Prof. Henri R. Ford: my experiences and views on being a pediatric surgeon

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Editor's note

With this year's theme being *Joy and Privilege of a Surgical Career*, the American College of Surgeons (ACS) Clinical Congress 2018 was held in Boston, USA on October 21–25, 2018. Bringing together multi-disciplined surgeons, surgery residents, medical students and well-experienced surgical teams from all over the world, this Congress sparked a whole bunch of ideas that is believed to benefit more and more patients all over the world.

Taking this opportunity, *Journal of Visualized Surgery* (*JOVS*) is honored to interview Prof. Henri R. Ford from the University of Pennsylvania and the Children's Hospital of Philadelphia, who will share with us his own story of becoming a pediatric surgeon, his experiences in Haiti, and his views on preparing research papers (*Figures 1*,*2*).

Expert's introduction

Dr. Henri R. Ford is a Haitian-born pediatric surgeon who maintains close ties with his native country. In 2010 he traveled to Haiti after the earthquake to provide surgical care to children injured in the catastrophe. Since then, Dr. Ford has returned to Haiti regularly to provide medical care to its residents. In May 2015, he performed the first successful separation of conjoined twins in Haiti, alongside surgeons he helped train.

He was most recently senior vice president and chief of surgery at the Children's Hospital Los Angeles (CHLA), vice dean of medical education, and professor and vice chair for clinical affairs in the Department of Surgery at the Keck School of Medicine of the University of Southern California. Dr. Ford was professor and chief of the Division of Pediatric Surgery and surgeon-in-chief at the Children's Hospital of Pittsburgh and the University of Pittsburgh School of Medicine before joining CHLA in January 2005.

Motivated by a deep desire to have a positive impact on the world and drive important change, Dr. Ford has achieved unprecedented success throughout his career. He has conducted groundbreaking research on the pathogenesis of necrotizing enterocolitis, the most common and lethal disease affecting the gastrointestinal tract of newborn infants. His work has led to new insights into the diagnosis, treatment, and prevention of this vexing disease. Under his leadership, CHLA developed a robust, state-of-the-art minimally invasive surgery program.

Dr. Ford's research has been funded by the National Institutes of Health, the Robert Wood Johnson Foundation through the Injury Free Coalition for Kids, the National Trauma Registry for Children and the American College of Surgeons, among others. He is the author of more than 300 publications, book chapters, invited manuscripts, abstracts, and presentations.

Dr. Ford is a fellow of the American College of Surgeons, the Royal College of Surgeons (UK), the American Association for the Surgery of Trauma, and the American Academy of Pediatrics. He is the recipient of numerous honors, including the Arnold P. Gold Humanism in Medicine Award from the Association of American Medical Colleges.

He received his bachelor's degree in public and international affairs, cum laude, from Princeton University, and his M.D. from Harvard Medical School. He also received his M.H.A. (Master of Health Administration) degree from the School of Policy, Planning and Development at the University of Southern California.

Interview

JOVS: As a pediatric surgeon what do you think the biggest trends in this field?

Prof. Ford: Pediatrics has evolved considerably over the last several decades. I was the immediate past president of the American Pediatric Surgical Association, so I had a chance to talk about all of the advances that had been made in pediatric surgery. In the field of pediatric surgery, we have moved to the point where we number one, the survival

Figure 1 Editor Miss Silvia Zhou, Prof. Henri R. Ford and Intern Shirley Zhao.

Figure 2 Prof. Henri R. Ford: my experiences and views on being a pediatric surgeon (1).
Available online: http://www.asvide.com/article/view/31187

rate for infants and children is a lot better than it used to be. A lot of infants who were born at 23 weeks gestation can survive now. We are able to operate these babies safely to make sure that they have a chance to have a meaningful life. Just 50 years ago a lot of babies were born with fetal diseases because they are not able to find any nutrition, but now they are able to be sustained by given parenteral nutrition and nutrition by vein until their intestines are working so that they can have a more or less normal life. The second one is that you used to have to look at the children with respiratory distress or others many of them used to die because of pulmonary inefficiency. But now we have the extracorporeal membrane oxygenation ventilator that allows us to keep the infants alive until their lungs start to mature enough to keep a normal respiratory function. These are two of the amazing examples that demonstrate some advances have taken place in pediatric surgery. So I would say there are a lot of significant improvements to support children before and after surgery. Plus, of course when it comes to cancer, we have also made significant advances. That's especially because we have better understanding of chemotherapies so that as a result we see an increase in survival rate of children who are afflicted with major congenital abnormalities or catastrophic diseases.

JOVS: Study shows that there is a shortage of pediatricians in the US and pediatricians are among the lowest-paid specialists. What do you think of this phenomenon?

Prof. Ford: What an interesting thing is that what we have is perhaps a maldistribution. There is no question that primary care positions are not paid as well as specialists. That's something needs to be addressed. People who choose to do primary care, whether is family medicine, or pediatrics, or internal medicine find that they are not going to be reimbursed as the same level as someone who is a neurosurgeon or a thoracic surgeon. But yet people continue to go into those fields because they are passionate about giving primary care, which is fantastic. For many people who pursue those specialties, they prefer to work in an environment where at least they can make a living. So consequently a lot of them are unnecessarily going to do in remote areas where are not densely populated. If you not live in a metropolitan city, you will have not access to a lot of the primary care specialists. Take Boston as an example, people live in Boston don't need ten thousand of pediatricians, maybe five hundred is enough and send the others to the places less populated. Then the best way is to send the other five hundred to other places that are less populated or to give them an incentive to go to those places. I think by doing so, we would probably resolve some of shortage. We can rise the pay for people or we can figure out a way to give them an incentive to go in practice in those regions whether is by forgiving their student loans or structuring more advantageous for them to stay and remain in a rural underserved areas.

JOVS: What do you think are the most valuable things to be a pediatric surgeon?

Prof. Ford: I chose pediatric surgery because I thought this is the field where I can be the most impactful. This is the field that I can make the biggest difference in life. I

have always wanted to be the change maker. I have always wanted to make the biggest difference in the life of a lot of people in my community. So when I was in medical school, I fell in love with surgery, because I recognized that by operating on someone I was able to add a lot of years to the person's life expectancy. I could do it almost immediately. Someone comes with appendicitis we fix them and that would be great. When I operated on an old patient with advanced colon cancer, I'm adding maybe 5 to 10 years to that person's life expectancy. But when I take a newborn infant who has a lethal congenital abnormality and I fix that baby I'm adding 80 to 90 years to that child's life expectancy, that's priceless. So, if someone who wants to make the biggest difference in life, pediatric surgery is the number one field if you want to be impactful. That is no other discipline that can have the kind of impact we have. So that's why I love it. I love these cute babies.

JOVS: You received your bachelor's degree in public and international affairs from Princeton University, and then M.D. from Harvard Medical School. What motivated you to pursue surgery and academic research?

Prof. Ford: You heard why I love surgery and why I love pediatric surgery. I decided to go to academic medicine in general, because I was born in a small island of Haiti and when I was coming up as an African American, there are not too many people who look like me, who teach at Princeton or at Harvard. So after I went to Cornell for my residency in surgery, I decided that I have been different because I have been trained at the best institutions, the best medical schools in the country. I owed to everyone else. So, I tried to become a professor of surgery as well, because to whom much is given, much is required. I had the pedigree and unique preparation to be able to pursue academic surgery and teach in a medical school. So that's why at time off during my residency, to spend 2 years focusing on immunology research to give the necessary skills and preparation needed, so I could become a professor someday and run my own research lab. That's what I did. I have been very fortunate and been blessed to work with some very excellent surgeons and scientists, who not only serve as a role model for me, but also as a great mentors and sponsors. They helped to push me along to the point where I was able to establish my own research lab, get my own funding by the National Institution Health and then rise to the field to the point where I can sit here talking to you today.

JOVS: What made you focus on pediatric surgery instead of other fields?

Prof. Ford: Pediatric surgery is the most exciting field in surgery. It is that one can have the biggest impact. This is where I can take care of little babies who are born with gastro diseases and you fix them and that can add 80 or 90 years to a child, and It's priceless. A lot of babies get tumors on the brain or were dying from necrotizing enterocolitis. After surgical treatment, they survive and then a few years later, when they come around to your office and say "*Dr. Ford! Dr. Ford!*" and give you a hug you will be so proud to see them, now that's priceless. That really keeps me energized and motived to go do pediatric surgery.

JOVS: Following the 2010 Haiti earthquake, you returned to Haiti to provide medical assistance to earthquake victims. After that, Weill Cornell Medical College considered you as a bridge between the United States and Haitian medical teams. What do you think of this remark?

Prof. Ford: (12:07) It's very kind of remark. I must say as before, to whom much is given much is required. When I look at my journey in an American surgery, when I look at where I sit today here I am on the Board of ACS Regent, governing the body of American surgery, where I am responsible for helping shape the practices of 80 thousand surgeons. When I look at my position as a dean of the medical school at the University of Miami a Leonard Miller School of Medicine, when I look at the fact that I am the chair of program community of the ACS, I have to give back to the country that is responsible for where I am today. My formation is placed in Haiti where the first 13 years almost 14 years of my life growing up in Haiti. That's truly where I got the foundation to want to study science; that's where I got the foundation to pursue excellence, to never look back and to never quit even when the work is getting hard. So when my native country faced this unfortunate catastrophic earthquake, I reflected on the position, here as a prominent pediatric surgeon with expertise in pediatric trauma, critical care, and surgical infection. Bricks were falling and hurting children in Haiti, I felt that I had to respond in person for such a time. It wasn't just about sending money, because money wasn't the most urgent thing they needed. They needed someone with surgical skills, and someone who understood their languages, understood those people, which could be the most impactful at that time. As I mentioned

before, my whole life is going to try to make as the biggest difference as possible. I knew that I could make the biggest difference by going over there at that time. This was a major life changing experience in my personal quest for significance because I was fortunate to be able to go there just immediately after the earthquake. I got there just after the airport opened and spent two of the grueling weeks in my life there trying to help the Haitian people out of their misery. Since then I have mainly engaged trying to rebuild the Haitian healthcare infrastructure, especially for trauma and pediatric surgery. So I go there on the average about four times a year to operate on children with congenital abnormalities, to teach residents and medical students and also some of the surgeons who are trained but I trained them into recognizing pediatric surgical emergencies. But I should say this was not the first time I was doing that, I used to travel to China where I would operate with surgeons in the children's hospital in Shenzhen, Yunnan and Changsha where we have some cooperation. So I always feel that part of my role in life is to try to give back and to help others because I have been very fortunate.

JOVS: Two commonly used methods for treating advanced necrotizing enterocolitis with intestinal perforation are laparotomy and primary peritoneal drainage without laparotomy. What's your opinion?

Prof. Ford: What I tell my residents in my training is that there is a role for primary peritoneal drainage which I think it will help patients stabilize. I think it's extremely rare as an adequate therapy for necrotizing enterocolitis. That's how I use it in my practice. If the child is extremely unstable and can't really sustain on an operation which in my hands would be about half an hour or 45 minutes. If I don't think that child can actually undergo that operation safely, then I will put a drain in. To drain is like draining an abscess, given some time to decompress and to control things which maybe improve the respiratory standards so that the child would be in a better position to tolerate the operation. I don't really like to get by and take chances so I think by removing the necrotic materials in 99 times out 100 that would be the better option. So I think the mortality rate, if you can do an expedited operation, it's right and better. But if the patient is unstable, then the first thing to do is to do primary drainage to help the patient stabilize for 24 hours or maybe 48 and then do definitive procedure.

JOVS: As a medicine community, we talk about surgery, basic research and research papers. How do you see the role of research papers in the career of a surgeon?

Prof. Ford: I think an academic surgeon; our job is to generate new knowledge. We have to expand the field. So that's why we have to report discovery. If you look at the advances that were made in the field of surgery and medicine in general, you will find those advances begin with discovery. So you have to have people who are engaged in fundamental discoveries, basic science as well as translational researches. And our job is to make sure that there is a convergence between the basic scientists and those who are doing translational medicine with excellent conditions so that we can take fundamental discoveries and translate them into clinical interventions for the sake of improving the health of the people who have trusted in our care. That's the convergence. That's why you have to publish your discoveries so that others can build upon them and figure out a way to translate into clinical interventions. So, we can develop new treatment modalities to deal with some of vexing problems facing healthcare today.

JOVS: What would be your guiding principles or advices that you would like to share with younger surgeons in preparing a research paper?

Prof. Ford: In general, what I tell the younger people who come to work with me, here are the key attributes that are needed to succeed in academic surgery.

Number 1, intelligence. We have to have smart people. That's the foundation of all. Number 2, curiosity. They have to have curiosity. Curiosity means you do not accept all of the existing paradigms blindly. You have to be willing to question almost everything here, not because you are obnoxious, but because you want to have more fundamental understanding of why we believe such a thing exists. For instance, someone says the sky is blue. Well, who says the sky is blue? Right? Maybe we just have filters in our eyes that makes us think it's blue. So you have to be willing to question some of the existing dogmas. If you are going to question them, you need to have the creativity to set up the right experiments to answer your questions. You need to be able to understand the narrative and the hypotheses, say, that I want to test the sky is blue by setting up this experiment. That's what creativity is. It's not only because you are curious, but you want to do something about it and

you want to try to approve or disapprove that it's not blue. It's tenacity and determination. Your fist experiment may not work. You will fail. You will face a laboratory research consists of 90% fail and 10% success. We keep coming back because the 10% is so exhilarating that we work for that 10%. And you have to be determined and tenacious. So that you are able to recognize that you will fall but next time you get up and it's so important how you stand up from the fall. It's like a marathon. Academic medicine is a marathon, it's not only just a regular marathon, but a marathon with hurdles. This is not because not only the experiment may be going to be not work a lot of times, your funding may not enough. You have to be committed that is going to be a fight to the finish and we got to stick it. The other key attributes are that the leadership and social skills. You have to have social skills. This point, especially in medicine it's about team science. We talk about inter-professional education. You have to be able to work with others. You have to be able to build bridges and forge new collaborative relationships to insert the questions that you are trying to deal with. That's the essence of leadership. Leadership forms a fellowship. If you don't have social skills to make friends, build bridges and get other researchers to work with you, your research is going to not amount to much and is going to be very limited. But if you have all these skills and then you can really build a kind of network to support your endeavors and then you will have a co-action cadre of outstanding scientists who will help improve your discoveries and also a cadre of commissions who will be able to help you translate those discoveries into interventions that would be helpful for improving your managing.

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Footnote

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