Ruth Adewuya, MD (host):

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I am your host, Dr. Ruth Adewuya. This episode is part of our Pediatric Pulse Mini-Series, and today I am speaking to Dr. Gary Hartman.

Dr. Hartman is a clinical professor of pediatric surgery at Stanford University School of Medicine and a pediatric surgeon at the Lucile Packard Children's Hospital. He completed his undergrad in medical education at the University of Wisconsin and has an MBA from George Washington University. He did his residency at the University of Oklahoma and UCSF, and a fellowship in pediatric surgery at Stanford. He has been named the Best Doctors in America by Best Doctors Inc. in 2005, 2006, 2007 and 2011. He now serves as the Associate Vice President of Medical Affairs and the Surgical Director of Procedural and Diagnostic Services at Lucile Packard Children's Hospital.

Thanks so much for chatting with me today.

Gary Hartman, MD (guest speaker):

Thank you, Ruth. I'm honored.

Ruth Adewuya, MD (host):

I'm always curious about clinicians' journey and their story and how they arrive to doing what they do now. So let's start with, when did you first consider pursuing medicine and what sparked that interest?

Gary Hartman, MD (guest speaker):

As an undergraduate, I was majoring in psychology which I had never had any exposure to in high school. And so I thought it was great that there were rules and ways that you could understand why people would do things and what they were thinking and doing. So I thought that was pretty cool and I decided I wanted to do that full-time. So I decided I wanted to be a psychiatrist. I wanted to have the full spectrum of the specialty, so I didn't want to be a clinical psychologist. I wanted to be able to use drugs. I was convinced I wanted to be a psychiatrist, and that meant you go to med school.

Ruth Adewuya, MD (host):

That's how you arrived in medical school. As our listeners know, he is not a psychologist. He is now a surgeon. That's a pretty huge shift. How did that transition happen? How did your interest in surgery begin and then further on, neonatal surgery?

Gary Hartman, MD (guest speaker):

I'll answer that question, but I also have an interesting thing about the disparity between psych and surgery, because it's actually a fairly common transition.

Ruth Adewuya, MD (host):

Oh, really?

Gary Hartman, MD (guest speaker):

Yeah. For physicians to change specialty during their career, the switch between psych and surgery is common. And it's usually from surgery to psych.

Ruth Adewuya, MD (host):

Oh.

Gary Hartman, MD (guest speaker):

Someone suggested to me, they're the two most invasive specialties.

Ruth Adewuya, MD (host):

That's an interesting way to frame that and to look at that.

Gary Hartman, MD (guest speaker):

One invades your body and the other you're psyche. And so I don't know if that's true, that's why the connection. But it's usually people change from surgery to psych later in their career. I found that pretty interesting.

But I changed pretty quickly. As a first year med student, we could take electives. I took an elective on the inpatient psychiatry unit at the University of Wisconsin and I hated it. It just seemed so random. A patient would do a certain behavior one day and the staff would react to that behavior. And then the next day one of the other patients would do the same thing and the staff would act totally opposite. Now, either there were rules that they were following that I didn't understand, but I didn't interpret it that way. I said, I can't do that. I need rules.

Ruth Adewuya, MD (host):

I need rules, not for me.

Gary Hartman, MD (guest speaker):

Yes.

Ruth Adewuya, MD (host):

I can't do this.

Gary Hartman, MD (guest speaker):

Yes.

So I took another elective the following summer and it was the same reaction. And so there I was in the middle of med school and didn't like my specialty.

Ruth Adewuya, MD (host):

And here you are, you don't like your specialty. What was your next step?

Gary Hartman, MD (guest speaker):

I guess I could have had a choice of quitting med school, but having invested as much as I had up to that point, I decided not to do that but to see what the other specialties were. I was starting the third year

clerkships, so you get to go through all the different specialties and see how you like them. I liked most of them and I didn't like some. The one that I really didn't like was surgery.

Ruth Adewuya, MD (host):

Interesting. Tell me more.

Gary Hartman, MD (guest speaker):

You understand this, and most people do, is that your perception of a specialty in med school is very dependent on the people that you spend your rotation with.

Ruth Adewuya, MD (host):

Absolutely.

Gary Hartman, MD (guest speaker):

And if the people aren't that great, then you think the specialty is like that. And the surgeons that I had my rotation with, I really was not impressed. I did not think they were very knowledgeable. I didn't think that they were very dedicated. And the reputation of surgeons isn't always that great. And so of all the rotations, that's the one that left me with the deepest impression. I tell people, the only thing I knew for sure when I finished med school was I hated surgery.

Ruth Adewuya, MD (host):

Wow.

Gary Hartman, MD (guest speaker):

And so I didn't know what to do. So what do you do? You're in medical school and you don't like the specialty that you went there for, so you look at the other specialties. In those days, you could do what they called a rotating internship. It was like your third year clerkships. You would rotate through the different specialties. Internal medicine, PEDs, OB-GYN, those sorts of things.

Well, the day that we started internship, I was sitting across from this guy who ended up being one of my best friends. And we both looked at our schedule and looked at each other and said, "What are you starting on?" And he said, "Surgery," with a groan. And I said, "Me too." And so we were both depressed that we were starting with surgery, and I loved it.

Ruth Adewuya, MD (host):

Wow.

Gary Hartman, MD (guest speaker):

The way I interpret why I liked it so much is that it was interventional. We were making a difference contrary to the psych experience where I wasn't sure anybody got any better, at least not in the short term that I saw them, and we were involved. We weren't a third wheel just hanging out like the third year med student or even a fourth year sub-I or something. We were actually the doctors and taking care of them and we were helping people. And it was gratification, more instant gratification, certainly, than psych.

So I liked it. So I called the chief of surgery at our place and I scheduled a meeting because I wanted to just talk about surgery and what are the choices. So I went to meet with him and when I walked out of the meeting, I'd signed up for the five year surgery residency.

Ruth Adewuya, MD (host):

Now that must have been an exceptional meeting.

Gary Hartman, MD (guest speaker):

Well, he wouldn't give up. He was an impressive figure and he was somebody you could respect. And I said, "I really need your advice. I think I like surgery. I want to look at this. I wondered if you have any of the one year spots." And he says, "You have it." And I said, "Oh, okay. So a one year?" "No." He said, "No, you have the five year spot." And he was just persistent. Sort of couldn't say no.

Ruth Adewuya, MD (host):

What I'm hearing from your story so far is, one, the importance of educators in shaping students. You mentioned about both positive and negative experiences. And then mentorship as well in the journey because the conversation that you had with the surgeon seems, to me, as more than just a quick conversation. It seemed like he took the time to invest in that conversation and make sure that he was mentoring you based off of the skills that he potentially had seen. And I think that's really important for students and for clinicians to be able to have that mentorship and for it to guide your journey.

So you signed up for five year program. How did that go from surgery to neonatal surgery?

Gary Hartman, MD (guest speaker):

Pediatric surgery is one of the early subspecialties in general surgery. So after your five years or seven years of general surgery, you do a two year fellowship in pediatric surgery. And those training programs are very structured and very regulated by the ACGME. The specialty of pediatric surgery received its board certification in 1975, so it's one of the early specialties. But at the time that I was applying to fellowships there were only 17 spots for fellows in North America, it was very competitive, and I didn't match the first time.

So there's another opportunity that we could have changed direction, but that was actually then when I came to Stanford for the first time because Stanford had just hired their first pediatric surgeon, this guy Steve Shochet, who trained in Boston. He was really looking for a partner but was not having much luck because there weren't many, and so I signed up for an unapproved fellowship with him and then matched with one of the approved fellowships.

So I did two fellowships which actually turned out really well because the two years here, it was a practice that had a lot of neonatal surgery and a lot of oncology. We have some really strong pediatric oncologists here. And so that gave me time to really study those conditions. And then the fellowship in Oklahoma was just a really busy thing. So I already knew how to take care of the kids and then got a large volume of experience.

When I got interested in PEDs was during that five year general surgery program. The children's hospital that I rotated to had two pediatric surgeons. One was a dud, like the guys in med school. The other guy was amazing. He basically lived at the hospital. He was there night and day and he was totally dedicated to the kids and he was totally unassuming. I just remember vividly that he drove a dented 1964 Dodge Dart.

Ruth Adewuya, MD (host):

Wow.

Gary Hartman, MD (guest speaker):

Because it wasn't important to him. So he was completely dedicated to the specialty and to the kids.

The other attraction of it was the kids, because the kids are just the best to work with. They're brutally honest. When they are not happy with what you're doing, you know it. But they're very forgiving. So as soon as you're done doing whatever you have to do to them, they're back to being your friend.

Ruth Adewuya, MD (host):

Aww.

Gary Hartman, MD (guest speaker):

And to being attached. And part of the attraction of the neonatal piece is that if we do things right for a newborn, they get 70 or 80 years out of that. That's really rewarding. So that and the patients are the attraction to PED surgery.

Ruth Adewuya, MD (host):

I can still hear that excitement and that interest in your voice so many years later. So this is a great segue to the conversation around your focus in neonatal care. What are some of the common conditions that you come across in this sphere?

Gary Hartman, MD (guest speaker):

There are usually maladies of development, one of the organs or organ systems doesn't develop normally. Building a human is pretty complicated, there's lots of parts and there's a lot of ways for things to go wrong. One condition that's really serious is the diaphragm doesn't form completely and then the contents of the abdomen go up into the chest and compress the lung, and so the lung can't develop. So that can be life-threatening. There's a condition where the esophagus doesn't form completely so it's blocked so they can't eat. There's a condition where the anus is missing. All of those things are the real essential pieces about the development.

If you asked all of the pediatric surgeons in the world what their favorite operation is, the majority would say, repair of esophageal atresia.

Ruth Adewuya, MD (host):

Really? Why is that?

Gary Hartman, MD (guest speaker):

I think the reason it's my favorite is it's technically demanding. It's beautiful anatomy. And it's one of those conditions where fatal within a few days if you don't fix it, and they end up leading a normal life. So it has all those pieces. Although the technical piece is really attractive to us, and fun.

Ruth Adewuya, MD (host):

Such a huge impact in the life of the child, it seems.

Gary Hartman, MD (guest speaker):

Most of these things, yeah.

Ruth Adewuya, MD (host):

And I know that we can't talk about each of the individual procedures specifically. But generally, what are some of the biggest challenges that you find when operating on these babies? And maybe you can speak to some of the differences when operating on babies versus older children.

Gary Hartman, MD (guest speaker):

One of the most obvious difference is they're tiny, and so the margin of error is really limited. If we're operating on an adult and we slip a little bit and ruin an inch or two of intestine, they've got feet of intestine, so that's not a big deal. In the babies, you don't have any extra and so there's very little margin of error. That's one of the challenges.

Another challenge that I didn't realize until I was deep into it is that operating on the babies, we have to keep the operating room hot because we have heating devices, blankets under them and things, but they're small enough that you can't use the overhead heaters on them. And so we keep the rooms in the high 70s to 80 degrees, and that really has an effect on how much effort you put into it. I got to the point where if I had a newborn surgery, I would pre-treat myself with Tylenol and Advil beforehand. I knew it was partly the heat, but also just the stress and everything. So that's one example of something where it's radically different than operating on adults.

Ruth Adewuya, MD (host):

How do you navigate walking alongside parents who are facing huge procedures for their little babies?

Gary Hartman, MD (guest speaker):

That's a really good question because it's one of the things that when you choose this as a specialty, you have to understand that you're taking the parents with you. The babies can't talk to you, and the parents definitely will, and it's a stressful time. And also depends on where you live. In the Bay Area where we've got a lot of engineers, the engineers want answers. They believe everything in the world has rules and they want to know what the rules are and how we're going to deal with it. And a lot of medicine is not so structured. It's one of the challenges, but it's an understood challenge and part of the practice. And it's also one of the rewarding things because then you get the Christmas cards when you see them in clinic a couple years later.

I had a cute experience this week in clinic. We had a patient that on the clinic list, it said chest deformity. And we walk in and there's this tall young guy, he's a high schooler. And I look and the mother looks really familiar and I couldn't place her. But she was telling me that she has twin daughters who are about half the age of the brother, and that I had operated on both of the twins. And she was saying that the boy was really nervous about coming to the visit, but one of the twins was super excited because she said that after the procedure I had hugged her, and so now I'm her favorite surgeon. And so the brother who was all nervous about coming in had been reassured by his eight year old sister. But that's the reward of the specialty and the heat and the nights.

Ruth Adewuya, MD (host):

It's a full circle moment. That's really special.

Speaking of your surgeries, I want to talk about one of your surgeries in the early 2000s that got a lot of press. In 2012, you operated on two conjoined twins for over nine hours. Can you set the stage for us about that? Can you tell us a little bit about the surgery?

Gary Hartman, MD (guest speaker):

Sure.

First of all, conjoined twins are extremely rare. Probably one in 200,000 live births. And most of them don't live because usually they have more anomalies than just being joined together, they have structural problems. But for some reason, I've been involved in seven sets, which is just the serendipity of it.

This set, the twins were joined at the chest and the abdomen, and those are complicated procedures. The great thing these days is that we have really good imaging. We had CT scans and MRIs. And then one of the cardiac radiologists here is just amazing and he created these 3D images. And he has a monitor that's ... I think NASA would have, and you could rotate the 3D images. And usually we have to have a number of different specialties involved, so it's a planning nightmare, or a planning opportunity.

I had been here for a while. Then I went to Washington D.C. for a decade and then back here. When I was in Washington D.C., I decided to get my MBA. Now, that was kind of a dumb idea.

Ruth Adewuya, MD (host):

Oh, no. Why? I feel like we could unpack that further, but I don't want to distract you.

Gary Hartman, MD (guest speaker):

I'll just say that the reason I thought I needed my MBA is that I thought the hospital administrators were using some business knowledge on us and that we were able to be manipulated because we didn't know that knowledge, and so I figured I would go and learn the same thing. What I learned was there isn't any secret knowledge.

Ruth Adewuya, MD (host):

There's no secret sauce.

Gary Hartman, MD (guest speaker):

No. But what it did teach me, it gave me some skills about project planning and timelines and things like that.

Out of these seven sets of twins, the last four or five are after I got my MBA. And so we've had some interesting experiences. We have a backup for every person on the team. We have contingencies about, what if this happens, what if that happens? So the planning takes months. The operating can be lengthy. The cases have ranged from a few hours to 15 or 20 hours. But if you have it well thought-out and you have all the players, it works.

We do all these other things on a regular basis, so things get to be common and expected. And then you do something like this and everybody steps up. They all are invested in it. They come to 6:00 AM meetings for planning. They give up their vacation because we scheduled the procedure during that. It's the real definition of a team effort and it involves everybody. And that, to me, was the most rewarding part of these procedures. Plus, then those girls come to see me in the clinic. Right now, they're 12, 13, and they're fine. They don't need to see me, but they insist on coming once a year for their checkup.

Ruth Adewuya, MD (host):

Aww. How lovely.

I'm curious, I know that this particular surgery that we were talking about was not your first time. But were you surprised by the attention that came from your participation in these types of surgeries?

Gary Hartman, MD (guest speaker):

It depends. The first two that we did here at Stanford, the parents wanted no publicity and were very protective of the privacy of their children and of themselves. And so there really was no press, no real exposure to them. Then we did a set in Washington that was the opposite end because that family wanted exposure because they felt that there were a lot of myths and misconceptions about conjoined twins because we used to call them Siamese twins. And that family was ... if you said Siamese twins in front of them, you were going to hear about it. So they wanted a lot of publicity. And then when I came back to Stanford, we had a set from Costa Rica that had asked a number of hospitals to take them on and were turned down. And they came here and they got a moderate amount of publicity. And then this set, they were pretty big news, so I think that contributed a lot.

Ruth Adewuya, MD (host):

You mentioned that you've done about seven of these. Is that typical for pediatric surgeons?

Gary Hartman, MD (guest speaker):

No. Most of us would probably see maybe one set in our career.

Ruth Adewuya, MD (host):

Wow. So you've exceeded.

Gary Hartman, MD (guest speaker):

It's just luck. And a couple of them have sought us out because once you have the publicity ... We've been approached by some sets of twins from other medical centers who had been told they can't be separated, and so they reached out and it turns out they can't be separated. So there have been more sets that we have not done because of the anatomy of it. But once you're in the press about this, then it perpetuates itself.

Ruth Adewuya, MD (host):

That's incredible. It's interesting to hear how much you've been involved in these complex types of procedures. Especially hearing your story, your clinical career and how you landed here.

What downsides have you experienced in your journey as a pediatric surgeon?

Gary Hartman, MD (guest speaker):

For me, the downsides are, it's a lot of time away from family. There's a lot of night work and I have just terrible sleep patterns. Even if you don't have to get up and go into the hospital, the phone call in the middle of the night interrupting the sleep and things like that. I just have terrible, terrible sleep habits. It goes with the territory because there are not a lot of us. And when I was here before, there were two of us.

Ruth Adewuya, MD (host):

Wow.

Gary Hartman, MD (guest speaker):

So every other night you're on duty, so you develop behavior patterns that go along with that. I don't have any hobbies, so I have to keep working because I don't have a hobby that I'm dying to do. It's probably mostly the sleep and being away from the family and missing some events that I still hear about from the daughter. And you have to have an understanding spouse and family because, as you said, these patients have to be top priority. That's part of the discipline, part of the specialty.

Ruth Adewuya, MD (host):

As we wrap up our conversation, what advice would you have for medical students or early career clinicians who are navigating decisions about their career?

Gary Hartman, MD (guest speaker):

I'm constantly surprised and impressed with the students these days because, first of all, it's so hard to get into the schools that they want to get into and then into the medical school and residencies. And then just figuring out what specialty because you have to pick so early in your career now, that I just admire how they're able to navigate that and I don't understand how they do it.

Some specialties people seem to be born into. It just seems to me that all of the residents that want to go into ophthalmology have always wanted to go into ophthalmology. When they were first year med students, they were convinced they were going into ophthalmology. But the rest of us, you're exploring things. You've been influenced by people before you get to med school. And I would just say to keep your mind open. You might start medical school thinking you're going to do one thing and end up something very different.

Ruth Adewuya, MD (host):

Thank you so much for sharing your story with us. We get a little bit of a glimpse into your journey, but also a glimpse into your life as a surgeon. So thank you so much for chatting with me today.

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