



Women in Thoracic Surgery Interview: Dr. Yolonda Lorig Colson

Introduction:

We had the pleasure of interviewing **Dr. Yolonda Lorig Colson** on 4/12/2012 about her research. Dr. Colson is an associate professor at Harvard Medical School at the Brigham and Women's Hospital in Boston (BWH). Dr. Colson earned her BS in Biomedical Engineering from Rensselaer Polytechnic Institute, MD at Mayo Medical School, and her PhD in Immunology/Pathology from the University of Pittsburgh, where she also completed her general surgery residency. She went to Brigham and Women's Hospital for her Cardiothoracic Residency and remained on as faculty.

WTS: What was your first experience with research and at what point in your life did it occur?

YC: One summer while I was an undergraduate student in engineering, I worked in a laboratory performing gate analysis related to artificial limbs.

WTS: Please describe your current research.

YC: My research is focused on polymer mediated drug delivery to prevent tumor recurrence after surgical resection and to treat occult micrometastases in lymph nodes.

WTS: Did you decide on this research subject or did it evolve from another project?

YC: This is a translational project that started as an idea in the operating room. I was operating on a woman with a large tumor who could not tolerate a lobectomy because of her poor lung function. As you know, wedge resections, particularly in patients with large tumors, are at an increased risk for local recurrence and I wondered why chemotherapy could not be delivered to the surgical margin and lymph nodes to decrease this risk. I spoke with my chairman about it and he challenged me to figure out a way to do that. I started with a small \$25,000 grant to buy supplies and an engineering student who needed a senior project. The data was good and we received a \$75,000 grant and the student stayed to complete his master's degree. I was asked to be on his thesis committee where I met a polymer scientist. This started a long term collaboration that has resulted in several patents and grant funding of over \$500,000 for the development of drug-eluting polymer films. This is a great example of how you keep building an idea from that initial thought to a fully funded project.

WTS: What percentage of your work time is devoted to research? How many hours per week do you estimate that you spend on research?

YC: That is hard to quantify. Even if I am doing clinical work, the research is always in the back of my mind. A lot of research, especially writing and editing, usually are done on weekends and evenings. My research time fluctuates around 2 days per week depending on the clinical work that I have each week.

WTS: What are your top 3 funding sources?

YC: 1) NCI – I have 2 RO1's and am waiting to hear about a third grant. 2) Center for Integration of Medicine and Innovative Technology (CIMIT) and 3) a Clowes Mentored Clinical Scientist Award from the American College of Surgeons, which just finished.

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WTS: What are YOUR top 2 reasons for performing research?

YC: 1) I want to ultimately make a difference for my patients as well as other patients. I want to make their lives better. So many times I think if only I could do "X" for my patient. 2) I like the intellectual challenge of solving clinical puzzles.

WTS: What are the things that frustrate you the most about performing research?

YC: Realizing that even though it is a great idea or research question that it may not be funded. You spend a lot of the time writing grants and re-writing them to get funding when you would rather be doing the research and finding out the answers. But you have to be realistic about getting the research funded – it's part of the job of being a Principal Investigator. You never give up.

WTS: Do you find that doing research allows more life/work balance?

YC: For me, it allows more satisfaction but not more balance. I feel that I'm making a difference, but it is harder in terms of time management. I still have to do my day job which is being a thoracic surgeon. To be able to sustain research in this competitive environment requires that I work on research evenings and weekends, because I still have clinics, OR and paperwork. Thankfully, my family also believes my research and clinical care are making a difference and are supportive of the time it takes to do it right.

WTS: What one piece of advice would you give to a woman thoracic surgeon or prospective woman thoracic surgeon who is considering research?

YC: Stay focused and be persistent. You will be told "no" many times. Keep doing what you believe in. Also, do a lot of background research on your idea and talk to people you trust to tell you if it sucks. Be sure your idea is as good as you think it is before you spend a lot of time writing grants.

WTS: What do you think are the most important factors that have led to your success as a researcher?

YC: Finding good collaborators. They help stimulate new ideas and help keep the research moving forward on a timeline. Also, I write all the time. If I have small bits of time here and there, I write.

WTS: Have you ever changed institutions to improve your research resources, opportunities, productivity, or collaborative efforts?

YC: I had the great fortune to be trained at two strong academic departments between surgery residency at the University of Pittsburgh and BWH/Harvard. My research has changed overtime, but I have not changed locations for my research. It takes time to build up a laboratory and with every move you have to restart that process so it has to be a really compelling reason to move your lab.

WTS: Who are your research mentors and at what institution are they?

YC: Richard Simmons was the Chair of General Surgery at the University of Pittsburgh. Every week we had a research conference. He taught us how to write papers and grants. He listened to our research ideas and gave us constructive feedback. He really made me the scientist that I am. Suzanne Ilstad, now

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at the University of Louisville, taught me to never give up on your science and I learned about how to do translational clinical trials. Pedro Del Nido is a pediatric cardiac surgeon who has taught me to be patient, stay focused on the goals of your research and your career, and then work hard to make them happen. And of course, my current collaborator, Mark Grinstaff at Boston University, has been so important, both as a friend and colleague. You can learn a lot about how to be a better researcher and how to run a lab from full-time PhDs. Listen to them.

WTS: Any parting thoughts or words of wisdom?

YC: Be open to opportunity. You will have a greater chance of success if you choose a problem related to your every day job. It is really hard work to sustain research with a clinical career but there is nothing more rewarding than when you get funding and have the chance to start making a difference for your patients through your research.

WTS would like to thank Dr. Colson for being willing to relay her knowledge about research for this article. Additionally, Dr. Colson is past president of WTS, diligently volunteering her time, effort, and good will to better the field of cardiothoracic surgery for both women and men.