

Interviews

In the following interviews, EMJ spoke to two internationally renowned dermatologists, covering topics such as recent advances in the management of atopic dermatitis, the effects of the COVID-19 pandemic on their field, and the introduction of artificial intelligence into the discipline.

Featuring: Peter Lio and Roxana Daneshjou



Peter Lio

Clinical Assistant Professor of Dermatology and Pediatrics, Northwestern University Feinberg School of Medicine; Founding Partner, Medical Dermatology Associates (MDA) of Chicago; Founding Director, Chicago Integrative Eczema Center, Chicago, Illinois, USA

Q1 Following your medical studies at Harvard University, Massachusetts, USA, what led you to specialise and pursue a career in dermatology?

My undergraduate major was in neurobiology, and I honestly thought I would be a neurologist. However, when we had our (very short!) dermatology exposure in medical school, I was captivated. Everyone says that dermatology is very visual, and it is, but it was the language that really made me want to learn more; the descriptors, the precision, the tremendous range of diseases. And then, when I actually did a dermatology rotation, I was over the moon with the incredible therapeutic armamentarium in the field! Topical medications, oral medications, lasers, ultraviolet light, and even cryotherapy. We actually used the cold to treat the skin! It was

intoxicating and unlike any other field I had been exposed to.

Q2 You are a Clinical Assistant Professor at Northwestern University Feinberg School of Medicine, Illinois, USA. What are some points of emphasis that you incorporate into your teaching?

I have a few areas of focus that I try to emphasise in my teaching:

First, I am a patient advocate. My work with the National Eczema Association has made me very much in tune with the patient experience, and I try very hard to meet the needs of my patients and their families. I try to teach this patient-centric approach whenever I can.

The second is that I am fascinated by integrative approaches in medicine. I'm a bit of an evangelist for this type of thinking, and I try very hard to show that we're not using quackery but are basing what we do on evidence and experience, with the idea that we want and need more research in these areas. It is a little bit of a chicken-and-egg situation: if no one thinks about integrative approaches because there isn't enough research, then it's likely that no one will actually do the required research to move these areas forward! I truly believe that good clinicians need to often think outside of the box, and this is just another way of stating that.

Q3 You are also the founding director of the Chicago Integrative Eczema Center. What was the mission that you set out to achieve when you set up this clinic?

The main impetus for starting the centre was a paradox: all day long I'd go from room to room and hear the same thing from atopic dermatitis patients: "I feel alone, I have so many questions, I feel unheard." And I realised that if we created a centre where people could come together, we could actually tackle all of these at once! And indeed, that is what we strive to do with education, a support group, and the ability for kids and adults to meet and connect with others like them. Ultimately, I wanted a place that we could have education, clinical excellence, support, and research and I feel very lucky that we've been able to accomplish a great deal.

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Q4 The Chicago Integrative Eczema Center emphasises the importance of education about eczema. Do you think that there are misconceptions about the condition?

Yes, I think there are many misconceptions and, no doubt, a big part of our work is to help clear these up. Some of the big ones include parents feeling guilty that they did something wrong and that it is their fault. There are heaps of misconceptions around the relationship between food and eczema, no doubt in part because that relationship is extremely complex, and our understanding is rapidly changing. There are many misconceptions around treatments, especially their safety. I am very sober about our therapies: any sword cuts both ways meaning there are always side effects that can occur, but it's really important to understand them, to be on the lookout for their earliest signs and risk factors and get as close to the truth about things as we are able.

Q5 Was there a particular event or person that sparked your interest in alternative medicines?

I think I have always been interested in the edges or limits of things; that's where a lot of the most interesting things happen! I have, for as long as I can remember, been interested in the paranormal and, when I got to medical school, I couldn't help asking about all of the interesting things outside the cannon of conventional medicine. What about herbs? What about acupuncture? What about therapeutic touch? Do these work? How do they work? Is there any evidence? Typically, these are not covered in medical school, but I quickly found out that there often was some evidence and information about them and that really piqued my interest.



Q6 You currently have over 150 publications to your name, primarily on the subject of eczema and its treatment. What do you believe are the current gaps in the literature that merit greater attention?

My current areas of interest are thinking about longer term disease modification and control. My goal for patients is to be medication-free, if possible, and I truly think that, for many patients, it can actually happen. I want to better understand how to modify this condition so that we can go from a vicious cycle of flaring to a virtuous cycle of healing. I honestly think, and to some degree have witnessed, that once the skin heals, the microbiome is restored, sleep is improved, and the itch-scratch cycle is broken; some patients really can go into an extended remission. That is when we celebrate!

Q7 Over the years that you have been practising as a dermatologist, how have you seen the field change in terms of advancements to the treatments used?

There have been so many exciting advancements and that is part of why I still am deeply in love with dermatology! From new lasers, topical medications, and systemic medications to new devices such as the widespread use of dermoscopy, and (finally!) the true rollout of teledermatology, my practice has continued to change and grow. However, more importantly than these more tangible things, perhaps, is the advancements in understanding: not just disease states and therapies, but better understanding of the patient-doctor relationship, the burden of disease, and a greater awareness of how we can improve.

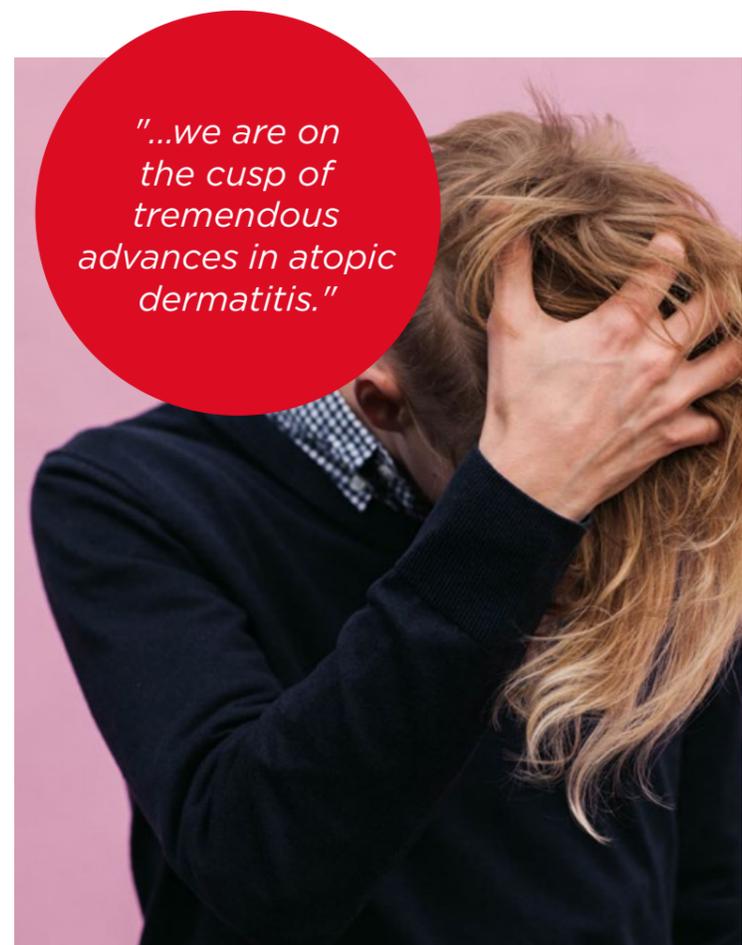
Q8 Have you found that the public are generally receptive to new therapies, or do you occasionally experience resistance?

I think that generally people are excited about new therapies, at least conceptually. We now live in a world where the titans of Silicon Valley continue to surprise and delight us with ever-improving gadgets and services that we now

don't know how we could live without. And, to some degree, new treatments can have a similar appeal. However, I will concede that this is not universal and that things like 'me too' drugs (essentially the same or only slightly different than existing therapies), very expensive drugs, and those with many side effects can sort of put a damper on this type of thinking and we have seen pushback against certain therapies that I thought would be embraced and vice-versa.

Q9 Could you highlight the key findings of your recently published article, titled 'Advances in the Translational Science of Dermatitis'?

I think that perhaps the most important point of the paper is that there is a virtuous cycle of drug development and understanding the pathogenesis of a disease, and that we are finally entering into that cycle with atopic dermatitis after a very long period of drought. The skin barrier, the immune system, the microbiome, and even the nerve endings and mind-body connection: all are starting to yield to scientific inquiry, and we are on the cusp of tremendous advances in atopic dermatitis. ■



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Roxana Daneshjou

Clinical Scholar of Dermatology, Stanford University, California, USA

Q1 Following your medical studies at Stanford University, California, USA, what sparked your interest in the field of dermatology?

I became interested in dermatology after spending time working with dermatologist physician scientists at Stanford. I saw how clinical practice led to new and interesting scientific questions and how scientific breakthroughs led to improvement in clinical practice. As a student, I also saw the kind of lasting relationships that our dermatologists built with their patients, which is something I really value. I feel lucky to have the opportunity to do the same as a practicing dermatologist now.

Q2 How has the field of dermatology been impacted by the COVID-19 pandemic?

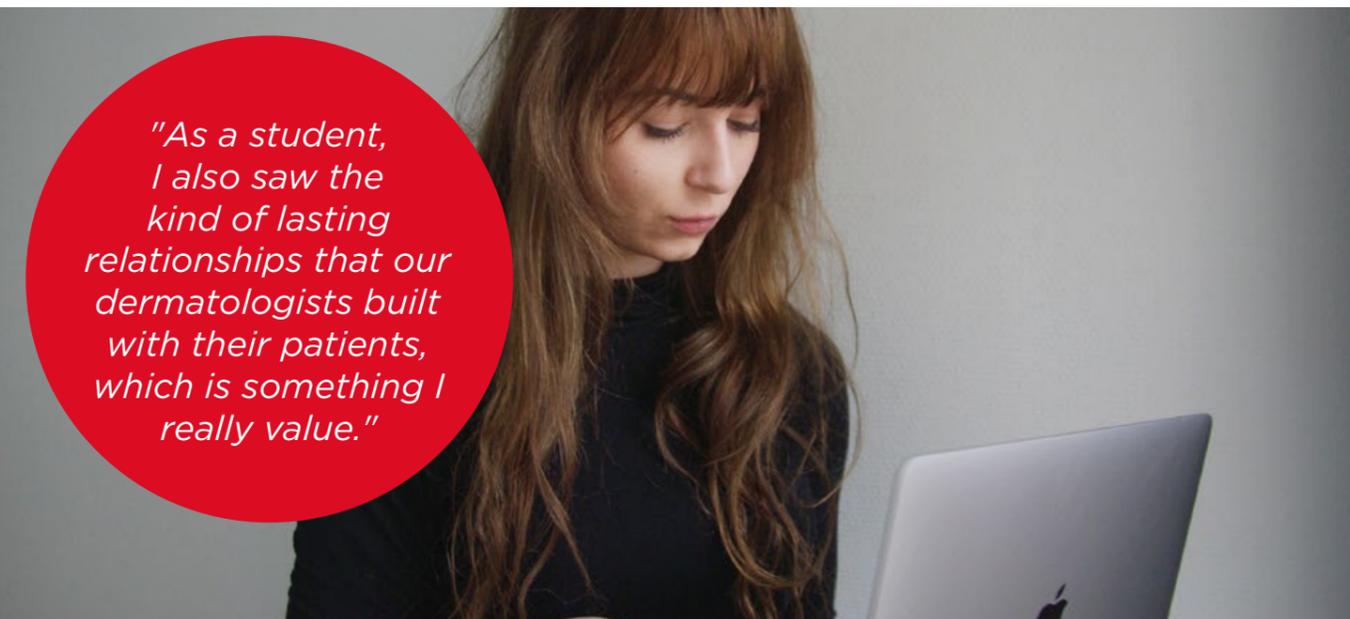
In places where COVID-19 overwhelmed the healthcare system, dermatologists stepped up to help out on the front lines. In outpatient dermatology, we had a sudden increase in telemedicine, since in-person visits were reduced. After vaccinations, in-person visits have

increased, but many patients and physicians also continue to rely on telemedicine. I believe telemedicine will remain an integral part of dermatological practice, and it has the added benefit of increasing access for patients who might not live near a dermatologist.

Clinically, dermatology has encountered and defined new clinical entities during the pandemic, such as the cutaneous manifestations of COVID-19. I have seen these findings in my own practice and am grateful to the leadership of clinician researchers who have helped to describe these findings and their expected course.

Q3 You have contributed to numerous publications based around the topic of artificial intelligence (AI). How do you believe the use of AI could advance the field of dermatology?

AI and dermatologists working synergistically ('augmented intelligence') has the potential to improve workflows and clinical care. A study by Tschandl et al.¹ found that clinicians paired with AI performed better than either clinicians or AI



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