

2022 American Academy of Dermatology Innovation Academy Conference

Day 1 Highlights
July 21-24, 2022

The American Academy of Dermatology Innovation Academy (AAD IA) meeting, formerly known as Summer AAD, brought top dermatologists together to learn from one another and share pearls.

Held at the Vancouver Convention Center in British Columbia, Canada, the meeting spanned four days and included a focus on new technology, the business of dermatology, and other issues affecting the specialty.

Below, we summarize some of the presentations that caught our attention at the conference, and we will follow this up with a postconference wrap-up report soon. Stay tuned.

Select sessions/highlights at the 2022 AAD IA Conference

The future of dermatology is now

From artificial intelligence (AI)-based apps to new biopsy methods and classification systems, innovations in clinical care took center stage at the aptly titled meeting, with several top dermatologists educating attendees on what's here now and what's in the pipeline.

Acne can be effectively managed at home, especially in areas where there are long wait lists to see a dermatologist, said Yoram Harth, M.D., an Israel-based dermatologist and former research fellow at the department of dermatology at Columbia Presbyterian in New York City. He discussed the benefits of the [MDacne app](#), which uses image analysis and AI to help patients treat their acne. Harth also serves as chief medical officer at Mdalgorithms, the company behind [MDacne](#) and [MDhair](#).

Here's how it works: People with acne take a selfie on their smartphone and get an acne treatment plan that's personalized to their acne type and severity in seconds based on a proprietary dataset of 5 million images, he explained. "Based on the

data analysis, they get a complete kit of customized over-the-counter anti-acne medications to their doorstep," he said.

Acne care and treatment don't stop there. "During the treatment, the users of the [MDacne app](#) continue to take selfies on the app to monitor their progress and fine-tune the products," Harth said. They also get 24/7 unlimited and free chat support from a team of dermatologists and registered nurses, he added.

The need for such services has never been greater. "Five hundred million people struggle with acne at any given moment, and the number of dermatologists worldwide is decreasing," Harth said. As a result, "these people use one-size-fits-all products that are frequently irritating or simply ineffective."

The app-based care benefits patients and physicians. "By using AI-based services like [MDacne](#) for acne or [MDhair](#) for common types of hair loss, dermatologists can spend more time treating complex skin conditions, diagnosing skin cancer, performing procedures, and conducting research," said Harth.

Innovations in skin cancer diagnosis

AI is also changing the way that dermatologists diagnose skin cancer. Genevieve Patrick, a third-year medical student at Florida State University (FSU) College of Medicine in Tallahassee, discussed the clinical validation of a handheld AI device that utilizes elastic scattering spectroscopy (ESS) for the detection of skin cancers. She spoke on behalf of Armand Coggnetta, M.D., the fellowship director of Micrographic Surgery and Dermatology Oncology at FSU College of Medicine.

There are several clinical tools available to aid the detection of skin cancers, including magnifying glasses, confocal microscopes, and dermoscopy, but none are perfect. "The challenge to dermoscopy is the extensive training required for its proper use, which limits its utilization in primary care settings," Patrick said. For this reason, many primary care doctors choose teledermatology consultations, and this strategy presents image quality issues and difficulties in deducing lesion characteristics over video format, she said.

There are similar issues with image-based AI devices, which is likely why there are currently no approved instruments available for use in the United States. "Another alternative diagnostic tool is the use of genetic marker testing, but this process can

take several minutes per lesion in the office and then several days beyond that to receive the lab results," Patrick said.

Enter ESS.

This handheld AI device utilizes light wavelength emissions to analyze cellular and subcellular changes characteristic of malignant lesions. "Additionally, the AI component is based on a neural network, which is a series of algorithms that aims to recognize dataset relationships and patterns," Patrick explained. "These patterns are then used to develop training sets that will guide device output."

Consider it an optical, noninvasive biopsy. "The device captures and processes data from below the skin's surface and then compares it to characteristics of previously identified malignancies from training sets," said Patrick. These training sets have been cross-validated against standard histopathologically prepared biopsies.

And so far, so good. In a study, device sensitivity was 97 percent for detecting all skin cancers, and dermatologists' sensitivity was 97 percent. The device specificity was 22 percent compared with 37 percent for dermatologists, the study showed. "Overall, the device can effectively detect melanoma, basal cell carcinoma, and squamous cell carcinoma at 97 percent sensitivity and could eliminate or allow monitoring of a significant portion of benign biopsies," said Patrick.

This device can help rule out biopsies on cosmetically sensitive areas or rule in and prioritize biopsies on patients with many moles, she said. "The device may serve as an additional objective, point-of-care test for clinical assessment, particularly helpful for early practice dermatologists and nondermatologist providers," Patrick added.

As for more innovation, George Han, M.D., Ph.D., associate professor of dermatology and director of clinical trials and teledermatology at Zucker School of Medicine at Hofstra/Northwell in New Hyde Park, New York, discussed the Dortch Smart Sticker, which gently lifts selected genomic markers associated with melanoma of skin cells off the surface of a mole without a scalpel. The stickers are then cut to the shape drawn on the adhesive and placed into tubes for testing. It can take three to five days to get results from the testing.

Goodbye PASI, hello OPAT?

Benjamin Lockshin, M.D., a dermatologist in Silver Spring and Rockville, Maryland, discussed alternatives to the Psoriasis Area and Severity Index (PASI), the most common disease severity measure used in clinical trials of moderate-to-severe psoriasis. PASI is a complex and time-consuming measure and is generally not used in clinical practice, Lockshin said. The Optimal Psoriasis Assessment Tool (OPAT) is a simple, time-saving alternative to the PASI that has been validated as a robust proxy for the PASI and Dermatology Life Quality Index. It is derived using body surface area and patient-reported assessments.

OPAT addresses three main gaps seen with the PASI, Lockshin told the audience. It translates clinical trial outcomes (PASI) to real-world applications, bridges the gap between clinical practice and disease severity assessments required by many payers to determine eligibility for biologics, and can help assess a patient's disease severity, both clinically and in terms of quality of life, in real-world studies, without the need for complex PASI score calculations.

Hacking dermatology

Everything is changing, including how dermatologists practice medicine, said keynote speaker Jamie Metzl, a New York-based technology and health care futurist and author of *Hacking Darwin: Genetic Engineering and the Future of Humanity*.

"My goal is to help people think about the future of science, technology, and health care and draw connections between the future and how they will live life and work over the coming years and decades," Metzl explained.

For decades, medicine was based on individual biology, but not anymore, said Metzl. "As we collect more and more data in massive datasets and develop predictable algorithms, we are transitioning to a new phase of predictive health care," he said.

This doesn't mean that machines will replace man, Metzl stressed, adding: "A human practicing alone will be insufficient and AI data alone insufficient, but the standard of care will be humans and AI working together."

So-called augmented intelligence is where medicine is headed. "It's not replacing doctors; it's augmenting the care that they give," said Metzl. "We have to figure out the division of labor."

This starts with embracing technology, not fighting it, he said.

“The goal for dermatologists and dermatology is to figure out how we can be the very best humans we can be,” said Metzl. “We shouldn’t compete with AI. If there is something AI can do better, let them do it better, and focus on things we can do,” he said.

“Dermatologists have the dual role of guardians of ancient traditions that span back thousands of years and as ambassadors of an exciting future,” said Metzl.

Rolling with the changes

Today’s dermatologists are faced with caring for patients and running a business, which is not something that is routinely taught in medical school.

Libby Gill, a leadership consultant and executive coach based in Medford, Oregon, spoke to attendees on how to lead teams through change, challenge, and chaos. Gill is the author of several books, including *You Unstuck*, *Capture the Mindshare and the Market Share Will Follow*, *Traveling Hopefully*, and *The Hope-Driven Leader: Harness the Power of Positivity at Work*. “It’s critical to determine if the change is something a leader can implement or if it is something beyond their control that must be managed,” Gill said.

Leaders must establish the need for change. Here, the key is to state compelling reasons for the desired change and define anticipated benefits. It’s also important to describe the potential ramifications of not changing.

Change isn’t easy, said Gill. It’s a process, and the first step is to identify any barriers to change. “Identify both positive and negative impacts and create a communications strategy,” she explained.

Identifying change components is also an important part of the process. This includes defining specific milestones, recognizing formal and informal change agents, and empowering employees by pushing decisions and actions downward.

Another key to success is to make sure your team is aligned with the coming changes. “Reward positive behaviors, manage resistance, and offer training and resources as needed,” Gill said.

Metrics matter too. “Relentlessly measure outcomes, review predetermined metrics for each stage, and implement ongoing course corrections,” she said.

As part of this session, dermatologist entrepreneurs spoke about their experience in developing a product line, new drugs, or devices. Speakers included Anar Mikailov, the founder of KP Away; Kathy Fields, M.D., co-creator of Proactiv and co-founder of Rodan + Fields; and Srdjan Prodanovich, M.D., who developed EZDERM, a physician-driven electronic health record for dermatologists. Ronda Farah, M.D. an assistant professor of dermatology at the University of Minnesota Medical School in Minneapolis, led a discussion on using social media responsibly as part of brand management.