

# Improving Women's Health

An Interview with Christine Metz, Ph.D.,  
Director, Faculty Affairs, Feinstein Institutes for Medical Research

**EDITORS' NOTE** Christine Metz is currently a professor at the Feinstein Institutes for Medical Research and at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell. In addition, she is the Director of Research for the Department of OB-GYN at North Shore University Hospital (NSUH) and Long Island Jewish Medical Center (LIJMC). Dr. Metz graduated from Cornell University with B.S. and M.S. degrees and completed her Ph.D. in Immunology/Pathology at New York University. She began her scientific career studying the role of macrophage migration inhibitory factor (MIF) in numerous inflammatory conditions. In 2001, Dr. Metz established her laboratory at the Northwell Health Research Institute (renamed Feinstein Institutes for Medical Research in 2008). Recently she was recognized as one of the top 100,000 scientists in the world (among 7 million) based on her productivity and the impact of her work.



Christine Metz

## Will you discuss your role at Northwell Health and the focus of Feinstein Institutes for Medical Research?

Feinstein Institutes for Medical Research is the home for all research at Northwell Health. There are about five thousand researchers and staff here who are the driving force and our mission is to produce knowledge and cure disease.

My research focus is on women's health and improving the lives of women around the globe, and I am also focused on empowering other women and young trainees to succeed in science.

I have always been passionate about women's health and much of the research I do focuses on maternal/fetal health, which is a subset in the clinic where women with high-risk pregnancies are cared for by maternal/fetal medicine specialists. Our goal is studying various conditions of pregnancy such as pre-term births, preeclampsia, intrauterine growth restriction, etc. to improve outcomes. In this area, a lot of progress has been made over the years and there is still a lot more progress to be made. It is very exciting to do this at Northwell because I have the opportunity to collaborate with physicians.

I serve as director of the OB/GYN research program for the maternal/fetal medicine fellowship and, in this capacity, I train the maternal/fetal medicine specialists in research. This research is complex as it involves two people or two entities, the

mom and the offspring, and it is a really exciting experience because you have the opportunity to shape people's entire lifetimes through this type of research.

The other area of research on women's health that I co-lead, with Peter K. Gregersen, M.D., is called the ROSE study, which stands for Research Out-Smarts Endometriosis. We have been focused on a women's health problem known as endometriosis for the last six years. Endometriosis is a condition that affects six to ten percent of women of reproductive age and is most associated

with chronic pelvic pain. About 70 percent of women that have endometriosis say they have experienced chronic pelvic pain and approximately 30 percent experience infertility.

Endometriosis occurs when endometrial tissue that should be inside the uterus or the womb grows outside of the uterus. The most vexing problem for women with endometriosis is the delay in their diagnosis, which can be between seven to ten years. This delay is truly unbelievable. Diagnosis requires surgery so many women put it off or don't want to do it because it's invasive. We have set on a path towards developing a non-invasive diagnostic to help these women.

Another aspect of the disease is that many women complain that the treatment is worse than the disease itself. Therefore, we have focused quite a bit of research on trying to better understand the underlying mechanisms of this condition so that we will be able to develop better therapeutics to help these women. For any women who think they might have endometriosis and want to join the study, please contact us at [rose@northwell.edu](mailto:rose@northwell.edu) or 516-562-ENDO (3636).

We won the 2018 Northwell Health Innovation Award and received a half a million dollars to develop this novel, non-invasive diagnostic. I think this really speaks to how important innovation is at Northwell and doing innovative research is the most exciting of all.

In regard to empowering other women and young trainees to focus on science and research, I serve as a mentor to many young physicians as well as budding scientists, young faculty members, medical students at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, college and high school students. I have mentored both men and women, and it's very exciting to be a role model for future scientists – particularly women. I think the most important aspect is to provide

them with the ability to find their confidence and to empower them to think differently and to think carefully about disease processes and how disease affects individuals.

It's fun to mentor young people because they bring a lot of questions and make us (the lab heads) think differently. They bring their novel experiences and their novel approaches to the bench and that's fun. When working with women's health, it's particularly exciting to work with young women to get them excited about all of the things that can be done to improve women's health on a national and a global level and having diversity in the people who are interested in science and pursuing science and medicine is a huge plus because everyone experiences things a little bit differently.

## You mentioned the medical school at Northwell Health. How critical is it to have the medical school and to have the opportunity to teach the next generation of leaders?

It is super. Laura Warren, an M.D.-Ph.D. student involved in the ROSE study, will graduate this year from the program at the Zucker School of Medicine. She's in the third class of the medical school. Laura worked on the endometriosis project and actually spearheaded quite a bit of it. She's the first author on the manuscript that came out on our initial findings for developing the diagnostic for endometriosis.

It is wonderful to be interacting with people who have one foot in the clinic and one foot in the lab. They have a unique perspective and we have the chance to really mold them so that they do learn to think differently, gain some confidence and feel empowered to have a fulfilling career in medicine and research.

## When doing this type of research, is it challenging to be patient and is it important to celebrate the incremental wins?

It is so important to celebrate the incremental wins and actually recognize the achievements even when they're small since they contribute to the end goal. I think for every step forward that we make, people should be recognized.

It's always a continuous road of getting closer and closer to reaching our goals – improving the health of humankind. We just keep pushing forward, recruiting women to join the study, recruiting clinicians to work with us, and continuing to write grants to get more money to pursue our goals of improving how medicine is practiced. You are right – we have to celebrate at each milestone and recognize the achievements that people have made in research. ●