struggle through school, having a tremendous amount of difficulty. And when I got toward my senior year, all the kids were thinking about going to college. My father had gone back with his hat in his hand to the company he had worked for, which had become a fluorescent light company. It used to be an iron company. He gradually worked his way up to become vice president of the company, and as a result, we were a little better off then. My brother had started at Syracuse [University] and discovered girls, and beer, and various things, and after a year and a half flunked out. So college was not high up on my father's list.

At that time, I noticed that my classmates were all applying to college, so I asked about college. The guidance teacher was very concerned, and she asked me to have my mother come to see her. So I went home and told my mother the guidance teacher wanted to see her. The next day my mother came back and she looked very grim. She told me to go upstairs, that she wanted to talk to my father. I, of course, eavesdropped, and heard her say that the teacher said that I was a very nice boy and a good athlete, but that I was mentally below normal in intelligence, and that to try to send somebody like me to college would be a huge tragedy. As a result, my father said, "Well, I think welding would be a good profession." So they decided on that, and my father enrolled me in Wentworth Institute — which is a trade school in Boston — to become a welder, particularly a spot welder as a matter of fact. I was in my senior year in high school.

Well, what happened was that in March were the New England Senior AAU Wrestling Championships, and so we all decided to compete in that. It was kind of an interesting thing because, in the morning you started off and you started wrestling one person after the other. If you kept on winning, and got up to the top, you would obviously be in the finals. But the interesting thing is that all the colleges around New England, including all the Ivy League schools, brought their teams to this tournament at the end of the year. I ended up in the finals wrestling the captain of the Brown University wrestling team. We went through the three periods at a tie, then we went through three overtime periods with a tie. Finally the referee gave him the gold medal and me the silver medal, which made me furious.

Anyway, I was taking a shower afterwards alone, a very irritated teenage kid, and this little bald-headed guy came in, and he said, "Hey, kid, are you in high school?" And I said, "Yeah." He said, "Well, why don't you go to college?" And I said: "Well, I'm not too smart. I'm going to welding school." He said, "Well, you know, I watched you wrestle, and I don't think you're so dumb. My name is Ralph Anderton. I'm the Brown University wrestling coach, and I'd like your name and address." Well, I gave him my name and address, didn't think much of it and went home.

And the next thing that happened was, about a week later I got a round trip ticket to Providence inviting me to go up to Brown. My father was horrified. He said, “Why do you want to go to college if your brother, who’s a lot smarter than you,” — he was not psychologically delicate — “flunked out? How do you expect to go to college?” But I figured it would be kind of a lark.

So I went there, and it turned out Brown University wanted to get some good teams, so each coach could bring somebody in, and I was the choice of the wrestling team. That was interesting because what they did is that each coach met his particular athlete at the train, and for the next two days they put us through a huge number of tests, everything from inkblot tests up to IQ [intelligence quotient] tests, and then they sent us home. We were there two days, and they gave us dinner. About two weeks later, I got a letter from the dean of admissions at Brown University, without application or anything, admitting me to Brown. This was after the admissions were really closed.

Well, I arrived at Brown and there was no room in the dormitories, so I got a little apartment. Well, actually, it wasn’t an apartment. It was one room in a place with two maiden ladies. It was halfway between the gym, which was about a mile and a half, two miles, away from Brown and the university. I lived by myself.

Brown was amazing, because what happened was I met people who read, who traveled, who discussed things. I liked history, and I did very well in history, so they put me in a seminar class where we sat around with a professor and other students. I was talking to these well-read people, who knew about what was going on in the world, who knew the names of the leaders of various countries, and I suddenly realized, *You know, maybe I’m not stupid. Maybe I’m just ignorant.* That was sort of a turning point in my life because I started reading *The New York Times*, I started reading voluminously. I then moved on campus the next year. We used to sit around and have philosophic discussions, and it opened up my life. I was basically majoring in philosophy and in history, and because I was pretty interested in those subjects, I did very well.

The only problem — and this is just a short one — is that I have trouble with foreign languages, and with math. I flunked math all the way through. At Brown, in order to graduate, you must qualify in a foreign language. I was terrified. They asked me what foreign language I took, and I said, “French.” And they said, “Well, you’ll have to take D1 and D2 courses, and until you pass, you can’t graduate.” And I knew I would never graduate.

So what I did was, every day when I walked to the gym, which was two miles away from the campus, I put the name of a French word on one side of a card and the English translation on the other. And over the course of the

wrestling season I memorized the entire French vocabulary, because when I can see things as pictures I can remember them. I can actually see the position in a book, or if I think about a place, I see the place rather than the concept of the place. So I was able to memorize essentially the whole French vocabulary. I knew no grammar or any of the rules. Then I told them that I was French proficient and took a French proficiency test. Of course, if you know all the words, you can translate, then figure out what it is. So I passed the proficiency test, and that's how I got through French.

DR. GROSFELD: How did you get interested in science?

DR. ROWE: Well, that's an interesting thing. I always was interested in biology. I dreamed of being a naturalist and work in a museum. My sister, who was the one who used to work to help support the family, used to buy me books. She bought me books about reptiles of the world, dinosaurs and the Gobi Desert. So I was basically thinking that what I'd eventually do is work for the museum. I was walking on the campus one day in my junior year. By this time I had done well in wrestling, and I was doing extremely well in school for reasons that amazed everyone, and I said, "You know, I wonder what I really want to do. You know, I like to fix up people. I really like to do that, and I like biology. Maybe I ought to go to medical school."

So instead of going down to the gym, I went and saw my counselor. He looked at me and said, "You know, you've got philosophy, you've got psychology. You have almost no science, except for biology which you got an A in. You know it would be hell to try to get you into organic chemistry and everything, but I'll try if you want it." And I said, "Okay." As a matter of fact, that's what I did. And in my senior year I graduated Phi Beta Kappa and summa cum laude, with high honors, and I was captain of the wrestling team, and was undefeated for three years. So I had a good record for an application to medical school.

And so I applied to two medical schools, Harvard [Medical School] and Tufts [University School of Medicine], and I went to Tufts. It was an interesting experience because you're supposed to have a story of why you wanted to be a doctor. I went to each one, and it seemed that at Harvard they really liked me. Finally I met with the dean at the end of the visit, and he said, "You know, you're the kind of guy we'd like to have at Harvard. But as a matter of fact, every time anybody asks you what you want to do, you kind of beat around the bush. I'm not really sure you really want to go to medical school." So I said, "Okay, fine."

So then I went to Tufts, and I just went through the deal. Tufts at that time was sort of like a nine-to-five trade school. They admitted me to Tufts, and I went to Tufts. At Tufts my learning disability caught up with me, because at

the beginning there was a lot of chemistry and so on, with a lot formulas, and I was really having trouble. And I did another thing. All during college, I had studied the way I wanted to. I couldn't do it like the other people because my memory and the way I saw things were different than others, but I didn't realize that. During the first year of medical school I roomed with three guys, and we used to always study together. But three-quarters through the first year, I was flunking out.

So I left the apartment and went home to where my parents lived. I went back in my old room, and I studied myself. And what I did was I ate dinner with my folks, I'd go to sleep, and then I'd get up about one o'clock in the morning and study all night. I also read the *New England Journal [of Medicine]*, and I did all my own things, and I began to do better. I finally got through my first year, and then I got into the clinical years.

I didn't like the tremendous emphasis in medical school on grades, so I didn't like to sit around and talk to the guys, because there was always one-upmanship. I'd always bring my lunch from home. I wanted to find a quiet place, so I wandered over to the New England Medical Center [Tufts Medical Center]. I found that the big dome over the operating room was completely quiet, so I'd sit in there and eat my lunch. Pretty soon surgeons would come in and do operations, and I'd sit there and watch them. These guys would look up and see me there every day, and pretty soon the surgeons started talking to me. They eventually invited me to come down to watch the procedures. So every day at my lunchtime I'd sit around and watch these guys do surgery.

Then they said to me, "Would you like to come by after classes and help in the dog lab?" This was particularly from one guy who was a urologist. So I used to go and work with them in the dog lab, and they taught me how to suture, and they taught me how to open and close. And I decided I was going to be a surgeon.

Well, I got through medical school, and during my clerkship I went to Boston City Hospital. C. [Charles] Gardner Child [III] was the professor of surgery there. He had come from New York Hospital [now New York-Presbyterian Hospital] and was a very dignified person, and of course, a pioneer in portal hypertension and portacaval shunts. He, for some reason, took a liking to me, and at the end of my clerkship he called me in, and he said, "Marc, I'll sponsor you in any surgical internship you want, but I'd like to train you myself." I was very flattered. So I took my surgical internship and first year at Boston City Hospital under C. Gardner Child.

And then I got called into the Army. So I was in general surgery at Boston City Hospital, and then I went into the Army for two years. Fortunately, I went into the Army as a surgeon, actually as a captain. First I went to Fort

Sam Houston [Texas]. It was the time of the Korean War, and they trained us very vigorously. It was interesting that the medical corps used to set up their aid stations behind enemy lines, and they would get overrun. A lot of doctors were being killed. Most of the doctors that they drafted had not been trained at all so they trained us in using weapons and in shooting machine guns over our heads. Doing all those things which I loved, brought me back to my boyhood days.

And so I went through that training in Texas, and because I liked it, I got a very choice assignment. I was sent to Fort Monroe, Virginia, which was the continental headquarters command for the United States ground forces. It had a four-star general in charge, and it had 14 generals, and about 500 colonels, and the sergeants swept the floors. I lived with all the officers, which was a wonderful experience because they were really fine people, and I served as a surgeon at the base hospital. I did gall bladders, I did hemorrhoids, I did all the orthopaedics, and I delivered babies. It was a very good experience for me.

When I was discharged from the service, I went back to Boston City Hospital, and it was a mess there. Dr. Child had left, and so I decided that what I would do is take a year of laboratory work. I worked in a lab with Ralph [A.] Deterling [Jr.], who was a vascular and cardiovascular surgeon, and a surgeon by the name of Donald [C.] Nabseth. We were trying to study transplantation. One of the things that people had decided was that if you could overcome the immune system with a massive amount of antigen immunoparalysis then you could accept a transplant.

What I found out is that animals who were in parabiosis and their peritoneal cavities were joined together, would exchange their antigens and tolerate each other. So I tried to develop a system for cross-circulation between dogs to mimic parabiosis in large animals. I developed a graft that mixed the blood, and I was able to cross-circulate the animals for up to a week, which was the longest recorded in the medical literature. I presented my paper on cross-circulation in the experimental animal, long-term survival at the Surgical Forum at the American College of Surgeons.

It was interesting: Dr. David Hume, who was then of course, the famous transplanter, discussed it. He criticized me in front of everyone, saying that he was very disturbed by my technique. I remember walking out absolutely crushed. My wife was walking beside me, and I said, "David Hume just tore me apart. Do you realize what that means?" And she said, "Don't worry, he doesn't even shine his shoes." But that didn't make me feel any better.

But anyway, that was my experience with research. During that time, I got a Master of Science in surgery from Tufts while I was working in the lab. I

published some papers, particularly on various types of transplant with cross-circulation and parabiosis.

DR. GROSFELD: How did you get interested in pediatric surgery?

DR. ROWE: There were a couple of reasons. My father felt that we should work even when we were kids. Because he lived in the West End and was a kid from a tenement area, he was sent to a boy's camp up in Maine. So he sent us there every year as workers. My brother and I lived in the workers' tent in this boy's camp, and we washed dishes and did physical labor up until we were teenagers. Then I became a counselor at the camp, and eventually I ended up being the executive director of the camp, and ran the whole camp when I was in college.

And so I started working with kids, little kids, middle kids and big kids, and I found that I did well with them, and that I loved kids. When I was in Tufts, I happened to bump into a book by Robert E. [Edward] Gross called *The Surgery of Infancy and Childhood. It's Principles and Techniques* [Philadelphia: W. B. Saunders Company, 1953], and I bought it with my few funds. I bought the book, and I read it. I read it like a bible. And I said, "I want to spend some time with Robert Gross." Well, I went to Tufts, and I had heard they had an elective for Harvard medical students in pediatric surgery at Boston Children's Hospital [Children's Hospital Boston], and so I said, "I want to take that."

So I went to Boston Children's Hospital [Children's Hospital Boston] and talked my way into Gross' office, and said I wanted to take the elective. And he said, "Well, we've never taken anybody from Tufts." I was persistent, and he agreed to take me. So I was the first Tufts student to take the elective. It was very interesting because [W.] Hardy Hendren [III] was the plastic surgery resident who rotated through. Judson [G.] Randolph was the junior resident. He was the pup. A guy by the name of Earle [L.] Wrenn [Jr.] was the chief resident, and Lester [W.] Martin was the chief resident in plastic surgery at that time. And I was the medical student.

And that was my life. I mean, that was the most wonderful time in my life because I would go into the operating room and watch Dr. Gross operate, and sometimes I'd scrub in. It was an incredible experience. I used to steal a hemostat and watch how he held a needle holder, trying to mimic it while I was watching him. At that time he was doing cardiac surgery using an atrial well. It was one of the most technically amazing things I ever saw, watching how he operated and how he thought.

Actually Dr. Gross was very nice to me, and we maintained a relationship, which I think cemented my decision to go into pediatric surgery. I loved kids, having worked with them all the time. I loved surgery from my

experience eating my lunch in medical school and meeting the surgeons. I loved what they did and what kind of guys they were. And here was a field to work with children and help little children. So right then and there, I decided I was going to be a pediatric surgeon.

It was interesting because when I was in the Army and at Boston City Hospital, I was making fifty-five bucks a month, and my wife was working as a nurse.

DR. GROSFELD: When did you get married?

DR. ROWE: I got married in December, just after I started my internship. We got married, and actually that's how we got to Sanibel. Between college and medical school, I worked as an ordinary seaman on an oil tanker, and I made some money, because we never had much money. And when I got married, my wife was a nurse at the New England Baptist Hospital. One of her patients said it was real pretty in Clearwater Beach in Florida, so my wife and I decided that for our honeymoon we would use the money I saved from working on the ship — the money that I didn't buy my books with — and we would borrow my father's car and drive down to Florida.

So we drove down to Florida, and we got down around the Tampa and Long Boat Key and Clearwater area and around there, and it really wasn't that interesting to me. So we decided to ride all the way down to the Everglades. We had my father's car, and we'd stop at every creek to fish. I saw a sign, "Sanibel and Captiva." And I said, "Gee, that sounds neat. Let's go look at that." And we looked at it. There was a ferry leaving. We got the car on the ferry, got across, and of course it was the last ferry of the day, so we were stuck on Sanibel. There was one motel there, The Castaways [Motel], and that's where we spent our honeymoon. We said, "Someday we'll live on Sanibel." That was because we loved it, and we continued to come back.

Anyway, to get back, the reason I bring up my wife is that, when I got out of the Army and went back into general surgery, I worked at Mount Auburn Hospital for a while. I got an offer from one of the general surgeons there, who had a huge practice, to go into practice with him. At that time I was particularly interested in vascular surgery, and he wanted me to take over the vascular surgery. We were really broke, and I really wanted to do it. But my wife said to me, "All your medical life you wanted to be a pediatric surgeon, and if you take this job, you'll never forgive yourself because you should have tried to find training in pediatric surgery."

So I borrowed some money from my father [chuckles] and borrowed his car again, and the first thing I said was, "How do you get a residency in pediatric surgery?" In those days, there weren't matching programs or anything, and

you had to know somebody. So the first thing was when I went to Tufts, Orvar Swenson had been at Tufts, so what I would do is I would apply to Dr. Swenson who was the chief at Children's Memorial Hospital [Chicago].

During the time I was at Boston City Hospital, there was a pediatric surgeon by the name of Tom [Thomas S.] Morse, who needed another year in general surgery. He came to Boston City Hospital to take it. Actually, even though he was trained, he was my resident. Then he went to Columbus Children's Hospital and became an attending. So I called him up and asked him if he could wangle me an appointment to apply to Columbus. He said, "Okay, okay," and he managed to do that.

Then I put in an application to Dr. [William B.] Kiesewetter in Pittsburgh, Dr. Swenson in Chicago, Dr. Gross at Boston Children's Hospital, and Dr. [H. William] Clatworthy [Jr.] at Columbus Children's [Hospital] [renamed Nationwide Children's Hospital in 2005]. Well, Dr. Kiesewetter and Dr. Gross wouldn't send me an application, and said they were filled indefinitely. Dr. Swenson gave me an appointment, and Dr. Clatworthy gave me an appointment.

So my wife and I loaded up my father's car, and we went to Chicago first. When I got to Dr. Swenson's office, he was in the operating room, and his secretary told me to sit in his office. I sat in his office, very uneasy, and pretty soon this little guy came striding in in a scrub suit, walked to his desk and started signing things, completely ignoring me. [Chuckles.] Finally, he looked up and said, "What do you want?" I went through my spiel, how I wanted to be a pediatric surgeon and everything, and he said, "Who sent you?" I said, "I don't know what you mean, sir." And he said, "Well, who sent you?" And I said, "I guess nobody sent me." He said, "The way pediatric surgery works, son, is that the chiefs of surgery send people who they want to start pediatric surgery to me to train. I don't just take people who come in off the street, so to speak." So I stood up and I said, "Well, I'm sorry to have taken your time," and I left. So that finished me with Chicago Children's, and that left Columbus.

Well, I got to Columbus, and Dr. Clatworthy took me into his office, and we talked about fishing, and we talked about the outdoors, and then he asked me a little bit about my research. Then, as I was walking out the door — which was kind of different from a formal application — he said, "Hey, kid." And I said, "Yes, sir?" He said, "Do you want to come here to train?" And I said, "Yes, sir," and he said, "Okay, you got the job." [Laughs] And that was the "formal" way that I got accepted at Columbus Children's Hospital.

DR. GROSFELD: Did you have children at that time?

DR. ROWE: Yes. Well, what had happened was that when we were in the Army my wife got pregnant, and we had a baby girl. Due to an obstetrical mishap, the baby died right after birth, which was a very traumatic episode for us. It also really cemented my absolute desire to realize that the whole deal with newborns in particular was really pretty rudimentary in a lot of places. We had one child while I was in the Army, we had a little girl, and then we went to Columbus.

Columbus in those days was a pretty tough place. Eric [W.] Fonkalsrud was the chief resident, Dick [Richard] Ellis was the assistant resident, and Al [Alfred A.] deLorimier was just leaving there. And the day I arrived, he welcomed me by saying, "Welcome being here. You're gonna hate every damn minute of it. Fecal material runs downhill, and you're gonna be the lowest part of the hill." [Chuckles] And that was my introduction to Columbus Children's Hospital.

DR. GROSFELD: How was your experience there?

DR. ROWE: It was a wonderful experience, because Bill Clatworthy was an absolute master teacher, and he loved little babies. You know, we had a dog, a beagle dog, when I was in Virginia at Fort Monroe, and there was this black guy who really, really took care of all the dogs at the veterinary place where we used to board our dog. He loved the veterinarian and used to say, "Dr. Gill, man, he's got dog sense." And Dr. Clatworthy had baby sense. I mean, he amazed me. We made rounds, and if there was one kid who wasn't doing particularly well, we kind of pushed him a little to the side and tried to distract Dr. Clatworthy on his Saturday morning rounds by going to the baby that was our triumph. And he invariably walked in the room and said, "I want to see that baby." And it was always the one we were trying to hide.

He changed my life in a lot of ways, but one way in particular. He couldn't stand assisting a resident. He got very nervous. If you called him in and asked him about a case, he'd immediately scrub in and take the case away from you. So in order to keep himself from doing that, he smoked heavily. He used to go into the lounge, and when they were doing a case, he'd be very nervous and smoke. He used to like me, so he dragged me in and made me sit down beside him, and we'd talk. He'd say, "We have to play a game." And what was the game? The game was, how is a baby different from an adult? And this is really how I got into neonatal research.

He'd say, "Okay, Marc, I'll go first." I'd say, "Okay Dr. Clatworthy, how is a baby different than the adult?" And he'd say, "Okay, a baby is smaller. Now it's your turn." And I'd say something like, "A baby doesn't like cold." And Dr. Clatworthy would say to me, "Why?" And I'd say, "Well, as a matter of fact, I don't know." He'd say, "Well, why the heck don't you?"

And I'd reply, "Maybe nobody's really looked at it." And he'd say, "Man, maybe they've really looked at it, but you're looking in the wrong places."

I bought myself a notebook, and every time we'd either make rounds or at one of our games, I'd write a problem like, *How do you decide whether you're going to give a baby too much fluid or too little fluid? How much sodium should a baby get? Why does a baby really get cold? Is cold really bad for a baby if hypothermia is protective?* It was interesting. From that list eventually was most of the neonatal research that I did both clinically and in the laboratory — from the stimulation of Dr. Clatworthy. And we kept this same sort of a dialogue up until I finally left and went on.

Now, it was interesting that when I was a chief resident, Dr. Clatworthy asked me to stay another year. He wanted me to join the faculty, but he also told me a story one day. He said that the biggest mistake you can make is to stay with the guy who trained you, because the guy who trained you will always think of you as a resident, and maybe what you really should do is go off somewhere else.

But anyway, he kept me there, and I was going to start as an attending at Columbus. At that time, I began to look around a little, and I got a letter from Mark [M.] Ravitch. Mark Ravitch was about to start pediatric surgery at the Wyler Children's Hospital [now University of Chicago Comer Children's Hospital] while it was being built at the University of Chicago. He was going there from Baltimore City Hospital [in 1984, BCH became the Francis Scott Key Medical Center], and he asked me to come up and look at the job. They were still building the hospital at the time.

Well, I went up to Chicago, and I met Dr. Ravitch. I'll never forget it. He was living in a little apartment. He hadn't moved his family to Chicago as yet. And he gave me the address of the apartment in the faculty club. I went up there and knocked on the door, and I heard this big, deep voice say, "Come." I walked in there, and I couldn't find anybody. From the bathroom I heard somebody say, "Come in." And there was Mark Ravitch, the famous surgeon, in a pair of boxer shorts, no shirt, his hairy chest, washing his socks in the sink. And he proceeded to conduct an interview for a job [laughs], in the bathroom while he was washing his socks, which I must say kind of threw me off a little.

At that time, I was interested in blood viscosity, and son of a gun, he asked me what Poise was, which is a measure of viscosity. How he knew about Poise, I don't know, but I was able to answer that. He finally talked me into joining him at the University of Chicago. So my first job was as assistant professor of pediatric surgery at the University of Chicago. And since Dr. Ravitch traveled everywhere, I also was the one who did almost all of the clinical surgery while he was away.

I was fortunate enough to get an NIH [National Institutes of Health] grant, to study how the newborn organism responds to life-threatening challenges. What I wanted to do basically was start off with hemorrhagic shock — How does a newborn tolerate hemorrhagic shock in contradistinction to an adult? — because there were an enormous number of studies on shock using various types of well systems and so on. There were ideas about irreversible shock, the fact that acidosis was important in shock. At that time, they were just getting to the point where they were beginning to look at shock at the cellular level, but they were still mostly talking about hemodynamics.

I wanted to study shock in a newborn organism. So I decided at that time that the best organism would be a puppy, and I wanted to measure cardiac output. Well, I was very fortunate. Rene [A.] Arcilla, who was a very noted pediatric cardiologist, had the lab right next to me. He was particularly interested in cardiovascular physiology, so he taught me about dye-indicated dilution and cardiac output measurements, which we would try to do on newborn puppies. We measured cardiac output by drawing blood through a little photoelectric cell to measure the dilution of the dye. But the problem was, the blood volume of a newborn puppy that weighed about 250 grams was so small that as you withdrew the blood it went into hemorrhagic shock and would die while we were drawing the blood.

So we concluded that to try to measure cardiac output in small organisms was impossible. I got mad about that, and I found a little circular pump in a lab, and I hooked it up by a catheter to the puppy's femoral artery, and then I put another catheter into the puppy's femoral vein. I had played around with cross-circulation in the lab back in Boston City Hospital. Then I turned the pump on. As fast as I withdrew the blood into the photoelectric cell, it got turned back through the vein into the blood volume again, and the animal stayed completely hemodynamically stable. So now I could measure, without blood loss, cardiac output in newborn puppies.

With that, I began to study hemorrhagic shock, and I was shocked to find out that every time a puppy would go into shock, instead of getting tachycardia, he got bradycardia. But the most interesting thing that happened was that he got right-to-left shunts. As soon as he began to get hypovolemic, he got these big spikes of right-to-left shunts.

And then I found a book by a guy named [Geoffrey S.] Dawes, who wrote one of the first books on newborn physiology. He was an English gentleman.

END OF TAPE 1, SIDE A

DR. ROWE: If a newborn baby became hypoxic, he or she developed pulmonary vasoconstriction, dilated the ductus arteriosus, and you would get

right-to-left shunts. And I realized this is exactly the same thing that was happening in hemorrhagic shock, and so I began to study that. And the first paper I wrote on neonatal physiology was on the neonatal puppy's response to hemorrhage, in which I showed the technique and so on.

To sort of jump ahead, when I was in Miami, which was the next job I had, I continued to study cardiovascular dynamics in the newborn. One of the things that occurred to me was that if I drew my blood gases from the arm or from the leg of a baby with diaphragmatic hernia, the pO₂ [partial pressure of oxygen] was different. And I realized that when the newborn with diaphragmatic hernia became hypoxic, just like the transitional circulation that Dawes wrote about, the newborn got pulmonary vasoconstriction and dilation of the ductus, and got right-to-left shunts. So the next two diaphragmatic hernias I treated, I put a radial artery catheter in, and I put an umbilical catheter in below the level of the ductus, and I did differential blood gases, and was able to show that they were actually shunting from right to left.

I wrote a paper on that, and that paper changed by life in another way. What happened was, when I got to [University of] Miami, I was the first full-time pediatric surgeon there. I had an NIH grant, and I set up a lab in the VA [United States Department of Veterans Affairs]. I was studying neonatal physiology, and I wanted to do some clinical studies on fluid and electrolytes, which was my other area of interest, but I didn't have any money. And Dr. [W.] Dean Warren, who was the chief of surgery there, said I should try to get a John A. Hartford Foundation grant. And so I applied for the John A. Hartford Foundation grant, and I was waiting patiently to hear. This is where that article comes in.

I went to the American College of Surgeons convention in Atlantic City with the rest of the guys from Miami. I'll never forget it. I went to the hotel where I registered, and when I got there, the clerk said, "Oh, you have a message, Dr. Rowe." He gave me this message, which said, "Dr. Rowe, please meet me on the boardwalk at such-and-such a place at five o'clock in the evening. Robert E. Gross." And I said, "Those sons of guns are trying to pull my leg, because he's a god — Robert E. Gross."

I wasn't going to go, of course, because I figured they were just pulling my leg. But I got to worrying about it, and I decided I'd go anyway. So I walked out, and there, looking out at the water, was the absolutely unmistakable profile of Dr. Robert E. Gross. [Laughs] I was shocked. I walked up, and I said, "Sir, I'm Marc Rowe." He said, "Oh, yes, Dr. Rowe. I don't know if you know it, but I'm the medical consultant for the John A. Hartford Foundation, and I wanted to tell you myself that I'm going to give you a grant for \$500,000 to study neonatal circulation and whatever else you want to do." I guess it was \$500,000. I don't remember now. And I looked at him,

and he said, “And I suppose you want to know why.” And I said, “Yes.” He said, “Because of your article on diaphragmatic hernia. That really impressed me. I never thought of that, and I think that’s an important observation.” And he turned around, and he walked away. It really was sort of an interesting experience in my life.

DR. GROSFELD: That’s a great story.

DR. ROWE: I’m going to stop, if I could.

[Recording interruption.]

DR. GROSFELD: I knew that you had had significant interest in the management of newborn problems, particularly what currently would be called neonatal critical care, but it sounded like you were a pioneer in this subject before that specialty was even in place. Your interest in neonatal cardiac output, thermal regulation, fluid and electrolyte balance, shock, and also as I recall, you had a significant interest in sepsis in the newborn and bacterial translocation. I wonder if you would tell us a little bit about how you got interested in that aspect of neonatal surgical care.

DR. ROWE: The translocation came much later, and I’ll just talk just a bit about that. After I left Miami, I went to the University of Pittsburgh. That was an interesting period because my wife had just finished building a house for us in Miami, and the kids were still in school when I decided to take the job in Pittsburgh. And so I went there myself, and I stayed in a little one-room apartment. But before I did that, Dr. Henry [T.] Bahnson, who was the chief of surgery there, put me up in what I guess you could call his lower unit or cellar. He had two little rooms in there. I was living in one and Tom [Thomas E.] Starzl was living in the other. Starzl had left the University of Colorado [at Denver] and had just been given FDA [US Food and Drug Administration] approval for use of cyclosporine in organ transplantation. He and [Sir Roy Y.] Calne in England were the two people that got cyclosporine. Starzl was going to begin the transplant program at the University of Pittsburgh amid a lot of teeth gnashing, because people were not happy about Tom Starzl at the University of Pittsburgh. But he was an old friend of Henry Bahnson, and Dr. Bahnson was a strong supporter.

But the reason I bring this up is, that Tom and I would sit out on Henry Bahnson’s porch and talk about our lives and so on, and we talked about why the heck you couldn’t transplant small bowel. It seemed like liver would be okay, heart would be okay, but nobody seemed to have any luck with small bowel. So Tom and I made an absolute vow that, after he got the liver transplant program going, we would do some small bowel transplant

together. And so what happened was, I became interested. As Tom got farther and farther —

DR. GROSFELD: Time wise, this was about 1981 when you moved to Pittsburgh? Is that correct?

DR. ROWE: Right. And Tom was very interested and kept on saying, “We gotta do it.” I started reading the literature. One of the things that surprised me about the literature was that it seemed the people who died from small bowel transplant were dying of sepsis before they died of rejection. I wondered whether the bowel was just really kind of porous, and that’s why it just absorbs all the bugs, and that’s why they got septic. So I kept on thinking about that.

The next thing that happened was, I got invited to give the David Vervat Lecture in Holland in pediatric surgery. After I gave the lecture, they invited me to be in the David Vervat Foundation to go up every year and review their grants that the Queen gives for research for the children’s hospital. So every year, I would go up to Rotterdam, and I would review grants. I became interested in what the Dutch were doing in what they call selective decontamination. They felt that a lot of the critical care patients became septic and died because their bowel became permeable to pathogenic bacteria. They felt that in the ICU [intensive care unit], the bacteria, the good bacteria so to speak, were killed by antibiotics. That left large amounts of potentially pathologic bacteria that could overcome the gut barrier. Then what would happen was, they got septic.

So what they did was use selective decontamination. They would kill all the potentially pathogenic bacteria with selective antibiotics, and they would then repopulate the gut, and they’d often use Bulgarian yogurt. They wrote a number of papers in European journals about selective bacterial decontamination in the ICU. I wondered whether that was perhaps what was really happening in the small bowel of bowel transplant patients.

And so we began to think about that. Because I was on the foundation, the Dutch people, sent me some Bulgarian yogurt cultures and a lot of their literature, and I began to work in the laboratory with newborn rabbits. I found that once the colony count in the gut reached a certain level of pure bacteria, you could pick them up in the bloodstream. At about the same time, I became aware of the growing literature on bacterial translocation. They did different things to animals, and then measured the mesenteric lymph node cultures and showed that bacteria had gone across the mucosal barrier. That was their measurement.

And so I said, “Well, let’s see what happens.” A girl by the name of Tabatha [Foster] came along, and Tom and I transplanted her with small bowel. He

let me selectively decontaminate her and so on, and I serially measured the quantitative blood cultures and quantitative gut cultures. I think it was ten to the sixth or ten to the ninth. Every time a certain bacteria reached ten to the ninth, I'd immediately pick it up in the bloodstream. We were able to monitor her and keep on controlling it, and she did extremely well. Unfortunately, she eventually died in 90 days from overwhelming lymphoproliferative disease. It destroyed her liver. She died, and her bowel at autopsy was in excellent shape, and she had no evidence of sepsis. We reported that experience with the serial cultures in the *New England Journal of Medicine*.

At the same time, I began to look at newborn rabbits again, the same way using the lymph nodes, and we were able to collect rabbit breast milk. We began to look at the difference between formula and breast milk and showed that if you just raise newborn rabbits without breast milk, but with just formula, they tended to translocate bacteria also. But if you fed them with breast milk, they didn't. So we then began to look at the various ingredients in breast milk, and we began to look at the gut barrier. That's how we got into that whole thing. So our actual stimulus for the sepsis and the translocation and so on, and how it applied to the newborn, came around from our experience with the bowel transplant.

DR. GROSFELD: Now, your actual exposure to the surgical section of the American Academy of Pediatrics occurred when you finished your work in Columbus as a resident. And while you were in Chicago you became a member of the section, and then you served as a member of the executive committee for six years, and finally became the chairman of the surgery section in 1978. Now, what has been your experience with the surgical section [Section on Surgery] of the American Academy of Pediatrics? How has that served the profession?

DR. ROWE: It's an interesting question, because it served it in many ways. As you know very well, it originally was a meeting place during the pediatric meetings for the handful of pediatric surgeons to discuss cases. Gradually it became a section, and it was sort of the way you identified yourself as a pediatric surgeon before the boards. In other words, if you became a member of the surgical section of the American Academy of Pediatrics, you were a pediatric surgeon, and that was your organization. That's where you could exchange, that's where you met. And it was really, I think, one of the fundamental pillars of pediatric surgery.

It was interesting that my experience in the section led to my experience with APSA, the American Pediatric Surgical Association. What happened with that and subsequently what happened with the board —

DR. GROSFELD: Now, you were instrumental in being one of the few pediatric surgeons that was able to convince the American Board of Surgery to

provide a certificate of special competence [certification] in the field. Tell us a little bit about that.

DR. ROWE: As you know, for years pediatric surgery was trying to have a board, and it was really not very well accepted by general surgeons, urologists or other specialties until Harvey [E.] Beardmore and a committee of people finally convinced them. In the very famous statement, Harvey Beardmore stood up and said, “Gentlemen, you have your boards.” And one of the reasons they were able to get their boards is that the American Board of Surgery, once APSA was formed, said, “You now have a surgical organization,” which was a pure surgical organization, “and we will recognize you and have some kind of a board.” And as it turned out, initially it was not a board, it was a certificate of special competence.

Now, what happened was that the directors of the American Board of Surgery got together and decided who should be on the initial pediatric surgery committee. They said, “Well, that’s easy.” Harvey Beardmore, I think at that time, was president of APSA, and Judson Randolph was president of the surgical section, or it was vice versa, so they would obviously be in. And then they wanted one pediatric surgeon at large. Well, the head of the American Board of Surgery at that time was Dean Warren, and of course Dean Warren was an old friend of mine, because he was my chief when I was the first pediatric surgeon in the University of Miami. And he said, “Well, we need somebody who can shoot his mouth off a bit and fight the establishment. Let’s pick a young firebrand. Let’s pick Marc Rowe.” And so I ended up as the third person.

Let me take a one-minute break.

[Recording interruption.]

DR. ROWE: The committee was made up of Judson Randolph, Harvey Beardmore, the chairman and me. But the chairman of the committee had to be somebody from the American Board of Surgery, a full-time director, so they picked Keith Reemtsma, who was chief of surgery at Columbia [University College of Physicians and Surgeons]. Keith always says that he is the true father of pediatric surgery, not Robert Gross or William [E.] Ladd. We used to meet, and at that time, for the first time, the American Board of Surgery decided that with pediatric surgery they would have a limited certificate, meaning that in ten years you had to recertify. So we not only were historic in the sense that we were having a certificate of special competence, but it was a limited one in that you had to recertify. So we were actually the first to have to recertify.

There was a lot of work to be done. The first thing we needed to do was — The board had decided there would be no grandfather clauses in it, that

everybody had to take the exam. So we would meet at various times at hotel rooms to plan this. One day we went to the hotel room, and all of a sudden Jim [James W.] Humphreys [Jr.], who was the executive director of the board, showed up with his secretary and with a packet. It was exams. He sat down the three of us, not Keith, and said, "Since you're going to be the first pediatric surgeons with boards, you have to take a board." So we looked at each other and kind of laughed, figuring this was going to be a joke.

But what they had done was they had a computer search the entire questions bank of the American Board of Surgery for anything to do with children and infants, and they made up an exam via computer, without even looking at the questions. And so they told Jim, who used to be a general in the Army and was a rather strict guy, to administer the test. He sat us down, pulled out a stopwatch and said, "You can break the seal." We opened it up, and the first page was all EKGs [electrocardiograms]. The second page was all orthopedic pictures of bones. And I began to feel sweat run down my axilla. [Laughs] You had nothing in the room, and this actually was a very difficult exam, which they graded. Fortunately, the three of us passed.

And then we had to make some decisions. The first decision was, how do you qualify to be a pediatric surgeon? In other words, qualify to take the exam. That became a huge, delicate question because there were threats of lawsuits if you were not qualified and therefore couldn't take the exam. So we sent out applications, and certain people refused to send in the applications. One of them was Orvar Swenson, the other was Robert Gross. Almost all the others agreed, including Clatworthy, Ravitch and so on.

We decided then we would have the first exam with the American Pediatric Surgical meeting in Puerto Rico. That examination would be the first one. What happened was we had to decide what to include in the exam, and it was a blank page. We had never done a pediatric surgical exam of any sort, and we had to try to decide what was the essence of a pediatric surgeon. And then we had to generate, just the three of us, all the questions for the first exam. That took us literally months. We finally got that done.

The first exam was interesting, because — just one story, which maybe shouldn't be necessarily included, but it always struck me because it gave you some idea of those days. Mark Ravitch took the exam, and Mark Ravitch walked in and sat in the front seat. He laid out his pencils, and then he laid out three big cigars. Sitting beside him was some pediatric surgeon from New York. Dr. Ravitch immediately picked up the cigar, lit it up and blew smoke at this guy, surrounding him. Jim Humphreys and I were standing out as monitors in the back. After about five minutes, this guy ran up and said, "Dr. Humphreys, Dr. Humphreys, there's a man there who's smoking a cigar, and he's suffocating me." And Jim Humphreys looked at

him and said, “This is the American Board of Surgery, not American Airlines. Get back there and take the damn exam.” [Laughs]

DR. GROSFELD: Obviously he wouldn’t be able to do that now.

DR. ROWE: No, that was a different time. Anyway, so that was the way the board went.

DR. GROSFELD: And so pediatric surgery was the first board that had no grandfather clause.

DR. ROWE: It had no grandfather clause. It had a self-destruct certificate, and it was the first one that had a certificate of special competence. That was before sub-boards and so on.

DR. GROSFELD: And because this was something new, pediatric surgeons were the first group of surgeons in board history who would have to recertify?

DR. ROWE: Yes, that’s right. Ten years. You know, at that time there was a TV program called *Mission Impossible*. Similar to what the instructions in that show were, they said, “In ten years your diploma will self-destruct and you’ll have to take it again.” That was very innovative. During that time, they were beginning to just start talking about in-service examinations.

DR. GROSFELD: Well, for many years obviously, you’ve had a great interest as an educator. I note from your resume that you also spent some time as the pediatric surgical representative on the Residency Review Committee for surgery. Tell us about that experience.

DR. ROWE: Yes, that was a very interesting experience, because it got me involved in a project that became of considerable interest to me. It happened like this. As you know, the residency review committee, besides reviewing general surgery, also in those days did plastic surgery, vascular surgery and pediatric surgery. I did all the different ones, but I always did pediatric surgery. Donald Trunkey was also on the residency review committee, and we were reviewing a program and were talking about the number of tumors they did in this particular program. They had done no Wilm’s tumors and only one neuroblastoma. And I said, “That’s too little oncology surgery for a training program.” And Donald Trunkey got up and said, “Compared to what? To your program or to what?” And I said, “What do you mean?” He said, “Well, what’s your standard? You know, in general surgery we have the essential components of general surgery, and we have what percentile you are on it and so on. You guys don’t have a damn thing to compare it with.” He was really pretty adamant about it. So I said, “Well, if you give me a little time and a little money to get some help, I’ll do a

survey. I'll find out what the averages are, and try to help set up essential components in pediatric surgery, and try to get percentiles." So he said, "Okay, you're on." And that's how I got involved with sending out surveys to training directors and trying, for the first time, to develop numbers and percentiles so you could get an idea of what pediatric surgeons were really doing, and what the averages were. That's how we started that.

DR. GROSFELD: Was that a worthwhile experience, sort of observing what each of the training programs was like, since they had to be reaccredited over a period of time to be able to continue to train young surgeons?

DR. ROWE: Obviously it put me in a rather controversial position, but our whole point was to take all the emotional content out of it and just try to get some really hard facts. Of course, it's a difficult question. How many cases do you need to perform so that you can send out a resident and say that for a particular surgical procedure he is competent? How many procedures does it take? Of course, that's an extremely difficult question. I think that the whole experience was fascinating to me, because I found out that for a lot of the cases we talk a lot about, for example, let's say operations for intersex, it turns out the average pediatric surgeons did either a handful or none. And so, in some ways it was sort of like a cold splash of water on your face. It began to give me an idea, at least nationally in training centers in large pediatric surgical centers, what the pediatric surgeon was actually doing. We tried, to some extent, to also get an idea of what the pediatric surgeon in practice was doing.

You really had two factors. One was, what are practicing pediatric surgeons doing, actually? What cases do they do, and how many they do? And then, the second question was, how many cases does a trainee need, so that when he finishes his residency and gets his certificate from the [American] Board [of Surgery] in pediatric surgery, you can say with confidence that he is a well-trained individual and can handle the various problems? And that question, I think, is still evolving, of course.

DR. GROSFELD: Do you think there are enough pediatric surgeons? What do you think about the manpower issue in pediatric surgery?

DR. ROWE: You know, I've really gone full circle on that. I think at first I figured we shouldn't have many. I mean, you know, there are basically two issues. One is that if you have too many, you've got — The pool of pediatric surgical patients is diminishing for a number of reasons. The birthrate isn't increasing, but the number of pediatric surgeons is. Also there are more people dipping into the pool that used to be pediatric surgeons. You have interventional radiologists, you have urologists, and pediatric urologists that do a lot. You have pediatric ear, nose and throat doctors, you have pediatric gastroenterologists, and pediatric pulmonologists

who do a lot of the things that the pediatric surgeon traditionally did. And so gradually, the tremendous diversity of procedures for the pediatric surgeon is less.

So the pool of patients has not grown, the number of procedures we do maybe has shrunk, and the number of pediatric surgeons has increased. And then the question comes up, does that mean that all pediatric surgeons are going to do less, or that if they don't do less, that the amount of what we call index type cases becomes less and less, and that the majority of pediatric surgeons will mostly be doing appendectomies and hernias and so on? It will be a little different level of intensity of surgery.

I don't really know the answer. My impression is that the number is growing precipitously, but from my mail and other things, it seems like there still is a demand for pediatric surgeons. I haven't recently looked at the data to find out what these pediatric surgeons are doing, and how many of them are doing significant neonatal cases, oncology cases and so on. I don't know the answer to that. I've kind of drifted out of the field. Maybe you're more aware of that than I am.

DR. GROSFELD: You were awarded the Ladd Medal in 1996. That is something that is given to very few people, and it's an award that distinguishes you as someone who is very special in children's surgery in this country. What did it mean to you to be a Ladd medalist?

DR. ROWE: [Pause] That's a difficult question to answer. I mean, I obviously was proud. I was grateful for the recognition. I have to be honest, I was surprised. In comparing myself with many of the other Ladd medalists, I didn't feel that I perhaps made as many significant contributions as many of the other recipients had. It represents an important part of my feeling of happiness about my pediatric surgical lifetime. I felt when I left pediatric surgery, I was at peace. I miss it. I miss operating. I miss particularly working with the vigorous young and intelligent and idealistic young people. But I feel completed. I don't really feel that I have to continue to prove myself to myself or anyone else. I feel that I did the best I could, and that it was time to continue my life, and not retire, but direct my energies to something else at the end of my career. And I think that the Ladd Medal was one of the things that sort of gave me this feeling that I have accomplished many of the goals I set out in pediatric surgery. Not that the award was the goal, but to be able to be the best pediatric surgeon I could be, and to try to maybe put a couple of little stones on the wall of knowledge. And I felt good about that. That's not really a very good answer, but it's a difficult question.

DR. GROSFELD: Oh, it is a wonderful accomplishment. I also noted that you were president of the American Pediatric Surgical Association, as well. Another

major leadership role in the field of pediatric surgery in the United States, so obviously somebody thought you were doing the right thing in other areas.

Now, over the years, Dr. Rowe, you've been a strong participant in the educational process in pediatric surgery, and in fact during your seventeen years at the Pittsburgh Children's Hospital, when you were the surgeon-in-chief, you also served as a director of the training program. Tell us a little bit about some of your trainees. Who were the ones, who came through the Pittsburgh program when you were the chief, who left an impression on you and have been productive in the field of pediatric surgery?

[Recording interruption.]

DR. ROWE: If I may, let me just say a few words about APSA. What had happened with the American Pediatric Surgical Association, and how I got involved. As you know, Tom [E. Thomas] Boles [Jr.] had been interested in starting a purely surgical, pediatric surgical organization. He invited 15 young people to the airport motel in Chicago for a series of meetings to discuss it. He picked me as one of the people, and we started the original committee for APSA. We'd fly in Friday night, stay overnight through Saturday, and then fly back. Through a series of meetings, we finally got to the point there were a number of important people who were adamantly against a new pediatric surgery organization, and we ran into a lot of trouble. One of the things we asked was, if we were going to have this, how could we get instant notoriety, so to speak? In other words, instead of it being sort of a small sort of outlier type of an organization, how could we get it into the mainstream right away?

We decided the way to do that was to get the first president to be Robert E. Gross. So we delegated a small committee to go see Dr. Gross. And Dr. Gross, of course, accepted it to be the first president, and then that actually started the ball rolling. After that we all stepped back, and the senior people, the Clatworthys and the Koops and so on of the world, took over the organization, and we disappeared into the background for quite a period of time while the more senior and experienced people took over the organization. And it worked quite well.

It actually turned out that the first real official meeting under Dr. Gross was in Bermuda, and I was the local arrangement chairman. He picked me, even though I didn't know anything about Bermuda. I went out there, and I'll never forget that Dr. Gross called me up and yelled at me for about twenty minutes because I had paid my own way and paid for my own hotel. He said, "Young man, you don't really know how things are done."

And so that was my experience with APSA, with the beginning of APSA. I was one of the founding group. But then, once APSA got started we were

sort of the young people, and we stepped back for more senior people to take over till later. So late in my career I finally got into a leadership role in APSA.

To get back to my residents, I've been very fortunate. The first resident I had, actually was probably the best technical surgeon I had ever trained, and I didn't actually train him in surgery. He came as an extremely accomplished surgeon. That was Walter [S.] Andrews, who later then trained with Tom Starzl in transplant surgery, and really was the first pediatric transplant surgeon, who both trained in pediatric surgery and in transplant. He was a superb, superb surgeon, which Tom Starzl immediately recognized, and recruited him into transplant.

Other interesting people whom I've trained include, Sam [Samuel D.] Smith, who is chief at Arkansas [Children's Hospital] now, and someone who's also interested in translocation and sepsis. Sam in particular is a natural-born teacher who has a personal interest in all his residents. He immediately recognizes them as family, and he individualizes his education for each particular resident. I still talk to Sam a lot. He's very philosophical. He's an interesting guy in that he's one of the people who realizes that teaching requires some education. He's actually taken education courses and really attempts to run his training program in a very personalized, educational way.

Another interesting person was Henri [R.] Ford. Henri is a superb researcher and a very conscientious clinician. He's a natural leader, an interesting person who came to the United States from Haiti where his father was a minister. Did not speak English, lived in New York, and got interested in education by being recognized by a committee at Princeton [University], which took kids who lived in run-down areas and trained them in the summer to be eligible for college. Eventually from that, he went on to Princeton, and then to Harvard Medical School and so on. He is an extremely highly motivated and hard-working individual, who is very goal directed.

Who else can I think about?

DR. GROSFELD: Obviously both of them are training program directors.

DR. ROWE: Yes. Let's see, who else is there?

DR. GROSFELD: Dr. Ford is in Los Angeles.

DR. ROWE: Yes. And another very interesting pediatric surgeon is Craig [T.] Albanese. Craig is another superb technical surgeon, very innovative, who went on to work with [Michael R.] Harrison in San

Francisco, became very interested in both fetal surgery and in minimally invasive surgery, and I think has made some interesting contributions.

Then there are a number of pediatric surgeons, such as, let's see, [James P.] Miller, who's in Fort Worth, who went into private practice, who actually was another person who's a superb clinician and technical surgeon. Actually, I tried to recruit him to stay on in a full-time faculty position without success, because he really liked to be more into the technical aspects of surgery and the clinical aspects than in the teaching and research. There are several other people along the same line that have gone into practice, so I've sort of had some people who've gone into straight academic surgery, while others have gone into practice.

DR. GROSFELD: With the changing trends in medicine in the United States, and a different pipeline where half the medical students currently are young women, and certainly new immigration waves have provided a variety of different ethnicities in the medical school class. How do you think that affects pediatric surgery in the future? Have women played a big role in pediatric surgery?

DR. ROWE: I think they're playing an increasing role. I mean, there have been pediatric surgeon women from the really early history of pediatric surgery. Now there's an increasing role for them. I don't really see that as a problem one way or the other. I think that what happens is that, whoever gets to train in pediatric surgery is almost a Darwinian selective process. It takes a certain amount of motivation. I think most people who tend to go toward pediatric surgery have a basic love for children, and they have a desire to fix things. They still want to be as complete a general surgeon as they can.

[END TAPE 1, SIDE B.]

DR. GROSFELD: This is tape number two of Dr. Grosfeld's interview with Dr. Marc Rowe.

DR. ROWE: To get to the point at which you could be considered to be trained in pediatric surgery, there are two factors. One, I think you have to have certain characteristics, both intellectually and philosophically, so it's a select group. The process of getting there — the surgical residency, the interest in the academic aspects, perhaps some surgical research experience, and perhaps even some writing, the competitive urge to be able to get a residency — tends to change the person too. So you've got a selective process whereby certain people come to the fore, and then through the process they become different people by the time they enter a pediatric surgery residency. I don't worry about what their country of origin is, or whether they're a female or a male. I think it's the person that arrives. I think by the time they arrive at the pediatric surgical process, they've already sort of selected

themselves, and have been pre-selected. I don't think that's going to change. You have to be a certain kind of a person to want to be a pediatric surgeon, and so it's a selective process.

DR. GROSFELD: What do you think about the current limitation of working hours on the training of a pediatric surgical resident?

DR. ROWE: Well, you know, we used to have a motto in our department, *What doesn't kill you makes you stronger*. That was perhaps the old field and the old way of looking at it. And perhaps there is some data that shows sleep deprivation and so on has a bad psychological and physiological side. However, I'm in a very interesting position. I'm a consumer now instead of a provider of medicine. And the most striking thing in trying to obtain medical care is the absolute compartmentalization of medicine, and the actual barriers between the physician and the patient, whether it be a PA [physician assistant] or whether it be his receptionist. In other words, the doctor looks at one part of you. You have very little opportunity to communicate with him. You usually do it through a third party, the PA or the nurse practitioner. There is a very definite trend toward a limited involvement in the patient, and there is a certain amount of looking at medicine as a business, and a very strong consideration by the doctor of his own quality of life.

Now, maybe that's realistic, and perhaps that's even better, but it makes it a little bit difficult. I'll give you an example. My son's a trauma surgeon. He's board certified in critical care, as well as general surgery. He works in a very large and extremely busy trauma program with seven trauma surgeons. When he's on, he stays there 24 hours a day, overnight and so on, and works very hard. But when he's off, he's off. So I asked him, what if he operates on a huge, complicated problem and the next night, when he's off, the patient has trouble and has to be brought back to the operating room. What happens? And he says — and he's a very conscientious person — “That's what I have partners for. And if you trust your partners, they take care of it.” And I said, “Well, do they call you?” He said, “No, not necessarily. They take care of it.”

Unfortunately, I was of a generation where, when you operated on a patient, you became, if you will, bonded to that patient. Somebody once told me that there is a Chinese proverb that if you save somebody's life, you're responsible for him for the rest of his life. But by the same token, if I operate on a patient — and as I ran my program — if your patient that you operated on has a problem, I felt it was your responsibility to solve that problem since you were the operating surgeon.

And so this whole idea of incredible continuity and spending time — Dr. Clatworthy used to talk about handcuffing the resident to the sick baby's

incubator. But this knowing the baby or knowing the patient, and being with the patient and not by a time clock or anything, makes it very difficult. And without saying I wish back the good ol' days, as a medical consumer I am greatly saddened in watching my age group here in Sanibel, which I call God's waiting room. I share with them their encounters with the medical profession, which is perfunctory, which is limited, which is very compartmentalized, and there is nobody who looks at you as a whole patient.

I think that this idea about continuity of care and responsibility is better than, at a certain time a bell rings and the patient has to leave, or the physician has to leave, no matter what the problem is. Besides the problem of missing so much that you might observe about your patient by being with him, I think it breeds a different kind of approach to medicine. One that I'm uncomfortable with, both as a past physician, and as now a potential patient from my own experience. I literally have spent a huge amount of my retirement time solving medical problems for people by being sort of an intermediary between the medical profession and the patient, and trying to get their problems solved, to the point where I almost feel that you need to have a group of people to serve as an intermediary.

It starts with the training. I mean, I remember when I was a visiting professor in Australia, and they announced that a very rare problem was being flown in, and 15 percent of the residents picked up their bags and went home. I asked where they had all gone, and was told, "Well, they can't stay because their time is up." At that time I thought that was very foreign that the residents didn't stay around to participate in this very challenging case. But it seems like maybe it's now what's happening, and I'm not sure that I'm comfortable with it.

DR. GROSFELD: Tell me a little bit about the intrusion of medical and pediatric specialties into the areas that pediatric surgeons once considered their domain. In the beginning, when most of us trained and you trained, the pediatric surgeon was considered the man for all seasons, if you will. He was able to do oncology, trauma, neonatology, general surgical procedures, urologic and thoracic procedures and the like. With the era of specialization at hand, has that influenced what a pediatric surgeon does in the present era?

DR. ROWE: Oh, of course it does. I think the first thing is that it's already happened. I mean, you know that and I do. There are a couple of aspects of it. The first aspect of it is that we have to be brutally frank if we're going to be the person of all seasons. Have the pediatric surgical training programs in the United States trained residents to be surgeons of all seasons? That's a key question. I used to say, "Okay, if we're going to train our residents to take care of their own patients in the ICU, we have to train them." Let's take an example of a ventilator. If you go out after you finish your training program and you say, "I want to run all my patients in the

ICU.” But in your training program you weren’t trained, let’s say, in running ventilators and knowing how to work them. But you say, “I want to take care of my patients. I don’t want the neonatologist, the intensivist, touching my patients.” The patient needs a ventilator, and they say to you, “Okay, go ahead.” And you look at the dials, and you don’t even know how to turn the dials or turn it on, you’re in bad trouble.

So the first point is that you can’t claim to be a surgeon of all seasons if you’re not trained to be a surgeon of all seasons. And the question is, do all training programs, or had all training programs trained the person to be a surgeon for all seasons? And the answer is, from my experience — I say this with much sadness, and I know it has made me a controversial figure — from the data that I’ve looked at, the answer is absolutely no. So the first answer is, maybe in the good ol’ days when there were only pediatric surgeons around that was the case. But now the truth of the matter is, if you want to do urology, and there are pediatric urologists that are very well trained in urology, the truth of the matter is that they can do it better than you can because you haven’t done it. It doesn’t mean that you *couldn’t* do it well. So that is one of the problems.

The same thing with ear, nose and throat. If you are no longer training your people in head and neck surgery, and if you look at the data that I collected way back on head and neck surgery, most pediatric surgeons were not doing a lot of head and neck surgery. So therefore they really didn’t have the expertise that they should have. So I think that has become one of the problems.

I think that the real problem and the real advantage of pediatric surgeons is that pediatric surgeons still know a lot about children, and that’s a lot different than some of the other specialties who take care of children, like pediatric cardiac surgeons or pediatric urologists. I think that almost all pediatric surgeons, when they finish their training, see the child as a whole, understand children, and they understand growth and development, they understand the physiology of children. They’re a children’s doctor. And I think we train our pediatric surgeons still to see the baby as a whole, not as a urogenital system, and not as an ENT [ear, nose and throat] system and so on.

I think that pediatric surgeons are still truly general surgeons, but I think that we’re gradually getting the sphere that we’re operating on narrower and narrower. I haven’t looked at the statistics to see if they’ve changed significantly from when I was at that, about what a pediatric surgeon actually does in the course of a year. Perhaps you know.

DR. GROSFELD: Well, they usually need to do over a thousand cases, actually increasing the number of cases required for training.

DR. ROWE: **But what about the kind?**

DR. GROSFELD: The distribution of the cases is more toward a general pediatric surgical trend, rather than inclusive of some of the subspecialties. I think your concern about that is real.

Looking back, how satisfied are you with your career in pediatric surgery? If you had to start all over again, what would you do? That's a question young medical students are asking surgeons today. If you had to do it all over again, would you be a surgeon? If *you* had to do it all over again, Dr. Rowe, would you be a pediatric surgeon?

DR. ROWE: **Oh, absolutely. Absolutely no question.**

DR. GROSFELD: You're a happy camper with that one.

DR. ROWE: **Oh, that one's an easy one.**

DR. GROSFELD: Okay. Let me ask you some specific questions about the progress in pediatric surgery. What have been, in your thoughts, the major clinical advances in pediatric surgery since you started as a young resident in Columbus?

DR. ROWE: **Well, I think some of the major advances have nothing to do with cuttin' and sewin'. Some of the major advances are, well first the transistor and the whole microprocessing era introduced the possibility of doing things we never could do before in order to be able to be more aware of our patients, such as monitoring, such as computers and so on. The advent of ventilators and effective ways of maintaining a patient respiratory-wise has improved our care of critically ill babies.**

I think total parenteral nutrition was an important advance. I remember when I was a resident we had patients with gastroschisis. If you couldn't feed them within a certain period of time, you used to see them get weaker and weaker because you couldn't get enough calories in them, and finally they'd be vulnerable, and then the bugs would get 'em. And that's one of the reasons I got interested in sepsis. Most babies, we found, died of sepsis because they were debilitated and vulnerable. Total parenteral nutrition has made an enormous difference in pediatric surgery. So I think that the understanding of neonatal physiology has made an enormous difference. Advances in immunology, of course, have changed the whole face of transplantation of organs. I think that the advent of more effective critical care made a big difference. The advances in anesthesia, of course, made a huge difference. The respiratory management in babies in particular made

an enormous difference, and the understanding of nutrition made a difference.

Other than that, of course, more effective control of sepsis has helped. And then if you look at specific aspects of pediatric surgery itself. You know, the opening up of fetal surgery I think has done a number of things. Number one is, it's increased our knowledge of the fetus as a surgical patient in the transition to the neonate. It's helped us to understand some of the major congenital malformations. Of course, something that started as I was leaving was minimally invasive surgery. This changed the face of pediatric surgery enormously.

Did you have any other specific things in mind that you thought?

DR. GROSFELD: Well, aside from minimally invasive surgery, were there any other technical innovations that contributed to the care of babies?

DR. ROWE: I think magnification was important. Instrumentation was pretty good as it was, but the addition of that, and even such things as headlights and better lighting when working in a small cavity has been very interesting.

DR. GROSFELD: Has extracorporeal membrane oxygenation [ECMO] been a good addition?

DR. ROWE: I think that with proper indications it's been an important adjunct, and I think it's served to tide some patients over so that they recover, much as one does with dialysis. I think in that way, it was an important contribution.

DR. GROSFELD: You mentioned that the advances in neonatal care have been important in the recognition of the transition from fetal life to life after birth, and the fact that with the advent of smaller and different types of ventilators, such as oscillators, means that very small babies can survive in the current era. Whereas in the past, the premature infant often met their demise, currently children's surgeons are faced with dealing with the care of very small immature babies. Do you have any concerns about the significant number of impaired patients that occasionally are saved, and what their outcomes are in the long term?

DR. ROWE: Yes, I think that's one of the interesting things about a pediatric surgeon. You actually grow up with your patients. And if you're honest with yourself, when a mother wheels a 10-year-old child who is spastic, and perhaps can't see, and has difficulties speaking, and has a gastrostomy into your office, and you think back to your technical triumph, and then you look at the patient ten years later, you say to yourself, *My God, what have I done?* Then that brings up a lot of issues about quality of life and

how you can interpret quality of life. But I think that if you're a pediatric surgeon, you grow up with your patients, and sometimes that's a remarkable thing. You can have an ex-biliary atresia who's six-foot-four putting his hand on your head when he's 19 or 20 years old. But you also see what I have alluded to, blind children, children with hydrocephalus with shunts that have very little alertness and so on, and that becomes a question.

You know, at one point in my life I said, "If somebody brings something that's broken, I'm a mechanic. I just fix it. I'm not here to judge whether they should live or die. My job is if something is broken, to fix it." I think that really was a cop-out in a lot of ways, but I think that was one of the ways that I looked at it. I'm not sure that that's the correct way. I've thought about it a lot. If you have a baby — you know, this got back to C. Everett Koop back in the old days when he was very adamant about treating these babies — you talked about premature babies, pre-term infants, etc.

Okay, you can have a pre-term infant whose level of immaturity of his blood vessels in their eye, of his gut, of his lungs and of the small bridging vessels in his brain is extremely fragile and immature. If you can tightrope by that period and are able to handle those various things, you might be able to get a baby, by the end of the time, that will play catch-up ball, and be a good baby, and then will be a productive adult. But sometimes you're also going to have a baby, particularly if you have an intraventricular hemorrhage of a significant grade, that no matter how hard you try, and how innovative medical care is, and how much new studies show brain plasticity and regrowth, you have a baby that is incredibly disadvantaged. Is that a good thing?

If that's what you're asking me, it begs the question, because the thing is, if somebody brings me a premature baby with necrotizing enterocolitis — which is basically what you're saying — who's had a grade four intraventricular hemorrhage, and the pediatricians say, "Well, the child has a perforated bowel. Aren't you going to operate on him?" Because the thing is, if you get a pre-term baby with a perforated bowel, that's an isolated surgical lesion. And if it's a localized perforated lesion — looking at your data, as well as some of the data we looked at — and he has a segmental one, rather than extensive necrotizing enterocolitis, he has an excellent chance of surviving. The question is, should you withhold that surgery? Because if you withhold the surgery, what happens is that child will most likely die.

Now, what some very smart people have done is have a cop-out. They put a peritoneal drain in, and then they've done something. And as a matter of fact, some of those children will live. But the question is, should you do a laparotomy? What I've done is, if they were in bad shape, I usually drained them, and then watched them a while to see which way they went. If they continued to do well, I continued to take care of them. So I've suggested to

the pediatricians when they refer me a patient with a perforated gut, that that isn't their major problem, and the best thing is to just let nature continue on.

DR. GROSFELD: Those are always difficult questions, and ethical considerations certainly play a role in decision making.

DR. ROWE: Let me take a break. I just want to walk around a bit.

[Recording interruption.]

DR. GROSFELD: Okay, we were talking about certain ethical situations and recognizing that the field of pediatric ethics is a gray zone. It differs from state to state. And even though there are specific laws covering the right for a baby born alive to survive and be treated, I think the Academy per se looks at infants who are 23- and 24-week gestational age patients and indicates that the decision should be made, "in the best interest of the patient," which kind of gives you a little bit of flexibility in deciding. However, if you look at the law per se, the letter of the law suggests you have to treat that baby. So there's a discrepancy between what's, "legal" and what's in practice commonly in our country. And this varies significantly from state to state. So it's a problematic area. I was just interested in some of your thoughts concerning ethical problems.

Now, let's shift to another area I thought we should cover today. Over the years, obviously you have developed a lot of associations and relationships with people both in the pediatric field, as well as in pediatric surgery. But during your career, who were the most prominent people you worked or collaborated with in trying to achieve the goals that you set for yourself? Some of these individuals were in the department of pediatrics and some were fellow surgeons. Give us some insight into that.

DR. ROWE: Like everybody else, I think that the one who made a huge impression, and who introduced me to my love for babies was Dr. Clatworthy. Dr. Clatworthy and I always joked about the fact that we're not pediatric surgeons, we're baby surgeons. And that was, to us, a badge of honor. He was the one I told you about, how we used to play the game together, and in his later years we talked a lot about it and philosophized about babies. So he was tremendously influential in my life.

Another person who was very influential was actually Robert Gross. It was interesting that Robert Gross, after he retired, sort of went off and was sort of out of the field. And because I always admired him, and he had such a tremendous effect on my life by watching him when I took that fellowship and reading his book, I got my courage up one day when I was in Miami and chief of pediatric surgery there, and invited him down. He said, well, he was out of the field. I said but you know, it was so important because we had a

seminar in the department of surgery. He came down, and he did a lecture. And I found out he loved fishing, so I took him fishing down the Keys. Then that became kind of a tradition. He'd come down with his wife, and my wife and I, and we'd go fishing down in Islamorada on a boat called *The Blue Chip*. That had a tremendous effect on me, because we'd sit out there on the boat, and he'd talk about cardiac surgery and about his experiences with the various people in the history of pediatric surgery. I'd just sit there and listen to somebody who to me, was really my idol. And so that was a very interesting episode in my life.

[END TAPE 2, SIDE A]

DR. ROWE: So he had a big effect on my life.

There were a lot of other people. There was a generation of people who were close to me, and whom I related to. There was you. Jim [James A.] O'Neill [Jr.] was another. We were in similar areas. We went through Columbus together, and we spent a lot of time seeing each other, talking to each other, making plans, arguing, discussing, philosophizing and comparing family triumphs and new kids and things like that, and working together on books. And with you and your journal and working together, that was very important. Being together with you, and particularly Jim on the editorial board of the two-volume textbook, and when we did the essentials, that was a great experience, and very satisfying.

Then there was Pepe Boix-Ochoa who became my European pediatric surgical friend, and he calls me, and I call him "brother." I met him at a BAPS [British Association of Paediatric Surgeons] meeting. I shared a taxi with him, and he looked at me and said, "You're American, aren't you?" And I said, "Yeah." And he said, "Well, all Americans are crazy." And I said, "Why is that?" He said, "Because they all have guns. Well, what we do is we only give out guns to our police, and then they're happy and nobody else is happy." And then he said, "Do you want to go for a drink?" And I said, "Yeah." And we became friends.

We kept on visiting each other, and then he decided we should form a club of two people, because when we'd go to BAPS we couldn't get in with the inner group. So we formed our own club called SOBI. And I asked him what SOBI meant, and he said, "Son of a Bitch International." [Chuckles] He actually made a flag and he used to walk around with the SOBI flag, and a number of pediatric surgeons thought it was a real organization and asked to join. But Boix-Ochoa was a very interesting friend and still is. We spent a lot of time philosophizing about education. He'd come and visit with us, and we'd go out on a boat and talk a lot about esophageal reflux. We both had a real interest in neonatal surgery, and we spent a lot of time traveling together

in Latin America, giving lectures there, particularly on fluid and electrolytes, and diaphragmatic hernia and neonatal physiology.

Harvey Beardmore had a tremendous influence on me. When we were on the committee together on the Board, we used to meet in every little town. Harvey was very interesting. He was a gourmet and a French wine connoisseur, and so he would always take me out, saying that he thought he should try to get a little culture into a completely uncultured, uncouth individual. He would take me to these various restaurants, order wines and gourmet foods, and then we would have long, philosophic discussions about the future of pediatric surgery, pediatric surgical boards, APSA. I missed him when he left pediatric surgery, because he and I got to be very close friends.

DR. GROSFELD: We had the pleasure of interviewing Harvey Beardmore for the history section of the American Academy of Pediatrics just recently. It was very timely in that he unfortunately had had a stroke just before the interview, and he was not exactly himself at the time. But the interview was accomplished, and then shortly thereafter, he passed away, which was unfortunate. Harvey played an important role, as you alluded to previously, in regard to acquiring board certification for pediatric surgery. And it was of interest because American pediatric surgeons had tried to do that on three prior occasions, but it was a Canadian who was able to get it done. [Laughs]

DR. ROWE: He always joked about that.

DR. GROSFELD: Right.

Were there any people on the pediatric medical side who were of importance to your career? You mentioned Dr. Arcilla at the University of Chicago.

DR. ROWE: Rene Arcilla was there. Very important.

DR. GROSFELD: You were in Miami for a considerable length of time. You were there from 1968 to 1981, when you moved to Pittsburgh. Were there people in Miami and Pittsburgh who were helpful in promoting pediatric surgery?

DR. ROWE: Well, my time in Miami was rather controversial, I think, for a number of reasons. And one problem was that they never had pediatric surgery at Jackson Memorial Hospital at the University of Miami, and you know what happens in a lot of places. I did the first diaphragmatic hernia that survived — I mean the first esophageal atresia in Miami that survived. They didn't have a neonatal center. I set up their neonatal center. I set up the Florida regional newborn program with Jim [James L.] Talbert, who was at that time in Gainesville. I was trained by Bill Clatworthy, as you were, to be a complete pediatric surgeon. Well, I came to a place where they

never had pediatric surgeons. The general surgeons were doing pediatric surgery, and the pediatricians were taking care of them. And along came this guy, who said, "I'll take care of my own babies. I want my own beds. I want my own operating time. And I'll run the ventilator, I'll order the fluid and electrolytes, and I'll feed the babies, and I'll take care of them. Thanks a lot." That went over literally like a lead balloon, because basically the whole way of treating the baby was that you operated on him, and then the pediatricians took care of the patient. You were simply an episodic experience in the baby's life.

And so when I came there, there were a lot of barriers to be broken, and I didn't get a lot of cooperation from the pediatricians, nor were there any assigned pediatric surgical beds. All pediatric patients, including surgical patients, were under the direct control of the chief of pediatrics. There was no pediatric surgical chief as such, so that I have to say, although I had good working relationships in many ways with some of them, I was more of a controversial figure in their eyes. Somebody who was perhaps exceeding my level of expertise by thinking I could manage the complete baby.

Having said that, there was one person who was a very, very, extremely skilled and knowledgeable neonatologist by the name of Eduardo Bancalari, who was a neonatologist of some note, whom I became very close friends with, and who originally was a pulmonologist before he became a neonatologist full time. He and I worked closely together, and it was with his help and intervention that I was allowed to build a separate newborn surgical intensive care unit alongside the newborn medical intensive care unit, and was able to do that successfully in Miami. So I would say that the only real ally I had was the neonatologist. Even though I tended to, in their eyes, poach on their territory, in most places I've been, I've got on very well with neonatology, and often got invited to talk to some of their meetings, which I always enjoyed.

When I went to Pittsburgh, it was different. At that time, Tim [Thomas K.] Oliver [Jr.] was chief of pediatrics, and he actually had a history going back to Columbus. He was actually a friend of Bill Clatworthy. Tom also had an interest in neonatal thermal regulation and had done some very seminal research on it, so we already had a lot of association. When I got to Pittsburgh, it was an extremely difficult time in my life because there was an extremely big schism in Pittsburgh between the full-time pediatric surgeons and the private pediatric surgeons. Ninety percent of all the full-time faculty in pediatrics referred to the private pediatric surgeons, and 100 percent of the private pediatricians referred to the private pediatric surgeons. Only ten percent of the surgery was done by the full-time faculty in pediatric surgery. So the residents and everybody referred to them, rather than a full-time pediatric surgeon. I inherited that. A full-time faculty member in pediatrics

would not refer to the university pediatric surgeon, but to the private pediatric surgeon.

And Tim Oliver, when I got there, was somebody that helped me to gradually change that, and the full-time pediatricians began to refer patients to me more frequently. Fortunately, many of the patients survived and had good results, which helped. And gradually, through his help and support, and the help of the people in neonatology, I began to get the bulk of the neonatal surgery, which was before dominated by the private group, to the point where I was doing the bulk of it. Since the results worked out well, I was able to then set up a neonatal surgical unit. Actually I became in charge of the whole neonatal program at Children's Hospital, even though I was a pediatric surgeon, with the support of the neonatologists.

And at Pittsburgh, particularly with Tim and with many of the gastroenterologists, I got an enormous amount of support. This made it possible, after ten years, to incorporate the private group into just that one pediatric surgical group in the entire Pittsburgh area, which then made life very easy for me. But it was a long, hard struggle. If it wasn't for the allies I got, actually in pediatrics, it would have been a very lonely struggle.

DR. GROSFELD: Now, eventually you were able to pull the entire group together into a single organization.

DR. ROWE: That's right.

DR. GROSFELD: A one track deal.

DR. ROWE: I think the reason for that was that we began to dominate all the neonatal surgery. We then began to get a lot of redo surgery and stuff that people didn't want to deal with. I was very fortunate to be able to talk a foundation developed by a mining company [oil and gas] in West Virginia called the [Claude Worthington] Benedum Foundation into giving me \$1.5 million to develop the Benedum Pediatric Trauma Center. And so gradually we would get referrals in from that. Then when the private groups began to recruit other people, they would look at where the action was. All of a sudden the action was with the university group, and the private groups were having more and more trouble trying to recruit people to their practice.

So eventually, although at times our relationship was rather antagonistic, I finally decided that it was to the detriment of the program, and it was to the detriment of children's care. So even though I had very legitimate reasons to be bitter, I invited them to dinner with a white flag, so to speak, and set up the deal that was very advantageous to them, and made concessions to their practice in order to incorporate them and try to develop what would be a

win-win situation. I sort of controlled my pride to an extent and decided that I should just forget what had gone on before, because this was an open wound started well before I ever went there, and resulted in areas of extreme hostility. I just figured this was not good for anybody. So it worked out well. The group joined the full-time faculty, and my years in Pittsburgh did not have this huge schism, and I think it worked out to the benefit of the program, the residents and the patients.

DR. GROSFELD: That's an interesting aside, then, to the practice factor in pediatric surgery.

Now, if you were a surgical resident at the current time, would you still choose to pursue a career in pediatric surgery?

DR. ROWE: It's an interesting question. The reason I liked pediatric surgery is a couple of things. Number one, I just like children. I mean, I feel comfortable with them, and I think because I like them and love them and feel comfortable with them, they like me. Maybe because I'm somewhat of a child in some respects myself. I like to roll around on the floor with them. I don't like to intrude on their space. Because they're children, I never intrude on them. And so I tend to get along with them, and for that reason, I wanted a career where I could deal with children. To me, when you look at a baby, you're not just looking at a baby, you're looking at a potential. I mean, you look at this baby, maybe as a little broken, and you say, "Here's a baby, and if I can fix this baby, who knows what this baby will do? This might be the one who cures cancer. This might be the one who finds world peace. Who knows?" I mean, my job was to get this little organism started to the best they could, and then it was up to them. It's like shooting an arrow in the air. Once you launch it, then that's doing it, and that's a tremendous satisfaction. So that drive is so basic to my personality that I think I would have trouble not doing something that involved children.

The second thing is, I remember once when I was a general surgical resident, I did a commando operation where I removed half of a guy's tongue and half of his neck and his jawbone and everything. Somebody stopped me afterwards and said, "Gee, that was a great technical operation." And I looked at him, and I said, "You know, I felt like I hit somebody with an ax." At that time, I sat down and said, "You know, I don't like surgery that destroys things. I really like to fix things." It was obvious to me that if I went into surgery, the surgery I'd want to do is either, hand surgery, plastic surgery, pediatric surgery, or at that time I was fascinated with vascular surgery, all of which fix things rather than take things out.

And so going through that kind of philosophy, it seems to me that at the time I was looking at it, pediatric surgery was perfect for a couple of reasons. It was dealing with kids, particularly babies, which I love, and it was an

unknown physiology. There was so much that still was uncharted. It was like all of a sudden finding another continent that was still fresh you could explore. Because when we started, there was still so much that was unknown. The technical challenges were great, and we were fixing things.

The question is, is that now the same, or are there other fields that present differently? Like, for example, let's say transplant. You know, we spent months and years trying to fix an organ that was no good. Now they can take it out like a carburetor and throw it in the barrel and put a new one in. I mean, we tinkered with livers with biliary atresia, while what these people do is replace them.

So the question is, if I were facing that decision now, would I become torn by transplant surgery? One of the things that doesn't have anything to do with kids that always fascinated, and still does, is hand surgery. At one time, I wanted to be a hand surgeon. It's just that that was a fascination to me, the whole technical aspects that I spent time on when I was at Boston City as the hand resident, and I always thought at one time I would do that.

So I don't know what I would do, because I'd have to explore pediatric surgery and say, "Can I still get the same satisfaction that I got then? Would I still be able to be a fairly complete doctor? When I get to a certain boundary in the body, do I have to jump by it and let somebody else take over?" Maybe that's true now, and maybe that might deter me. Is it still a fascinating, growing field where there are still many challenges? For example, if you look at transplant, and you look at the growth of immunology and all the things that are still to learn, that's exciting. There's still plenty to learn in pediatric surgery, too, but maybe not quite as much as there was when you and I started, when it was still a lot of virgin territory out there.

So I don't know what I would do. It would be interesting, because the person — I would be the same person, see. And the other thing is, it's hard to answer, because, you know, I'm a different person than I was then. When Gene [Eugene S.] Wiener died, I went to his memorial service. I flew in a little early, and I took a cab into the medical center, and didn't call anybody or anything. I just walked around the whole medical center. As I did, I thought about living by myself in Pittsburgh; fighting the battle against the private people; my wife and kids living away for year while they were trying to sell the house; working every day; being on call 24 hours; fighting the battle of building the neonatal center; fighting the battle to get the first grant in pediatric surgery at the University of Pittsburgh; having trouble with the cardiac surgeons; finding out that ECMO [extracorporeal membrane oxygenation] was actually a sort of cardiac surgery problem; finding out that all neonatology patients, neonatal surgical patients were neonatology ones and not pediatric surgical; and finding out that the full-time pediatric surgeons didn't operate. Then taking a deep breath and saying, "I'm going

to be like the Chinese. I'm going to make a list. One year will be the Year of the ICU, the next year will be the Year of the ECMO, and I'll gradually go through each one."

And I looked at that, and all that started coming back, and I realized that I'm not that person now. And as I am now, I couldn't probably have done what I did then, because I was different, because you change. And so when you asked me that question, I'm seeing it from my perspective today, and I don't know really what I would have said in perspective at that time. It really brought home to me how you change over the years, that hopefully you grow, but some of the things that you did then, you couldn't do now, and I'm pretty sure about that.

DR. GROSFELD: Well, it's obvious that we all have to adapt to change.

DR. ROWE: Adapt to change.

DR. GROSFELD: Change is inevitable in some instances. When you look back, it sounds like you had a pretty happy career as a pediatric surgeon. It seemed to be pretty fulfilling. Were there any major disappointments that you had? Were there things that you really wanted to accomplish that you just weren't able to get done during the time span of your career?

DR. ROWE: No. Let's take it in two steps. Let's start with personal. I was very lucky. I don't know how to do anything in moderation, so when I did pediatric surgery, I did it with every bit of my fiber. And as a result, to some extent, to a fairly large extent, I did not devote the same amount of time, effort, thought, philosophy and so on to my wife and my family. Now, my wife looked at that, realized that, and made a number of decisions. She decided that she would have to be a full-time mother, and she made a lot of adjustments. One adjustment was that we never would eat until I got home. Even if it was late, she kept the kids up. Then at supper, we would have a tradition. Everybody, including me, would talk about their day, and we would do that every night I got home, so that we always exchanged things. The time that I was home, and anytime we had off, it was always with the family. She never missed a dance recital; she never missed a football game; she never missed a karate tournament. She went to every one of them, and she maintained the family. As a result, the kids are still our kids. They call when they get home. They spend time, they call us for advice. We have a wonderful family with no bad angst. The only one who really suffered for it was my wife, because she did not have an opportunity to grow and do the things she wanted to, because she devoted time to her family.

So I think in one way, as far as fulfilling, I think that if I had been a little smarter, I might have been able to be able to devote a little more time, a little more quality time toward the family and take a concern. I mean, when you

come home at night, and you've been worrying about a kid dying and problems with the residents and everything, and your wife wants to talk about the fact that the washing machine is broken, you don't want to listen to that. You just say, "Fix the thing." What she was really asking for was help and cooperation. So I think that that's one regret that I feel strongly about. But it came out all right, and I'm very lucky. I've been married 51 years, and our kids still love us. So that worked out all right, but it was through no help of mine.

I think the second thing, if I look back again personally, is that everybody wants a piece of you when you're tremendously busy in an academic surgical career. The residents want a piece of you, the patients want a piece of you, the faculty wants a piece of you, and the family wants a piece of you, so you're constantly running. You're always worrying that you need to have quality time for your family. But the one thing you forget is to have quality time for yourself. You need a little time to integrate what kind of a person you are, what's happening to you, what your philosophies are. You need to be able to develop a little inner life of your own so that you can wake up one day and realize that maybe you're not the person you thought you were, that you've changed, and you never even knew.

I'll give you an example. I was in the men's room, in the booth, and there were two people washing up at the sink. They were talking about this absolutely unmitigated SOB person, and it sounded fascinating. I was sitting there in the little booth in the men's room, and I was fascinated, listening to them tear this guy apart. And as I listened a little more closely, I realized they were talking about me.

DR. GROSFELD: [Laughs]

DR. ROWE: And of course, they didn't know that I was sitting there. But it was very interesting listening to them, because they were serious, and it was their perception of me. It took me a long time to recognize they were talking about me. And that taught me something. It taught me that, at least in other people's perception, I was a different person than I thought I was. I think that along the way, you need to have little mini-retreats, to sit back with yourself and do a little contemplation and meditation and say, "What does this mean in the great scheme of things? What am I becoming? What is important?" and so on. And I think that, looking back in regret, I think that I should have taken a little more time. Actually, as you know, I started running marathons, I started running. Actually, that was why. I never really told anybody. I started running because that gave me a little time to be off to myself, and just kind of let it all hang out and think about it a little bit, and meditate a little bit about all these things, and try to look at them and bare attention without a lot of emotion. To just try to see things as they are. I decided that relatively late in my career.

But, you know, I've often asked residents about what's most important. "You've got to have quality time for your family," they reply. And I say, "Yes, but you've also got to have quality time with yourself. You've got to have a little time that you devote to yourself to think about it, and sort of get to be able to see things in perspective."

[END TAPE 2, SIDE B]

DR. GROSFELD: This is tape number three of Dr. Grosfeld's interview with Ladd Medal recipient, Dr. Marc Rowe.

DR. ROWE: I'm going to be absolutely honest with you about professional goals in my career. I can honestly say I never had any goals. I never said, "I would like someday to be a chief of pediatric surgery." I never said, "Someday I would like to win the Ladd Medal." I never said, "I want to be president of APSA, or on the American Board of Surgery, or on the Residency Review Committee or one of the editors of the two-volume textbook." I never had those kinds of goals. What I said was I wanted to be the best pediatric surgeon I could be, and then see what happened. In other words, I just wanted to put my head down and do my thing and see what happened. I never solicited for an office, I never ran for one, and I never campaigned for any kind of recognition. I hope and I don't think I did. I never did because my real goal was to try to be as good as I could be, both as a surgeon, and as a physician, and as a teacher and as a researcher.

And I think the most important thing to me — and this is the absolute truth, because I've thought about it a lot — the most important thing to me, number one, was to be a good doctor. I loved being a doctor. I loved taking care of patients. I loved operating. And the second most important thing to me was teaching and working with young people. The third most important thing to me, and the fourth most important thing, I don't even know. I think being a leader, being an administrator were well down the line of priorities to me. If I never had that, it wouldn't have made a difference.

Research was like scratching an itch. Even now, in my old age, I'm constantly involved in new projects. Believe it or not, I'm writing an article now on the medical aspects of the chokehold in martial arts for the professional martial arts journal, the *Asian Journal of Martial Art [Journal of Asian Martial Arts]*. We're working on a book, *Functional Anatomy for the Martial Artist*, because I got interested in martial arts. So I'm always curious and trying to learn new things. I mean, I got involved in electronic navigation. So the research really, in many ways, was my curiosity more than my trying to learn to cure something. I mean, I'm always trying to find out how things work, and the intricacies of something. And so the research

became important only in that respect really. So that I think I was a reasonably good doctor. I think I did well with training.

[Recording interruption.]

DR. ROWE: I can't think of anything else. I guess probably — and I don't know if this is really true, but my wife thinks it should be true if it isn't — that maybe the impression of a lot of people who knew me was that I was a rather hard-nosed, somewhat cold, rather tough, not terribly friendly person. I know that was true with the pediatricians, and probably I should feel bad about that, [chuckles] because I think that's a fact. I know that.

I had an interesting experience, Jay. I don't know if you know this, but there's a guy [Lee Gutkind] who was an author, who wrote a number of books. And for the centennial of Pittsburgh Children's Hospital, he had decided to spend a year writing a book called *Many Sleepless Nights* [: *The World of Organ Transplantation* (University of Pittsburg Press - 1990)], about transplant. It was mainly about Tom Starzl. He was then talked into spending a year at Children's Hospital in Pittsburgh, walking around, and then writing a book called *One Children's Place* [: *A Profile of Pediatric Medicine* (Grove/Atlantic, Inc. - 1990)]. And that book, about probably 50 percent of it is about me. It was a very interesting experience, because he walked around, he went to the operating room with me when I did the first Jeune's operation. He went through the whole period when Tom Starzl and I did Tabatha and had our big fight where I threw Tom Starzl across the room. He went through the periods when I was up for four days and nights trying to keep the transplant patient alive. He went through some of the wars, and then he wrote a book.

And when I read the book, a lot of it was about me, and it was a very strange experience having somebody who just was an outside observer talking about you. It's sort of like being caught going to the bathroom in public. [Chuckles] It's a very interesting insight. And it gave me a lot of insight into how I'm perceived by other people. And so I thought that's interesting. It would have been nice if they thought of me as a little kinder, gentler person, and I guess that should bother me, but, [laughs] I'm not sure that it does.

But you asked the question. Professionally, no. I didn't have any goals such as, I wasn't recognized by BAPS by the same medal which you got, or I didn't get this, or I didn't get that. None of that would even occur to me. If I didn't get the Ladd Medal, that wouldn't be a disappointment as I look back on my career, not because I don't admire and think it's a wonderful thing, but that wasn't where I set my priorities. Does that make sense?

DR. GROSFELD: Sure, although you did deserve it.

DR. ROWE: Oh, thanks. [Both chuckle]

DR. GROSFELD: All right. I think you've been retired ten years now.

DR. ROWE: Yes.

DR. GROSFELD: You left Pittsburgh in 1998, and we're in 2008.

DR. ROWE: Yes.

DR. GROSFELD: So you've had a decade to sort of change your pace —

DR. ROWE: Yes.

DR. GROSFELD: — and reflect on the past. Now, I must admit at the time of this interview, I didn't prepare you with any of these questions.

DR. ROWE: No.

DR. GROSFELD: So your responses are from the heart, shooting from the hip, quite direct, and I think you've done it exceptionally well. Now, we're going to continue for a little while if you're not tired.

DR. ROWE: No, go ahead.

DR. GROSFELD: Okay. I have a few more questions that I'd like to ask you because I think it would give us and the history center some more insight into you as a person. I've never sort of looked at you as a hard-nosed person, maybe because we've been friends for so long.

DR. ROWE: Yes.

DR. GROSFELD: It's just one of those things, I guess. But, of course, we never worked that closely together —

DR. ROWE: Yes.

DR. GROSFELD: — in the same hospital.

DR. ROWE: We would have killed each other. [Laughs]

DR. GROSFELD: That might have influenced things a little bit. Yes. Now, things obviously are in flux in American medicine at the present time. With the advent of the elucidation of the human genome, new technology, new information, a veritable explosion of new information in the last decade, where do

you see things going in the next 20 years as far as patient care for pediatric surgical patients?

DR. ROWE: It's interesting. Since I've retired, I've been working with the [United States] Coast Guard, the [United States] Coast Guard Auxiliary, and the fire rescue people. I've trained the fire rescue people in electronics, and I've taken over their CPR/AED [cardiopulmonary resuscitation/automated external defibrillator] civilian training and so on. And I got involved in seeing how mass disasters, and how emergencies in the street, if you will, are handled. And what I found is, that the biggest fallacy, and the thing that I've been having the most problems with — and right now, for example, I'm training the fire rescues people in water rescue, particularly in night navigation and so on. The thing that comes back over and over again is that in complex situations, what really makes the difference is, not a bunch of cowboys, but a team. If you don't have communication between that team, and if they don't team together and work seamlessly in a real disaster like out on the water or something, it just doesn't work.

And I realized that the way medicine is going, there is no individual now who can grasp the intricacies of all the fields. You know, there is no Leonardo da Vinci, unfortunately, now in children's care, in the complexity of children's care. So I think that there are, by the very route of it, some people who have an enormous amount of information in this field, and another one in this field, so that you have to have a team now. The problem is, how do you make a team not have compartmentalized medicine? Okay. And that's the key, Jay.

What happened when I retired, as you know, was the VA hired me to go to a VA hospital and find out what the problem was. And I found out what the problem was. It wasn't that the surgeons were doing the wrong operation or making mistakes, and it wasn't that the patients weren't well worked up. It was that nobody talked to each other, so a patient might still have an unsolved cardiac problem when he's operated upon, because there wasn't any communication between the two. Because one person looked at the surgery, the hip replacement, and the other looked at the cardiology. So the guy had a myocardial infarction on the table because there wasn't this communication.

So looking at the future of medicine, with all these tremendous advances, I think that this can only help the patient if, number one, the team is really a team, and number two, there's somebody who's the patient's doctor. If you remember, Dr. Clatworthy used to make rounds, and we'd come upon some little baby and he'd say, "Okay, who's taking care of this baby?" And one guy would say, "Well, I worked him up, Dr. Clatworthy." He'd say, "No, who's his doctor?" And another guy would say, "Well, I'm taking care of him in the ICU." He'd say, "No, no." Another guy would say, "Oh, well, I

scrubbed in his operation.” And then he’d finally say, “Listen to me. Every patient needs a doctor. Who’s the patient’s doctor?” And believe it or not, I, as a consumer of medicine say, that’s the problem. You’ve got these people, tremendously skilled and knowledgeable, but we haven’t yet got to that point of being able to, one, work as a team and, number two, have somebody who’s the captain of the team or the coordinator of this overall. I would hope, in surgical aspects that would be the pediatric surgeon.

And so I think the future of pediatric surgery is that the pediatric surgeon is a team member, but I also would hope, since he is well trained in the child in general, he would sort of be the patient’s doctor too. Now, I know the pediatricians would also like to have that job.

DR. GROSFELD: The fact that so many things in medicine now point to organ-specific patient care management, do you think that’s going to influence what the pediatric surgeon does in the next decade?

DR. ROWE: You’ve already indicated that when we talked before. I think that the pediatric surgeon is going to become more of an abdominal, non-transplant, and non-genitourinary. Certainly not cardiovascular, and not plastic, maybe thoracic surgeon, and hopefully maintain head and neck, but maybe not that either. I’m afraid that’s what’s happening, and I’m sure the statistics are beginning to bear that out.

DR. GROSFELD: I was alluding more to the fact that individuals who perform liver transplantation also feel that, because they operate on the liver, even though they’re not a children’s surgeon, perhaps they should do all the liver tumors, they should do the biliary atresia cases, they should do the anomalies of the liver and the like. And that would impact negatively on the practice of a pediatric surgeon.

DR. ROWE: Well, it happened to me just before I left as chief. The liver transplant service began to admit liver trauma to their service. This started a major war and a rather unfortunate period just before I did retire, which fortunately we were able to resolve by me sitting down with Tom Starzl and talking to him. He made his people back off. What’s happened since, I don’t know. But I think that these people say, “We know. We take the livers out, we put them in and everything else. We know every little pathway and everything.” In watching some of them, they’re superb liver surgeons.

I’ll give you an example with bowel transplant. When they began to get a big bowel transplant program at Pittsburgh, they were doing superb jobs with the technical aspects of homoplasty. But their indications and when they decided to do it and so on left a lot to be desired, because they didn’t understand the basic diseases. They didn’t understand about short gut. They didn’t understand about the research in short gut. They didn’t have a

deep understanding of absorption in the infant and child gut. They didn't understand the gastrointestinal physiology of the developing organism. They didn't understand all those things. They didn't understand the basics of the particular diseases, such as long-segment Hirschsprung's [disease]. They didn't understand it, because they never really dealt with it, and that wasn't part of their expertise. They dealt with the technical aspect of it.

That doesn't mean that if they wanted to go to the trouble, instead of working with immunology and everything, to learn a little bit about infants and children and their physiology, that they couldn't master it, but if they don't do it, that doesn't make sense. Again, it goes back to the whole patient and understanding the disease entity. Pediatric surgeons are trained to do that, so I think the pediatric surgeon should maintain a very firm attitude on that basis.

But we've got to continue our expertise so that, when we do get those cases, we can operate on the liver. If we can't do a liver resection and the liver people can, if our residents, when they finish their residency, can't do a liver resection, we can't demand to do a liver resection, even if we know why it should be done, if we technically can't do it. And that's where the problem is about numbers and training. If your resident finishes his program without ever having done a liver resection in a kid, and then he gets to his hospital and a kid needs a liver resection, and he knows all about hemangiomas of the liver or whatever you want to talk about, but he's never done a liver resection, and the liver transplant surgeon could do that with one arm tied behind his back, you've got a problem.

DR. GROSFELD: I think you're right. These are all areas that need to be addressed, both in the training and the practice of children's surgery.

In recent years, because of changes in the practice of medicine and the third-party interventions from insurers, hospital facilities in medium-sized towns and, in some instances, in private facilities without training programs develop a relationship with an insurance agency or an insurance company and want contracts to care for their patients. One of the prerequisites for acquiring an insurance contract with a major insurance group is that the institution or hospital is what they call a "full-service institution." Many of them develop very small neonatal care units with, you know, six or eight or ten neonatal beds. They hire a neonatologist in a town of 150,000. The hospital needs a pediatric surgeon, number one, to help the neonatologist and, number two, to fulfill their "full-service" requirements so they get insurance and patients from that company. This has led to bidding wars and outrageous offers to young pediatric surgeons coming out of training to go into practice in an environment that perhaps is not the best for their future careers, but to fulfill a need of an administrator or a neonatologist. Now, what's your view on that?

DR. ROWE: Well, I think you pretty well said it. The question is, what can you do about it? You know, I think it's a bad thing for a number of reasons. Number one, it dilutes the pool, and it has a tremendous effect on training, because instead of referring the patients to a center, what really happens is they dilute it, and they particularly pick the low-hanging fruit. Forgetting about what you can do about it, the question is, you and I grew up with the advent, starting at Alder Hey [became the Royal Liverpool Children's NHS Trust in 1991] with a neonatal surgical center. But in the United States, with hyaline membrane disease and the advent of the ventilator, people in outlying hospitals found that they couldn't ventilate kids with hyaline membrane disease. The only place you could do that was at a center. Or if you used too much oxygen and the kid was blind — at least that's what they thought in those days particularly — you were legally responsible. There was a tremendous find that the real deal, just like in trauma, was to get the right patient to the right place at the right time.

And there was the advent of regional centers. The idea was, as you well know, that you get the trained personnel, you get the equipment, and you have a place that also has the numbers and the experience, so that it isn't a big deal every time you get a complex case. So this whole idea of regionalization and centers made a great deal of sense. Okay. So it's obvious, if it's true, that by accumulating experiences in cases, and expert personnel, and the right equipment, and transportation and communication systems, the patient gets the better care. By absolute, straightforward data, you can show that that's best for the patient.

So I think that — at least if that still holds true, and I have no reason to believe that that concept of regionalization and centers doesn't hold true for complex cases — this advent is bad. Okay, what can you do about it? Well, in the United States I'm not sure that there's anything you can do about it. You can't mandate, like they do in, for example, I think it was Sweden, where they were going to designate. They looked at the numbers of the various hospitals. They were interested in a hospital's data. They said if only these hospitals do these many cases, then from now on, only these hospitals are going to get babies or get complex cases or what have you. We couldn't do that in the United States at all.

So, although I'm sad about that, and I think it's a bad trend, and I think that it doesn't have the patient's best interest at heart, I'm not sure what we can do about it. I think we can try to instill this in our residents. I still get — because I guess I'm on mailing lists from APSA or something — these offers of half a million dollars [chuckles] and stuff like that, that stagger me, you know?

DR. GROSFELD: Seven hundred thousand this year.

DR. ROWE: **Yes.**

DR. GROSFELD: Academic medical centers can't compete with that.

DR. ROWE: **For sure.**

DR. GROSFELD: Well, Dr. Rowe, I've kept you here for more than three hours, and I certainly appreciate you taking the time to sit with us and go over some of these questions and give us your insights. I wanted to, number one, congratulate you on a great career. Obviously, you've made a big impact in the profession. This was recognized appropriately by the American Pediatric Surgical Association and, of course, the American Academy of Pediatrics, which not only provided you an opportunity in a leadership role as head of the Section on Surgery, but also awarded you the Ladd Medal in 1996. All the Ladd Medalists are having this type of an interview, and it will be kept in the archives of the history center at the American Academy of Pediatrics in Elk Grove Village, Illinois. Again, we'd like to thank you for taking the time to be with us today, and I hope that it was a fun experience.

DR. ROWE: **It was. Thanks a lot, Jay. And I appreciate it. You've got my brain plasticity working again, and it was fun talking about these things. I think it's a very worthwhile project that that American Academy is doing. Thank you again.**

DR. GROSFELD: This is Dr. Grosfeld signing off the interview with Dr. Marc I. Rowe on Sanibel Island on the third of February, 2008.

[End of interview]

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