Lab Chat

Johanna P. Daily, M.D., M.S., studies Plasmodium falciparum—the most lethal of the five parasitic species that cause malaria. She regularly travels to sub-Saharan Africa, the region hardest hit by the disease. There she studies the immune response of malaria patients, particularly children. Dr. Daily joined Einstein in 2009 and is a professor of medicine and of microbiology & immunology.

What is the focus of your research?
I want to understand why some children infected with *P. falciparum* develop no symptoms, while others fall into a coma and die from cerebral malaria. The best vaccine is 50 percent effective, and part of the problem is that we don’t understand the basis of immunity to the parasite. If we can determine the molecular mechanisms underlying immunity, maybe we can use that information to develop a more robust vaccine.

What kind of work have you done in Africa?
I’ve had a number of wonderful collaborations with Einstein-Montefiore colleagues. I worked with Dr. Kathy Anastos to study the effects of HIV co-infection in malaria-infected patients. I’m now working with Drs. Gregoire Lauvau and Raquel Furtado to study the immune profiles of a cohort of infected Malawian children we’ve followed for more than a year. We’ve made some really interesting discoveries about the immune response in patients who don’t develop clinical symptoms during malaria infection.

How did you become interested in infectious disease?
During my infectious disease fellowship, I did field work in Senegal to examine malaria drug resistance. I really enjoyed being in the field, collecting data and putting a story together. Infectious disease is fascinating—there’s always a new pathogen emerging and always something new to learn.

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What kinds of activities do you enjoy?
My partner is a jazz musician; he plays the trombone. We see jazz shows around the city, which brings us to places we might not otherwise go. I love living in New York—I still find it exciting and new.

Do you have any other hobbies?
I recently started taking piano lessons at the Bloomingdale School of Music. I took beginner lessons with other adults, and it was a lot of fun.

What are you reading right now?
One book is the Trevor Noah autobiography, *Born a Crime*. He has an amazing story of his upbringing in South Africa. The other, *Patient H.M.*, by Luke Dittrich, which I listen to while I work out in the gym, is a history of the lobotomy in neurosurgery. It’s a breathtaking book, because I’ve been trained in evidence-based medicine, and that’s not what was happening there.

When do you do your best thinking?
I do think it’s on the treadmill! And sometimes I attend talks unrelated to my own work, where I’ll pick up new ideas and relate them to my research. I’m definitely not thinking about science when I’m playing the piano!

What do you like best about working at Einstein?
When I was looking for a job in New York 10 years ago, I felt a natural camaraderie at Einstein during my visit. Since then, any time I’ve asked people for assistance or ideas, they’ve been fully on board. You want to have a rich scientific community that will help you take your science to a level you can’t even imagine, and that’s definitely happened here.