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What residents need to know about psoriasis – Part 2

By Brad Glick, DO, MPH, FAAD, and George Han, MD, PhD, FAAD

In this issue, we present more of our conversation with Drs. Glick and Han from the winter issue of Directions in Residency *regarding psoriasis essentials for residents. You can read the first part of this story online at aad.org/directions.*

What are the most common psoriasis conditions residents are likely to encounter once they enter practice?

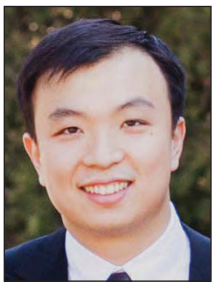
Psoriasis remains a very common skin disease and while typical plaque psoriasis represents most psoriasis patients, recognizing its variants is important. Generalized pustular psoriasis and erythrodermic psoriasis continue to affect our patients and carry significant associated morbidity and mortality. We should also recognize that a large proportion of psoriasis patients remain undertreated and when psoriasis patients are asked about whether they're happy with their current treatment, many will indicate that they are not, even if they don't make it obvious in a clinical visit. Thus, laying out the spectrum of options for treatment is of utmost importance, as is screening for major psoriasis comorbidities. It is crucial to include an assessment of joint disease by regularly screening for psoriatic arthritis. Residents should understand and utilize a variety of potential screening tools such as the PEST (Psoriasis Epidemiology Screening Tool), which is a five-question survey that patients can complete while in the waiting or exam room.

In addition to diagnosis and treatment, what are some things residents should know about psoriasis patients? Do patients have any special needs?

The burden of psoriatic disease is significant. The Global Burden of Skin Diseases showed us how much skin conditions affect our patients and, in most metrics, psoriasis came out on top, significantly associated with anxiety, depression, and suicidal ideation. Patients with psoriatic disease are at least 20-30% more likely to develop anxiety and depression compared to those who do not have psoriasis. From a clinical perspective, there is most certainly a long-lasting persistent stigma for patients with psoriasis, and it is both a physically and emotionally debilitating disease.

see **PSORIASIS** on p. 3

Brad Glick, DO, MPH, FAAD, is the dermatology residency program director at Larkin Palm Springs Hospital in Florida and also a member of the AAD Board of Directors.



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PSORIASIS from p. 1

The subject of diet and psoriasis and its impact from a therapeutic perspective remains controversial. What is clear is that it is a topic that our patients are very interested in and often have questions about. Overall, it is known that an anti-inflammatory diet may be of benefit to individuals suffering with psoriatic disease. There is a complex relationship between pro-inflammatory cytokines, adipokines, and other biofactors and biomarkers, including leptin and human defensins. These relationships not only impact psoriatic disease but may also connect psoriasis with other comorbidities such as heart disease. Thus, our understanding of the connections between diet and psoriasis remains very important and is an area requiring ongoing clinical and scientific research.

Are you aware of any gaps in traditional education about psoriasis that residents should know about?

Unfortunately, the exposure of most medical students to psoriasis is perfunctory at best, and most residency curricula don't delve into this topic with much depth. Residents may spend more time memorizing obscure genodermatoses than familiarizing themselves with the most up-to-date treatments on a condition they will see every day! More concerning, though, is the fact that approaches to psoriasis and treatment thereof may often be biased by program and attending. As such, some institutions may have dermatologists very well-versed in and focused on treating psoriasis with modern therapies while others may not. This is one of the reasons the NPF Residents' Meeting was started — to even the playing field and make sure that residents come out of their training with a nuanced and deep understanding of psoriasis.

What's new in psoriasis that residents should know about?

Therapeutic targets are evolving and our appreciation of the many comorbidities of psoriasis is becoming deeper. New molecules have recently been developed and approved and some are on the horizon for managing psoriasis patients, across the spectrum from mild to severe disease. The conversation around topical non-steroidal medications has also changed, with new agents (tapinarof, roflumilast) that are effective and, in the case of the former, feature unique properties such as long periods of remission off-treatment upon clearance. Sometimes, new treatments for psoriasis help to improve our understanding of the pathogenesis of psoriasis, such as with the case of bimekizumab. While research had traditionally focused on IL-17A as the most 'potent' cytokine in the IL-17 family, this dual inhibitor of IL-17A and IL-17F helped to show the importance of the latter cytokine, which is present in much higher concentrations in active psoriasis plaques than IL-17A. Thus, bimekizumab appears to be highly effective in both psoriatic skin and joint disease and shows promise in other indications such as hidradenitis suppurativa, which has some elements of overlapping pathogenesis with psoriasis.

What's new in complementary and alternative medicine in psoriasis?

While the data for complementary and alternative medicine in psoriasis is often mixed and incomplete, it is important for dermatologists to understand how to approach patients when they discuss what they're doing outside of our traditional "Western medicine" approach to disease management. This contributes to our ability to be holistic caretakers of our patients with psoriatic disease. The most favorable current evidence demonstrates effectiveness of alternative therapies such as topical indigo naturalis, topical and oral curcumin, as well as fish oil. DR

Eduardo Michelen Gómez, MD, is a PGY-2 dermatology resident at the University of Puerto Rico.

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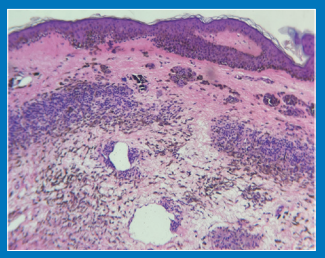
Race for the Case

By Eduardo Michelen Gómez, MD, and Karina Cancel-Artau, MD



A 39-year-old male patient with a history of intellectual disability, hydrocephalus with ventriculoperitoneal shunt since the age of three, and epilepsy was admitted for a three-day history of tonic-clonic seizures and multiple bouts of dark brown-colored emesis. At the time of admission, he denied any other systemic symptoms. Spine and brain MRI showed diffuse supratentorial and infratentorial leptomeningeal thickening and enhancement with intrinsic T1 hyperintensity involving the basal cisterns and bilateral frontoparietal lobes. On day two of his hospital stay, the inpatient dermatology service was consulted for evaluation of multiple brown cutaneous lesions. Physical examination was remarkable for the presence of widespread, "velvety" appearing, brown plaques that involved the head, neck, trunk, and extremities, most of which also had overlying tufted hairs. No alarming gross or dermatoscopic features were identified. A 4-mm punch biopsy of a single lesion showed regular nests of melanocytes in the dermoepidermal junction and upper reticular dermis.

1. **What is the most likely diagnosis and most common mutation?**
2. **Which postzygotic genetic mutation is most likely present and associated with the development of the cutaneous lesions in this patient?**
3. **What are the most common extracutaneous findings associated with this condition?**
4. **Mention some of the CNS structural abnormalities that can been seen in association with this disorder.**

Respond with the correct answers at **www.aad.org/RaceForTheCase** for the opportunity to win a Starbucks gift card!

Race for the Case winner (Winter 2022)

Congrats go out to Shiri Nawrocki, MD, a PGY-3 dermatology resident at Einstein/Montefiore Medical Center in the Bronx, NY, who correctly identified incontinentia pigmenti in our last issue and gave the most comprehensive answers to the questions asked. You can read more about this case online at **www.aad.org/race-case-answers**. If you can solve this latest case, there may be a Starbucks gift card in your future. You may even be invited to contribute your very own Race for the Case. We eagerly await your responses!

Cryosurgery

By Emily Ptasnik, DO, and Chiara Rosenbaum, DO, MS

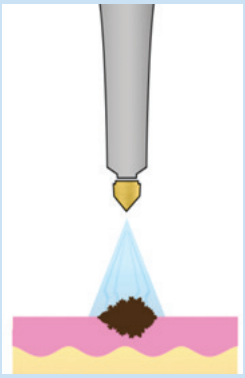
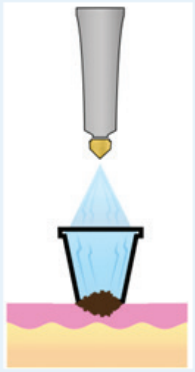
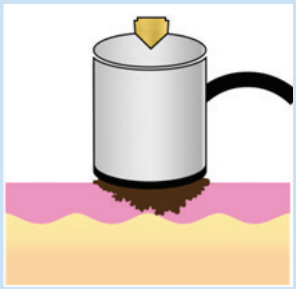
General principles

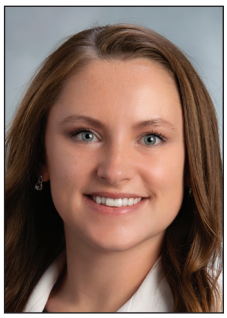
- Cryosurgery is a minimally invasive technique that utilizes subzero temperatures to destroy benign, premalignant, and malignant lesions.
- Cryosurgery should not be performed without first establishing correct diagnosis via clinical examination, dermoscopy, and/or histologic examination.

Optimal freezing techniques

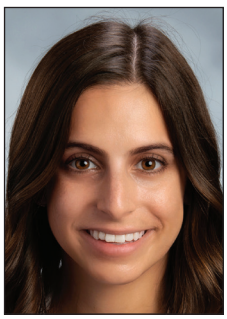
Fast freezing	Intracellular ice formation and cell destruction better than slow freezing.
Slow thawing	Greater probability of ice formation within the cell. Thaw time is ~2x as long as freeze time.

Instruments and techniques

Instrument	Mechanism of delivery	Details	
Open (spray)	Metal container with spraying tip or opening through which cryogen is released Key factor: Achieving correct freezing temperature Discharge spray at a distance of 1-2cm from lesion	Most common Suitable for flat/elevated and benign or malignant lesions.	
Semi-open (confined spray, cone)	Using a non-conducting material with hole or cones to restrict spray of liquid nitrogen (LN) Splattering of LN avoided and normal surrounding tissue is spared	Faster freezing than the open technique.	
Semi-closed (chamber)	One end of metal cone is attached to cryogen Distal end is held firmly against skin (with rubber-protection) System generates potent freezing – turbulence within chamber → faster freeze time	Reserved for malignancies.	



Emily Ptasnik, DO, is a PGY-2 dermatology resident at Beaumont Trenton, Michigan.

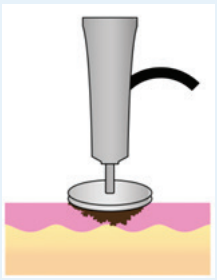
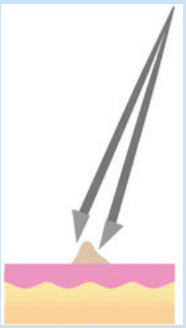
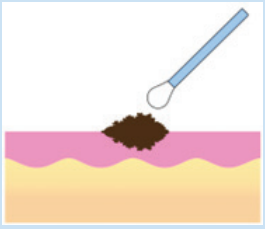


Chiara Rosenbaum, DO, MS, is a PGY-2 dermatology resident at Beaumont Trenton, Michigan.

Cryosurgery

By Emily Ptasnik, DO, and Chiara Rosenbaum, DO, MS

Instruments and techniques

Instrument	Mechanism of delivery	Details	
Closed (probe, contact)	Cryogen delivered through closed system, such as a metal probe Probes vary in size and shape	Best for flat lesions to ensure homogenized freezing Hemangiomas = apply pressure in order to "press out" blood and lower final temp.	
Tweezers	Previously frozen forceps used to grasp pedunculated lesions	Ideal technique for filiform lesions, with sparing of normal surrounding skin Minimizes post-treatment hypo- or hyperpigmentation.	
Intralesional	Cryogen injected through tissue via needle One end of the needle is attached to cryogen The other end exits the skin to allow for release of LN	Used for large nodular tumors Advantage = freezing originates from center of mass.	
Dipstick	LN-saturated cotton-tipped applicator placed directly onto lesion	Can be used for verrucae and solar lentigines.	
Slush	Crushed carbon dioxide solids are placed in disposable towel, dipped in acetone and lightly dabbed onto skin		

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2. Alikhan A, Hocker TL. *Review of Dermatology*. Elsevier: 2017; 432-433.
3. Mariwalla K, and Leffel DJ. Chapter 9: Cryosurgery. *Primer in Dermatologic Surgery: A Study Companion*. 2nd Edition ed., American Society for Dermatology: 2011; 53-56.

The expanded, full version of this chart includes mechanism of action, indications for cryosurgery, contraindications for cryosurgery, optimal freezing techniques, and more! It's available now at **www.aad.org/boardsfodder.**

More boards!

There are more new charts online! A complementary chart on **Atopic Dermatitis** by Karina J. Cancel-Artau, MD, Diana V. Rodríguez-Rivera, MD, and Xavier Sánchez-Flores, MD, is now available online. We also have a new chart on **Dermatologic surgery undermining planes** by Michael J. Visconti, DO, and M. Laurin Council, MD, FAAD.

Check out the full archives at **www.aad.org/boardsfodder**.

Lindy P. Fox, MD, FAAD, is a professor of clinical dermatology and director of the Complex Medical Dermatology Fellowship Directory, inpatient dermatology, in the department of dermatology at UCSF in San Francisco.

Clinical Pearls

Clinical Pearls help prepare residents for the future by providing them with top tips from experts about what they should know about specific, key subject areas by the time they complete their residency.

Inpatient dermatology

By Lindy P. Fox, MD, FAAD

Inpatient dermatology is an incredibly rewarding subspecialty that allows dermatologists to have tremendous impact in caring for some of our sickest patients, interface with multidisciplinary teams, and elevate the field of dermatology in the house of medicine.

When you are called to see a consult, remember that you are probably the only person in the hospital who knows how to evaluate the skin. You are being consulted because the primary team needs your expert opinion. It an honor and a responsibility. With that in mind, here are a few pearls to take with you when doing inpatient consultations.

1. Don't buy what they're selling. An inpatient dermatology consultation results in a change in the consulting team's diagnosis up to 71% of the time[1]. So, examine the entire patient including the hair, nails, oral and anogenital mucosa, and skin to find the pertinent positives and negatives.

2. Patients in the hospital are really sick[2], so keep your differential broad and include the diagnosis that will kill the patient if you miss it. This is very different from the approach to outpatient dermatologic problems. A great example is an immunosuppressed hospitalized patient status post bone marrow transplantation for acute myelogenous leukemia who presents with fever and purple nodules on the skin. The differential diagnosis includes Sweet syndrome, relapsed leukemia cutis, and a disseminated infection (fungal, bacterial, or mycobacterial). In such cases, it is often prudent to treat empirically for the possible infectious causes of the skin lesions while waiting for diagnostic studies to result.

3. The diagnosis of a drug eruption requires knowing three things: Rash type, timing, and statistics. While any drug can cause any type of rash morphology, this approach (I made it up) helps me think through drug eruptions and quickly eliminate the most common culprits.

a. Type of rash — look for signs that help you classify the drug rash.

b. Timing of rash relative to timing of drug exposure — make a detailed drug chart.

c. Statistics — know which drugs are most likely to cause the type of rash you are evaluating.

Common examples include:

Acute generalized exanthematous pustulosis: Confluent erythema studded with minute pustules occurring within 48-72 hours of medication onset; associated with neutrophilia; most common offenders are beta lactams and macrolides.

Drug hypersensitivity syndrome: Morbilliform eruption with facial edema with one or more of eosinophilia or atypical lymphocytosis/transaminitis/renal involvement occurring after 3-7 weeks of continuous medication exposure; most commonly to NSAIDs, anticonvulsants, allopurinol, antibiotics, or dapsone.

Linear IgA bullous dermatosis: Widespread tense bullae (some in rosettes) on an inflammatory base occurring within the first days to weeks of vancomycin exposure.

4. When an inpatient dermatologist gets called to see a case of cellulitis, the diagnosis is often a pseudocellulitis[3,4]. This happens at least 30% of the time. Common missed diagnoses are stasis dermatitis, contact dermatitis, eczema, and lymphedema[5]. "Do not miss" diagnoses include pyomyositis, phlegmasia, necrotizing fasciitis, erythema migrans, pyoderma gangrenosum, and deep vein thrombosis. If it's bilateral, it is unlikely to be cellulitis.

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1. Kroshinsky D, Cotliar J, Hughey LC, Shinkai K, Fox LP. Association of Dermatology Consultation With Accuracy of Cutaneous Disorder Diagnoses in Hospitalized Patients: A Multicenter Analysis. *JAMA Dermatol*.2016;152(4):477–480. doi:10.1001/jamadermatol.2015.5098

2. Tracey EH, Forrestel A, Rosenbach M, Micheletti RG. Inpatient dermatology consultation in patients with hematologic malignancies. *J Am Acad Dermatol*. 2016 Oct;75(4):835-836. doi: 10.1016/j.jaad.2016.05.014. PMID: 27646742.

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5. Boettler MA, Kaffenberger BH, Chung CG. Cellulitis: A Review of Current Practice Guidelines and Differentiation from Pseudocellulitis. *Am J Clin Dermatol*. 2022 Mar;23(2):153-165. doi: 10.1007/s40257-021-00659-8. Epub 2021 Dec 13. PMID: 34902109. DR

Strong bonds created in residency

By Alicia O'Connor, MBBS, BAppSc(PHTY), MPH, FACD

The year was 2016 and I had just completed the first year of my dermatology residency at Royal Prince Alfred Hospital in Sydney, Australia. "You'll never work in a team like that again!" my supervisor of training remarked as she signed my end-of-year performance appraisal. "I call you guys the A-team." she added before ushering me out of her office. I stood in the hallway clutching my paperwork as a rising sense of panic set in. I had struck gold in both the professional and friendship stakes and now sadly it was over.

I am still not sure whether it was destiny, good fortune, or dumb luck that resulted in Deshan, Margit, Ludi, and I being allocated to work at the same hospital that year. Whatever it was, the four of us quickly became friends as we worked hard as a team to treat patients, cover on-call, and pass our various examinations. We pooled our study notes and resources, bought each other coffees and lunches, celebrated each other's birthdays with extravagant cakes, and co-parented a goldfish that was our office pet. Tough days at work and various life dramas were often resolved over a wine or two at the local pub. Passing exams was celebrated with karaoke. These were simple but good times.

Fast-forward seven years to 2023. We are now all grown up and working as dermatologists across the country. We have supported each other through relationship breakdowns, marriages, children, buying property, losing loved ones, and the pandemic. We remain close and even use the same WhatsApp group we created as residents where we exchange funny GIFs, clinical queries, and entertaining anecdotes from our day. I would never have guessed that the random people I was assigned to work with during my dermatology residency would become my dearest of friends. But that's just the way it worked out and I hope those of you reading this today can have that same experience. DR

Friends in residency and beyond. Top left: Dr. Ludi Ge; Bottom left: Dr. Margit Polcz; Center: Dr. Deshan Sebaratnam; Bottom right: Dr. O'Connor.

Alicia O'Connor, MBBS, BAppSc(PHTY), MPH, FACD, is a newly graduated dermatologist and is now a fellow and consultant dermatologist at the Australasian College of Dermatologists.

Is something interesting happening in your residency program? We'd like to feature it in *Directions*.

Send your ideas to **dmonti@aad.org**.

Inside this Issue

Naomi Briones, MD, is a PGY-4 dermatology resident at University of Michigan in Ann Arbor, and a member of the AAD Resident and Fellows Committee.

Before medical school, I had the privilege of teaching in an underserved community in Chicago. After witnessing my students' struggles accessing educational opportunities, I continued to think about how to address such disparities and act as an ally for underrepresented populations. During medical school, it was clear to me that the opportunity gap faced by my students in Chicago had implications for medicine, resulting in a less diverse physician workforce. As I entered residency, the problem of representation became even more apparent.

Many of our colleagues share an interest in ensuring that underrepresented students are given a level playing field when seeking out their specialty of choice. While we still have progress to make, it is heartening to see this commitment from leaders in dermatology. There is a growing number of dedicated scholarships, research awards, away rotations, and other opportunities available for underrepresented in medicine (URM) students. Numerous professional societies have demonstrated a resolve to expand diversity, equity, and inclusion (DEI) efforts.

One way of addressing the lack of URM representation is to create a diverse pool of applicants for medical school and residency, specifically through a pipeline program. Serving as a mentor in my department's pipeline program, and now acting as co-chair, have been highlights of residency. While I do not consider myself an expert in this area, I would love to share reflections from leading a pipeline initiative, in the hopes that others might feel empowered to do the same:

1. Build a strong foundation. We have established a DEI committee in our department and have faculty and residents invested in our pipeline program. Our committee meets monthly to plan programming and discuss ways to grow and refine our pipeline initiative.
2. Collect data and feedback. One of the best ways to set yourself up for future funding streams and maintain departmental support is to demonstrate the impact of your efforts. Survey your pipeline mentees on how the opportunity has helped them and (hopefully) inspired their path into dermatology.
3. Lean on existing networks and take advantage of the resources around you. We have worked alongside student groups in the medical school on outreach efforts and have obtained generous funding from grants offered through our university's graduate school. Additionally, we have invited leaders in the field to be guest speakers on ways to increase diversity.

For residents, extracurricular opportunities are often temporary. We face competing obligations from work and must dedicate significant time to studying. Sometimes, it feels difficult to make an impact. I am hopeful my involvement with the pipeline will have a lasting effect on the field of dermatology by ushering in the next generation. I would love to hear from our readers about efforts to expand diversity in our field — I know many of you engage in inspiring work at your own programs!

The AAD thanks Dr. Briones for her stellar work this past year as resident advisor for Directions*! She's done an outstanding job of reviewing the content for our publication, including our Boards Fodder charts!* DR

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