DERMATOLOGY WORLD®

DIRECTIONS *in* RESIDENCY

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Spring 2020

Moving beyond residency

AAD resources you'll use in practice

As a resident, you've been enjoying all the benefits of AAD membership. In addition to all the tools and resources you use now, one of the first things you'll want to do after residency is make sure you become a full member in good standing. AAD membership provides you with essential, indispensable tools you will use going forward in practice. In this article, *Directions* will provide an overview of the wide range of tools you can be using now ... and will count on to use later.

Publications and communications

JAAD will continue to be an indispensable source to you for current, relevant peer-reviewed scientific and clinical research, including the AAD's evidence-based clinical guidelines.

"*JAAD* keeps residents up to date with the latest advances in diagnosis and treatment, said Dirk Elston, MD, editor of the prestigious journal. "We all want to be at the cutting edge of medicine and our journals make us better physicians. Dermatologists understand this value and cite *JAAD* as the number one benefit of AAD membership."

Dermatology World, DW Weekly, DW Academy Insider, DW Insights & Inquiries, and other AAD publications give you quality, practical, and innovative dermatologic education and will provide you with analysis of important news and what it means for you.

In addition to lively, topical features, *Dermatology World* has a bank of reliable and instructive columns, like "Cracking the Code," "Asked and Answered," and "What's Hot," as well as clinical, practice, and legal columns. You can expand your knowledge, confirm your smarts, and accumulate CME every week by taking advantage of Question of the Week, which is included in your Thursday email from *Dermatology World*. The AAD also provides an online transcript to track all your CME.

Get caught up in the webinars

Budgeting is on the front burner of any resident's agenda. You can maximize your training budget while staying current on trending coding topics without leaving the office by signing up for AAD webinars. Each 60-minute webinar gives you a chance to ask your practice-specific questions during an exclusive Q&A with Academy expert coders. New and upcoming webinars include:

- **Coding & Practice Updates for 2020:** Dec. 12, 2019 (on-demand, available soon!)
- **Mastering Modifiers 78 and 79:** May 21, 2020
- **The Ins and Outs of Audits and Appeals:** Aug. 20, 2020
- **Conquering Coding — What You Need to Know:** Oct. 15, 2020

And there's also a vast resource of archived webinars. Check out your options online at **www.aad.org/webinars**.

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Get virtual with AAD

View the AAD's vast resource of archived webinars online at **www.aad.org/webinars**.


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Keep the "Dialogues" going

Dialogues in Dermatology podcasts are your go-to resource to keep up with the latest in dermatology. Listen in each week as subject matter experts discuss clinical treatments and practice trends. An annual podcast subscription includes quick and convenient interview segments with topic-specific experts. New podcasts are released weekly and there are also online quizzes to test your knowledge. Dialogues offers the ability to earn up to 24 AMA PRA Category 1 Credits™ a year.

"As I've transitioned from being a trainee to an attending, I've really enjoyed listening to the AAD *Dialogues in Dermatology* podcast," said young physician Nada Elbuluk, MD. "It's been an easy and fun way on my work commute to listen to high yield, high quality interviews and earn CME."

Find out more about *Dialogues* at **www.aad.org/member/education/continuing/dialogues**.

More, more, more

Being a member of the AAD offers you connections to a diverse and collaborative network of colleagues and mentors. And, as a member, you will be an advocate to ensure that the public and your colleagues in the house of medicine recognize the experience, expertise, and contributions of dermatologists. You can advance your career and the specialty by staying involved with the AAD through AAD councils, committees, and task forces. The network of contacts and resources can also help you to explore volunteer and international experiences.

AAD meetings offer a wealth of live educational opportunities to help you transition from residency to practice. The AAD Annual Meeting offers live patient demonstrations, hands-on courses, and other premier courses presented by the brightest minds in dermatology.

AAD membership also gives you exposure to millions of patients each year who use the AAD's Find A Dermatologist tool.

What young physicians say

The best spokespeople for the benefits available to AAD young physicians are recent graduates. *Directions* asked a few members of the AAD's Young Physician Committee to comment on the benefits they find most helpful.

"I have used many, if not most, of the AAD benefits and member resources since I completed residency," said Travis W. Blalock, MD. "Providing care and hope to patients requires dermatologists to stay up to date regarding the ever-changing field of dermatology. Between the Question of the Week, the AAD's online learning center, and the *JAAD*, sustaining the knowledge base to achieve excellence in outcomes couldn't be easier.

"Beyond the actual delivery of care, the AAD has a lens to focus on the broad view of your career while simultaneously providing new and seasoned dermatologists access to specifics in a changing practice. The coding and practice updates, for example, are a permanent fixture on my desk while *Dermatology World* provides practical advice for team building, information regarding the changing health care landscape, and ultimately prepares me to deliver better care to our primary benefactor, the patient."

Young Physician Committee member Meredith Wagner, MD, said, "I do the weekly question to stay up to date and obtain CME and I also used the AAD Career Compass job listings to find my first job when we moved out of state."

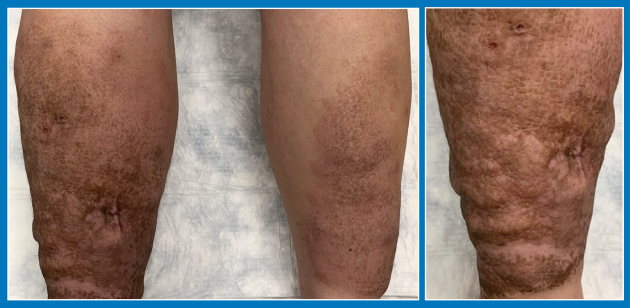
Your future awaits!

A wise man once advised, "do something today that your future self will thank you for." Learning now about the resources available through the AAD can help ensure a smooth transition from residency to practice. Take time to discover (and bookmark) your many resources at aad.org. Your future self thanks you in advance. DR

Matthew Helm, MD, is a PGY-4 dermatology resident at Penn State Health, Milton S. Hershey Medical Center.

Race for the Case

By Matthew Helm, MD



A 42-year-old female with a distant history of Graves disease s/p radioactive iodine ablation who is now undergoing thyroid hormone replacement presented to us because of gradually enlarging lower legs over the past 6 years. She states that she had knee surgery years ago on the right knee and always had some swelling on that side but it is getting worse and the left leg is also involved now. She states that her legs are painful and a little bit stiff. Her thyroid hormone levels are now well controlled on levothyroxine. On exam, indurated plaques are noted on the lower legs and dorsal feet with non-pitting edema along with prominent exophthalmos.

1. **What is the diagnosis?**
2. **What is in the differential diagnosis?**
3. **What is deposited in this disease?**
4. **What other manifestation of Graves is due to a deposition of this material?**
5. **What is the autoantibody in Graves disease?**

Respond online with the correct answers at **www.aad.org/RaceForTheCase** for the opportunity to win a $25 Starbucks gift card!

Race for the Case winner (Winter 2019)

Congrats to Heather Kornmehl, MD, PGY-2, Eastern Virginia Medical School (EVMS) Department of Dermatology. She correctly identified aquagenic wrinkling of palms and provided the most accurate responses to our last Race for the Case questions in the shortest amount of time. She has been sent a Starbucks gift card with our compliments. Visit **www.aad.org/RaceForTheCase** for more exciting cases.

Genetic mutations

by Matthew Helm, MD and Paul Wirth, MD

Melanocytic Lesions		
Gene	**Lesion**	**Function**
C-kit	Mucosal and acral melanoma, melanoma on chronic sun-damaged skin	Encodes CD117, a transmembrane receptor tyrosine kinase protein
BRAF (V600E most commonly)	Melanoma on non-chronic sun-damaged skin, Common nevi	Encodes the serine/threonine-protein kinase B-Raf
NRAS	Nodular melanoma, non-CSD melanoma, congenital melanocytic nevi (CMN), common nevi	Member of the RAS gene family
Loss of BAP1	Atypical spitzoid tumors with epitheloid Spitz nevi (BAPoma), melanoma, uveal melanoma, renal cell carcinoma	Loss of deubiquitination by BRCA1 associated protein-1 (ubiquitin carboxy-terminal hydrolase).
TERT-p	Advanced melanoma	Telomerase reverse transcriptase (TERT) promoter mutations are associated with poor prognosis.
Activating mutation GNAQ	Uveal melanoma, Nevus of Ota, blue nevus	Transmembrane domain receptors catalyzes intracellular signaling pathways and exchange of GDP for GTP.
GNA11	Uveal melanoma, blue nevus, malignant blue nevus	Works with the paralogue GNAQ.
HRAS mutations/11p gains	Spitz nevus-more common after puberty	Activating HRAS mutation in agminated spitz nevi and mosaicism
P16 loss	Atypical spitz tumors and spitzoid melanoma. Often misdiagnosed as infantile hemangioma due to erythematous color and prominent telangiectasia.	Loss of this INK4 cyclin-dependent kinase inhibitors (CDKIs) prevents withdrawal from cell cycle progression. P16 staining argues against 9p21loss.

Matthew Helm, MD, is a PGY-4 dermatology resident at Penn State Health, Milton S. Hershey Medical Center.

Paul Wirth, MD, is a PGY-3 dermatology resident at Penn State Health, Milton S. Hershey Medical Center.

Genetic mutations

by Matthew Helm, MD and Paul Wirth, MD

Melanocytic Lesions		
Gene	**Lesion**	**Function**
Homozygous loss of 9p21	Increase risk of metastasis and death in spitzoid tumor	Three tumor suppressor genes are found at this location: genes CDKN2A, CDKN2B, and MTAP.
CDKN2A	Familial atypical multiple mole melanoma syndrome (FAMMM), dyplastic nevi, melanoma, pancreatic cancer	Protein products p14 and p16 modulates cell cycle progression via p53 and Rb pathways.
CCND1/CDK4	CSD sites, acral and mucosal melanoma	Amplification leads to leads to increased phosphorylation of Rb gene allowing E2F to promote expression of genes that leads to the progression from G1 to the S phase.
Types of nevi, genomic associations, and phenotype		
Common and congenital melanocytic nevi	BRAF and NRAS	Maturation of nests
Blue nevi and related neoplasms	GNAQ and GNA11	Heavily pigmented dendritic melanocytes
Desmoplastic spitz	HRAS	Prominent fibrotic stroma
Spitz	ALK fusion	Plexiform growth pattern with large nests of fusiform to polygonal melanocytes in elongated nests.
Spitz	ROS-1 fusion	Well-circumscribed and dome-shaped
Spitz	NTRK1 fusion	Classical histology

Abbreviations
CSD – chronic sun damaged
CMN – congenital melanocytic nevi

References:

1. Bastian BC. The molecular pathology of melanoma: an integrated taxonomy of melanocytic neoplasia. Annu Rev Pathol 2014;9:239-71.
2. Bennett DC. Genetics of melanoma progression: the rise and fall of cell senescence. Pigment Cell Melanoma Res 2016;29:122-40.
3. Bolognia, Jean L., Joseph L. Jorizzo, and Julie V. Schaffer. Dermatology. Philadelphia: Elsevier Saunders, 2012.
4. Dimonitsas E, Liakea A, Sakellariou S, Thymara I, Giannopoulos A, Stratigos A, Soura E, Saetta A, Korkolopoulou P. An update on molecular alterations in melanocytic tumors with emphasis on Spitzoid lesions. Ann Transl Med 2018;6(12):249. doi: 10.21037/atm.2018.05.23
5. Wiesner T, Kutzner H, Cerroni L, et al. Genomic aberrations in spitzoid melanocytic tumours and their implications for diagnosis, prognosis and therapy. Pathology 2016;48:113-31.

Boards Fodders online!

In addition to this issue's Boards Fodder, you can download the new online Boards Fodder at **www.aad.org/Directions**. Go online for a new Boards Fodder web exclusive, **Testable fibrous and fibrohistiocytic proliferations of the skin: Facts and buzzwords** by Mohammed Shanshal, MD. The AAD now has more than 100 Boards Fodder study charts! Check out the archives at **www.aad.org/boardsfodder**.

Got Boards?

Directions in Residency is currently accepting submissions for new Boards Fodder charts for 2020. Get published, impress your friends, and help out your fellow residents. Contact Dean Monti, **dmonti@aad.org** with your chart ideas.

Sylvia Hsu, MD, is professor and chair in the department of dermatology at Temple University Lewis Katz School of Medicine in Philadelphia.

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.

Pearls for autoimmune bullous dermatoses

By Sylvia Hsu, MD

Pearl #1: I don't perform mouth biopsies for pemphigus vulgaris anymore, since ELISA is more reliable than histopathology and DIF for the diagnosis.

The most accurate diagnostic and disease activity-monitory tool for pemphigus vulgaris (PV) and pemphigus foliaceus (PF), anti-Dsg3 ELISA has a sensitivity of 97% and specificity of 98% in PV. Anti-DSG1 ELISA had a sensitivity of 96% and specificity of 99% in PF. The location of the split on histopathologic examination classically distinguishes PV and PF; however, in practice there is variability and overlap in the level of clefting. In PV and PF, DIF reveals intercellular binding of IgG or C3 in the epidermis with 90 – 100% sensitivity. In PF, epifluorescence is stronger in the upper epidermis but stronger in the lower epidermis in PV; however, this differentiation based on the concentration of the target antigen is not always reliable.

References:

1. Ohata C, Ishii N, Furumura M. Locations of acantholysis in pemphigus vulgaris and pemphigus foliaceus. J Cutan Pathol. 2014; 41:880-889.
2. Schmidt E, Dähnrich C, Rosemann A, et al. Novel ELISA systems for antibodies to desmoglein 1 and 3: correlation of disease activity with serum autoantibody levels in individual pemphigus patients. Exp Dermatol. 2010; 19:458-463.
3. Tampoia M, Giavarina D, Di Giorgio C, et al. Diagnostic accuracy of enzyme-linked immunosorbent assays (ELISA) to detect anti-skin autoantibodies in autoimmune blistering skin diseases: a systematic review and meta-analysis. Autoimmun Rev. 2012; 12:121-126.
4. Ishii K, Amagai M, Hall RP, et al. Characterization of autoantibodies in pemphigus using antigen-specific enzyme-linked immunosorbent assays with baculovirus-expressed recombinant desmogleins. J Immunol. 1997; 159:2010-2017.
5. Tjarks BJ, Billings SD, Ko JS. Efficacy of Triaging Direct Immunofluorescence in Intraepidermal Bullous Dermatoses. Am J Dermatopathol. 2018; 40:24-29.
6. Chowdhury J, Datta PK, Chowdhury SN, et al. A Clinicopathological Study of Pemphigus in Eastern India with Special Reference to Direct Immunofluorescence. Indian J Dermatol. 2016; 61:288-294.

Pearl #2: In practice, the DIF (and the histopathology) of dermatitis herpetiformis (DH) and linear IgA bullous dermatosis (LABD) may be indistinguishable from one another.

The DIF of DH classically shows granular IgA in the papillary dermis and the DIF of LABD classically shows linear IgA along the basement membrane zone. However, in practice, the distribution of the IgA is not always clear-cut. The histopathology of DH and LABD can be indistinguishable, since they both show a subepidermal split with neutrophils.

Pearl #3: The histopathology of DH and bullous lupus erythematosus are indistinguishable from one another.

Both show a subepidermal split with neutrophils.

Reference:

1. Elder DE, et al, ed. Noninfectious Vesiculobullous and Vesiculopustular Diseases, Lever's Histopathology of the Skin 11th ed. Lippincott Williams & Wilkins 2015, pp. 277-328.

Pearl #4: Low-level bullous pemphigoid180 autoantibodies can be found in patients who do not have bullous pemphigoid.

The commercially available bullous pemphigoid 180 (BP180) NC16A enzyme-linked immunosorbent assay (ELISA) is a test that can be used to aid in the diagnosis of bullous pemphigoid (BP). A result of > 9 U/mL is defined as a positive test. However, a positive test does not necessarily mean the patient has BP. Circulating BP180 autoantibody can be detected in patients who do not have BP. In a study by Liu et al, the authors sought to determine an optimum cutoff value of BP180 ELISA to detect true BP. A total of 173 in-patients were included: 26 patients with BP and 147 patients in which BP was initially suspected, but later excluded. The titers of BP180 autoantibodies in non-BP patients were significantly lower than those of BP patients (median titer 17.1 U/mL versus 67.1 U/mL). Receiver operating characteristic curve [plot of sensitivity vs (1 – specificity)] analysis was used to generate paired sensitivity and specificity values based on BP180 autoantibody titers. The optimum cutoff value to determine true BP patients from non-BP patients was calculated on the basis of maximizing the Youden index (J = sensitivity + specificity – 1). This optimum cutoff was found to be 27.2 U/mL, which has a sensitivity of 65.4% and a specificity of 98.0%, in contrast to the standard cutoff of 9 U/mL, which has a sensitivity of 73.1% and much lower specificity of 85.7%. These results show that low-level BP180 autoantibodies can be found in patients who do not have BP and the results of BP180 ELISA should be interpreted in conjunction with clinical findings and immunopathologic test results.

Reference:

1. Liu Z, Chen L, Zhang C, Xiang LF. Circulating bullous pemphigoid 180 autoantibody can be detected in a wide spectrum of patients with other dermatologic conditions: A cross-sectional study. J Am Acad Dermatol 2019; 80(3): 774-5.

Pearl #5: A DIF for any autoimmune bullous dermatosis taken from the lower extremities may be false-negative.

Reference:

1. James WD, ed, et al. Chronic Blistering Dermatoses in Andrews Diseases of the Skin 12th ed,, Elsevier, Philadelphia 2015, pp. 451-570. DR

If you have suggestions for topics or content for Clinical Pearls, contact Dean Monti at **dmonti@aad.org**

AADA's Practice Management Center is your new BFF

The AADA's Practice Management Center will be a reliable friend and trusted resource when you have completed your residency and begun practice. It offers resources to support your practice and your career, and access to many dermatology-specific manuals. Here, in a nutshell, are some of the resources you will use:

- **AAD's DataDerm.** Created by dermatologists, for dermatologists, DataDerm is a clinical data registry to transform your practice and elevate the specialty.
- **Coding resources.** Find practical tips about common dermatological coding issues, including biopsies, excisions, E/M, and modifiers. There is so much here, you'll want to bookmark this one: **www.aad.org/member/practice/coding**.
- **Prior authorization letter tool.** Easily create appeal letters to help overturn denials for prior authorizations.
- **MIPS reporting.** Access the Academy's resources on whether to participate in MIPS, how to avoid a penalty, and earning an incentive. Updated annually with a focus on the changes to the program that matter most to dermatologists.
- **Compare drug prices.** Use this tool to search for the price of drugs and educate your patients on the cheapest alternative.
- **Compliance guides.** Use the Academy's step-by-step guides to help you meet compliance requirements like CLIA, HIPAA, and OSHA.
- **Scope of practice support.** Access an interactive map to find NP/PA regulations in your state and get scope of practice support from the Academy.
- **Teledermatology tools.** Resources to help implement telemedicine, get reimbursement, and improve access for your patients.
- **Managing a practice.** Find a wealth of resources on managing a practice, including info on staffing, products, practice models, and combatting burnout.
- **Recommended vendors.** The Academy's preferred providers offer members practical, money-saving solutions for personal and professional stability. DR

Bookmark this!

Bookmark **www.aad.org/member/practice** to quickly access these resources at the AADA's Practice Mangement Center.

Resident Life

Breakfast beats burnout!

By Karan Lal, DO, MS, chief resident at UMass Dermatology

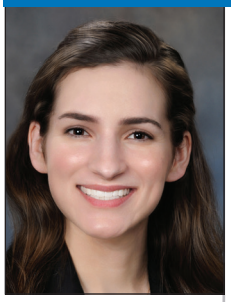
UMass residents up early for a full day, and a full breakfast!

Resident burnout affects many residents in different specialities. Dermatology is no exception. Although changing duty hours and adjusting regulations for residents in more in-house specialties has provided some relief, residents in specialties such as dermatology experience a different type of burnout. The educational demand, the large amount of documentation, and the fast pace all contribute to this burnout phenomenon. At UMass Dermatology, during Resident Appreciation Week, not only does the University of Massachusetts have various events like massages, mixers, free coffee, and ice cream socials for residents, our dermatology faculty host a breakfast with homemade food for the residents during our weekly journal club. These signs of appreciation and words of encouragement are often the best way to reassure us residents that we are valued and contribute to the care of our patients. DR

What's going on in your residency program?

Send your photos and accomplishments to Dean Monti at **dmonti@aad.org**.

Inside this Issue



Tara Oetken, MD, is a PGY-4 dermatology resident at the University of Arkansas for Medical Sciences (UAMS), in Little Rock, Arkansas.

It seems hard to believe, but eventually residency does end! I know that for me, the last three years have flown by. While I will be happy to leave some parts of residency behind, there are other aspects that I will miss immensely like working with my co-residents and being surrounded by people who nerd out about skin as much as I do!

Luckily, during and after residency there are ways to stay up to date with the newest information and plugged into the Academy. In this issue we look at the many resources the Academy has for us post-residency. One of my favorite ways to stay current is by following the *JAAD Journals* account on Instagram (@jaadjournals). They post *JAAD* "game changers" and interesting cases/quizzes. You can also join the *JAAD* online journal club and discuss that month's articles with other dermatologist across the country. Another great and easy resource is the *Dialogues in Dermatology* podcast which makes a fantastic listen during your commute. Look inside this issue for more information and links.

If you want to take a more involved role in the future direction of the specialty don't miss out on the AADA Legislative Conference in D.C. this September. It is a great opportunity to meet with (and help inform) the people who make all the (sometimes confounding) rules we have to follow. If you are a resident you can even apply for a scholarship to help cover the cost of attendance. In short whether you are just starting your residency, or getting ready to finish it, there have never been more ways to stay connected!

Editor's note: *As Dermatology World resident advisor for the past two years, Dr. Oetken has helped the AAD cultivate and publish high-yield content for residents in* Directions.

We wish her all the best as she looks ahead to a bright future and thank her for her service to the AAD! DR

Did you know?

DIALOGUES *in* DERMATOLOGY

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