



# American Healthcare Professionals and Friends for Medicine in Israel

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**P**ediatric dermatologist Dr. Eran Cohen Barak has taken a little bit of Israel to Chicago.

Cohen Barak, 38, is a 2017-2018 APF Research Fellow in Dermatology at Northwestern University. He has taken samples, including biopsies, from his Israeli work in rare genetic diseases to study further at a world-renowned lab specializing in dermatology and pathology. At the same time he is, in only two years, learning the rigors of basic scientific research in order to one day set up a facility of his own back home.

“It’s very exciting to come with questions I have from my own patients in clinics and actually investigate what’s related to them. It’s different when you promote people you know and truly collaborate here with people who have information to share with you.

“I want to become a genuine physician/scientist. When I get back to Israel I want to keep my clinical activity with pediatric dermatology and boost my work with genetic diseases. But in order to be a real physician/scientist I need to acquire some fundamentals and capabilities in cell and molecular biology and in the basics of real bench lab work that you can take only from an organized laboratory.”

The Givat Ada (Haifa district) resident is a senior physician in the dermatology department of HaEmek (known popularly as “Emek”) Medical Center in Afula (north central Israel, in the Jezreel Valley). He runs the center’s pediatric dermatology clinic and the in-patient dermatology service. He also collaborates with Emek’s Genetic Institute, doing research on little-known skin conditions local to the area.

After high school Cohen Barak served in the IDF’s famous Givati infantry brigade, rising to company

commander in charge of about 120 soldiers. He fought in the Gaza and Lebanon campaigns and is now a Reserve combat physician.

The Ashdod (southern Israel – near the Mediterranean Sea) native had vague thoughts, going back to elementary school, of becoming a doctor. He remembers being very impressed with his family physician.

“At those ages, becoming a doctor is a common dream of a lot of kids. But this doctor really was special. He cared about our whole family. He was very kind and in some situation when there was a lot of distress, I remember that he took the time to really calm me down and reassure me. It was a good example of how a physician, in five minutes of discussion, can treat someone with no medical intervention. I was truly impressed by that.”

But it was IDF service that decided his future in medical service.

“During the military I decided I wanted to do something significant in other people’s lives, to have contact with people, to be able to make decisions that will have impact on quality of life, not just money or business.

“It was kind of a natural continuation of what I did in the military, being someone who is important to others, someone who can take care of others.”

Cohen Barak started medical school at Ben Gurion University of the Negev and finished at Technion.

His internship was at Rambam in Haifa and he chose to do his residency in dermatology at Emek.

“I chose Emek for a few reasons. I felt I could get great clinical exposure there. Also, I liked what I had experienced during my clerkship there while an intern – an atmosphere of free discussion and the

feeling that even a young physician could contribute to the design of a patient's care."

In his last two years of medical school Cohen Barak narrowed his interests to pediatrics and dermatology.

"I'm totally ungifted in surgery things, so it was quite obvious that I wouldn't go in that direction. I really like internal medicine, but felt I wanted a residency that is based on clinical judgement that is less dependent on imaging or technology-based procedures.

"I wanted to become a physician whose ideas and diagnoses are based on conversation with patients and examination and basic labs. This is common to pediatrics and dermatology.

"While I really enjoy working with adults, I love working with kids. You cannot judge kids for the situations they end up in, not that we should judge anyone. But a kid is the obvious recipient of a situation he or she didn't do anything to get. Kids can't be held responsible. They represent the ideal image of someone you want to give out your hand to help.

"And I wanted a residency that would enable me to decide whether I want to practice in the hospital or get out into the community clinics. I want to be bound by my decision, not by force.

"I want to have my research as well, combine the two while maintaining a reasonable quality of life. When I graduated medical school I was married and had two children. I want to be involved in my children's lives. And I didn't see myself going into some extreme residency that maybe fascinated me from the point of my character, but didn't contribute to a truly balanced life.

"So I decided to combine the two and become a pediatric dermatologist. As it is, I work very hard at the clinic but still am able to come home early to my family two or three days a week."

Speaking of pediatrics, Cohen Barak came to the United States with three children: sons Ori, 12 and

Amit, 9 and daughter Noa, 4 (who now speaks English with a "Chicago North Shore" accent). His wife Dana, 38, an organization consultant, is currently a teacher in a Chicago area Jewish school. They live in Northbrook and are enjoying connections to the Jewish community and the community of former Israelis there. The family will stay a total of two years.

So far they have traveled to Washington, D.C. and Georgia and before the winter weather spent weekends hiking, biking and in Chicago parks and at Lake Michigan. With the advent of winter they've taken to ice skating and rely more on indoor activities such as swimming, basketball and hanging out at the Jewish Community Center. But they also enjoy snow forts, snowmen, sliding down snowy hills and just throwing snow on each other!

"The family has become closer because suddenly we're all we've got here and we have time for each other, great family time. It's not that I have more family time than I had in Israel, but in Israel the boys were with their friends; here we feel like we have them back for two years. Once we return to Israel they will go back to their friends. This is the way of the world."

In the last two years Cohen Barak has been collaborating with Emek's genetics facility to research rare genetic dermatological disorders found in the population served by the medical center.

"Our catchment area has some unique demographic characteristics. We have some isolated homogeneous populations, including: Jews, Arabs, Muslims and Bedouins, that marry within and create a relatively high frequency of genetic disease.

"We wanted to establish a facility to diagnosis these conditions and treat them as both skin diseases and medical diseases that present as skin conditions. We wanted to take this group and stop these people from having to go from clinic to clinic with

no one giving them all the treatment they should have.

“For the first time in their lives, these people have been ‘put in the center.’ We’ve recruited more than 100 patients in the year and a half the whole program’s been open.

“People may ask why should we study something so small, something that may have 10, 25 cases all over the world. And the answer is that conclusions that could be drawn from this focused research may expand our understanding regarding much more common diseases, ones that share some of the features of those rare diseases.”

In addition to working with Dr. Stavit Allon-Shalev, head of Emek’s Genetics Institute, Cohen Barak collaborated with Dr. Eli Sprecher, head of the department of dermatology at Tel Aviv Sourasky Medical Center, on several projects and with several patients. The latter also made contact for him with Professor Kathleen J. Green, director of a dermatology and pathology lab at Northwestern’s Feinberg School of Medicine. “Kathy and I communicated for a year and a half to establish my credentials and goals for my fellowship, our mutual expectations. Kathy said, ‘You’re coming for two years. While this seems like a long time, everyone who works for me is a post-doctoral fellow and comes for four or five years.’

“I don’t have a lot of time and I have a lot to accomplish. I have to work very hard. The plan, according to both Kathy’s expectation and mine is for me to become an independent researcher.

“Still, it wasn’t as though I didn’t have something to offer coming in – I had my own research and truly viable questions to present.”

### **Did you have to leave Israel to get this kind of experience?**

“Yes, there is no such comparable laboratory situation in Israel. Also, it was very difficult to take time off from clinical work to do research. Now I

can truly focus on myself. It really works, this time of ‘isolation.’ “

### **Was Northwestern your first choice?**

“I looked at other places, but Northwestern was pretty much in the lead from the beginning. The Green lab is very famous, as is the entire dermatology department. And they were very happy to host me and have me observe.

This lab is one of only a few of its caliber in the in the United States. Everything is state-of-the-art -- people, equipment and physical plant. The teaching is wonderful, as is the availability of resources. In Israel we have about one-tenth of the resources with which to do our work.

“Also, there is the potential for me to collaborate with this top-notch facility in the future.”

### **Is it intense?**

“Oh yes. In the first two months I had intensive training and mentoring by one of the assistant professors in the lab before I could start my own projects. She was right beside me all the way. And I keep learning fundamentals all the time.

“Now, regularly, I must come up with an idea, do the reading, propose a hypothesis and some research questions, present it to the principal investigator of the lab and discuss how to promote it. You are never handed an assignment; you must create your own projects. Mine are all from my work in Israel. You are expected to work hard and get good results. And for me, it’s all in only two years.

“Still, it’s not like I’m in there alone, others are there to bounce ideas off of and help in other ways.”

### **What projects are you working on now?**

“I’m working on two big projects focusing on two genetic diseases, both very rare. I have a significant contribution to make to the science surrounding them.

“As I have touched on before, these two projects are models of how you can take very rare diseases and draw conclusions from them to much more common diseases.”

**What else does your fellowship entail on a regular basis?**

“I give one or two lectures a month to the lab members and all the labs in the department and once a week or every other week I observe in a pediatric dermatology clinic. I also study and do reading and attend various seminars including clinical seminars once a month in the dermatology department.

“Here’s my average daily schedule: my own lab work from about 8 a.m. to 1 p.m.; lab meeting from 1 p.m. to 2:30 p.m.; my own lab work from 2:30 p.m. to 5:30 p.m. And sometimes I work at home. I have an hour commute to the lab.”

**What do you hope to take back to Israel from your Northwestern experience?**

“I hope, one day, to establish a research lab. Of course, it’s not going to be like Kathy’s facility, but you CAN do a lot with less. It only depends on how determined you are and how much effort you are willing to put in, how much dedication you have.

“Here is VERY nice. But if I thought there was no chance that I could build something that would fulfill my expectations of conducting good solid medical research, I wouldn’t have come.

“Kathy and I have agreed on several techniques and procedures that I must be excellent at by the time I return to Israel. We’ve also agreed on the fact that I will have to work just to get a lab, which means learning how to get space, equipment, staff, dedicated time, etc. I’m not planning to land, in 2019, in an office in dermatology with a well-equipped lab next to it. Maybe I’ll have an office...

“I’m working on learning how to do all that as well as how to be a skilled researcher.

“If and when I get a lab, it will be one of the few basic science research labs at the medical center.”

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**American Physicians Fellowship for Medicine in Israel**

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