As we forge ahead into 2021, the way we approach life, work, and our daily tasks continues to metamorphose into something new. Extenuating circumstances have merged with evolving technology, affecting communication, interviewing, and meetings.

One person who has seen the nascent, developing process of virtual one-on-one meetings is Suzanne Olbricht, MD, past president of the AAD, chief of dermatology at Beth Israel Deaconess Medical Center in Boston, and associate professor of dermatology at Harvard Medical School. This year her department’s recruitment committee decided to conduct interviews for faculty virtually. In addition, a workgroup of stakeholders including the ACGME recommended that all training programs commit to online interviews and virtual visits for all residency and fellowship applicants, including local students, rather than in-person interviews for the entire cycle and that the medical education community commit to creating a robust digital environment and set of tools that will yield the best experiences for programs and applicants. In Dr. Olbricht’s department it meant that the current faculty interviewed several dermatologists for faculty positions and about 60 medical students for residency positions. While it was a monumental undertaking, and life-changing for the resident applicants involved, Dr. Olbricht reported she was delighted with the caliber of candidates she interviewed. Directions in Residency chatted with Dr. Olbricht about her abundance of online encounters and she shared her insights about the virtual interview experience.

How should residents prepare for a virtual interview?
Residents should learn as much about a program as they can by looking at the institution’s website and also attending any “meet and greet” group virtual sessions that are offered. The website will give basic information on how large the residency group will be, how large the faculty is, the hospitals that are associated with the program, the interests and specialty clinics available, and whether clinical expertise or research productivity is emphasized. The “meet and greet” virtual sessions that our residency program developed had both planned programming including videotaped statements as well as time set aside for questions. These sessions

see VIRTUAL on p. 3
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also give clues for how the department members and residents interact with each other as well as in a group, how open they are for questions, and how diverse the faculty and residency program is.

What can residents expect in a typical interview?
Interviewers will have previously read the application and personal statement. It is important for residents to be ready to answer questions about themselves with thoughtful answers that are consistent with their personal statement but also that are additive and not just repetitive. They may wish to have some stories ready that draw on the best and worst of their medical school experiences, reflecting the lessons that they learned in the particular situations they are describing. They should be ready with multiple answers to the inevitable question “and what questions do you have for us?” Residents shouldn’t have just one question ready because they may end up repeating something that has already been discussed. Residents should be specific and detailed in the questions they ask, which is another reason to gather as much information as possible about the program before their interview. Also, you should always answer the question that is being asked. Spinning the conversation toward something not asked is generally obvious and off-putting. You should also know the citations in your CV in depth and be ready to discuss them in detail.

Can a resident be too prepared?
I think so, if it results in their delivering a memorized answer. The person on the other side is generally going to be aware that the answer has been memorized. I think it’s better to risk a few flubs than to deliver a perfect address. Authenticity matters.

If you had two equal candidates, what might put one over the top?
Just as you are looking for a best fit program, programs are also looking for best fit applicants, someone that can be successful in the program’s particular environment. Programs also seek diversity. For instance, no program wants all MD PhDs or all MD MBAs. So, if you are an MD MBA, you want to be at a program that relishes your extra expertise, but if a program already has three MD MBAs, they might not need a fourth and you might not be able to shine. The factors that put one candidate above another candidate might not be under your control. However, authenticity is a winning trait, both for the candidate and the program.

Are there other factors residents should think about for their interview?
Make sure and set up your schedule so that you have your absolute best chance of being focused and clear headed. We had one applicant who got their second dose of COVID vaccine the day before and was sluggish. Understandable but preventable.

Which elements of a video interview are better than an in-person interview process?
I think it’s easier for the applicant to be organized and focused. They don’t have to be worried about extraneous factors like flights, hotels, parking, and locating the right building and room at the right time. It’s certainly more cost effective!

Would you like to see a virtual format in the future, regardless of a pandemic? Or perhaps a hybrid?
I will be curious how the applicants respond to this process and we are waiting to see what kind of feedback they give us. It may take a couple of cycles for the interviewers to determine what works best for them to find the candidates that will be successful in their programs. Be that as it may, overall, I liked the Zoom interviews and felt I could focus on what was really important for me to find out about the candidate.

Are there any additional resources for residents who will be interviewing later this year and at this time next year?
Medical schools have been helping students prepare so be sure and check out the resources they have and attend their information sessions. Also get to know fellow students who have already done some interviews virtually to hear about their experiences. DR
Infestations: scabies and pediculosis
By Zeinah Z. AlHalees, MD, and AlReem A. AlNabti, MD

### Epidemic Pathogenesis Clinical Diagnosis Treatment

#### Scabies
- Worldwide
- Higher incidence with overcrowding
- Higher prevalence:
  - Children
  - Among families
  - Sexually active individuals

Infestation with *Sarcoptes scabiei var hominis*

Transmission
- Direct close contact
- Indirect via fomites

Incubation period
- 1st-time ~2-6 weeks
- Subsequent infestations ~24-48 hrs

Pathogenesis
- Cutaneous hypersensitivity reaction to mites & products
- Life cycle ~10-15 days
- Can live ~3 days off host (up to 7 days in crusted scabies)

Mite load
- 5-15 mites in classic
- High mite burden <4700 mites/gram of shed skin in crusted scabies

- Not a known vector for systemic disease

Classic scabies
- Intensely pruritic erythematous papules, excoriations & burrows involving web spaces, wrists, axillae, waist, umbilicus, ankles, feet, buttocks, & genitals

Atypical scabies
- Scalp
- Nodular
- Bullous
- Crusted: marked hyperkeratosis

Differential diagnoses
- Arthropod bites
- AD & other eczematous eruptions
- Id reaction
- DH
- BP
- LCH
- Infants: acropustulosis of infancy, inflammatory stage of IP

Complications
- Secondary bacterial infection
- Post-scabetic itch ≥ 2 -4 weeks

Beside tests
- Ink spot test
- Dermoscopy delta-wing jet sign
- Microscopy + transparent adhesive tape or mineral oil prep of skin scrapings

Histopathology
- Dermal patchy-diffuse mixed infiltrate with prominent eosinophils +/- mite exoskeleton in epidermis

- Topical 5% Permethrin
- 1st line
- FDA-approved ≥2 months of age
- Safe in pregnancy

Other options
- Oral Ivermectin 200µg/kg/dose
- Not used in pregnancy, children <5 yrs, individuals <15kg

#### Head lice

Infestation with *Pediculus capitis*

Transmission
- Head-to-head contact
- Indirect via fomites

Pathogenesis
- Live only on scalp hairs & feed on host blood
- Live for ~30 days
- Rarely survive for >36 hrs away from host, but nits can live up to 10 days

- Not a known vector for systemic disease

Scalp pruritus with secondary excoriations, erythema & scaling
- With bacterial superinfection: scalp pyoderma, low-grade fever & LAD

Differential diagnosis
- Dandruff
- Dined hair products/casts
- Hair shaft nodules (white/black piedra, trichorrhexis nodosa)

Complications
- Secondary bacterial infection
- IDA in chronic infestation

- Definitive diagnosis → identification of nits &/or adult louse on scalp hair

Histopathology Nonspecific inflammation

- Topical pediculicides:
  - Pyrethrins 0.33% with piperonyl butoxide
  - 1% & 5% Permethrin
  - 0.5% Carbaryl shampoo
  - 5% Benzyl alcohol lotion
  - 4% Dimethicone
  - 0.9% Spinosad-ovoidal
  - 0.5% Malathion-ovoidal
  - 0.5% Ivermectin lotion
  - 1% Lindane (not used)
  - Oral Ivermectin

General measures
- Wash all clothes/linens in hot water & dry on high heat or store in a bag x10 days
- Treat all family members & close contacts

- American Academy of Pediatrics recommends against school no-nit policies

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**Zeinah AlHalees, MD** is a PGY-4 dermatology resident at McGill University, Montreal.

**AlReem Al-Nabti, MD** is a PGY-4 dermatology resident at McGill University, Montreal.
## Infestations: scabies and pediculosis

By Zeinah Z. AlHalees, MD, and AlReem A. AlNabti, MD

### Epidemiology

- Worldwide
- Prevalence higher in sexually active individuals

### Pathogenesis

- Infestation with *Pthirus pubis*
  - **Transmission**
    - Close/sexual contact
    - Indirect via fomites
  - **Pathogenesis**
    - Louse attach to human hairs & ambulate on body affecting any hair bearing site
    - Live up to 10 days
    - Survive ~36 hrs away from host
    - Not a known vector for systemic disease, but may coexist with other STIs

### Clinical

- Pruritic perifollicular erythema & excoriations involving any hair-bearing site +/- louse at base of hairs
- *Macula caerulea* in chronic lice
- Eyelash infestation → resembles flecks of masca
- 60% have at least 2 hair-bearing sites involved

### Diagnosis

- Diagnosed clinically
- **Histopathology**
  - Nonspecific inflammation in epidermis & dermis

### Treatment

- **Topical pediculicides:**
  - 1% & 5% Permethrin → 1st line & FDA-approved
  - 0.5% *ivermectin* – FDA-approved
  - Pyrethrin shampoo
  - Lindane 1% (not used)
  - Oral *ivermectin*: 2nd line, good in eyelash/perianal infection

#### General measures

- Petroleum jelly useful in eyelash infestation
- Shaving hair bearing sites not sufficient
- Treat sexual partner
- Screen for STIs

### Body lice

- Infestation of humans + clothing with *Pediculus humanus var. corporis*
  - **Transmission**
    - Insects do not live/lay eggs on humans, rather in clothing
  - **Pathogenesis Requires:**
    - Infestation of humans + clothing
    - 2. Inability to wash & change clothes
  - **Primary vector for:**
    - Epidemic typhus (Rickettsia prowazekii)
    - Relapsing fever (Borrelia recurrentis)
    - Trench fever, bacillary angiomatosis, & endocarditis (Bartonella quintana)

- Pruritic small erythematous macules & papules with secondary crusts & excoriations involving the neck, shoulders, back, & waist
- Louse & nits → found on clothing & along clothing seams

### Differential diagnosis

- Scabies
- Arthropod bites
- In pubic/axillae: white piedra & trichomycosis

#### Complications

- Secondary bacterial infection

### Pubic lice

- Pruritic perifollicular erythema & excoriations involving any hair-bearing site +/- louse at base of hairs
- *Macula caerulea* in chronic lice
- Eyelash infestation → resembles flecks of masca
- 60% have at least 2 hair-bearing sites involved

### Differential diagnosis

- Scabies
- Arthropod bites
- In pubic/axillae: white piedra & trichomycosis

#### Complications

- Secondary bacterial infection

### Abbreviations:

- AD: atopic dermatitis
- BP: bullous pemphigoid
- DH: dermatitis herpetiformis
- HIV: human immunodeficiency virus
- HTLV-1: human T-cell lymphotropic virus type 1
- IDA: iron deficiency anemia
- IP: incontinentia pigmenti
- LAD: lymphadenopathy
- LCH: Langerhans cell histiocytosis
- STI: sexually transmitted infection
- TBSE: total body skin exam

### References:

Endpoints in laser surgery

Victor Ross, MD

Endpoints in laser surgery are more important than any settings on a device. It is worthwhile to recognize endpoints for efficacy and safety.

1. In treating blood vessels with longer pulses (> 5 ms), regardless of wavelength, desirable endpoints include (a) thrombosis of the vessel or (b) stenosis of the vessel. Either of these endpoints, particularly if they are still present several minutes after the procedure, are reliable indicators of success and a durable response. An exception is paranasal vessels, which, regardless of immediate endpoint, sometimes persist or recur. Overtreatment is typically associated with immediate tissue graying.

2. For picosecond and nanosecond pulses for pigmented lesions, the desired endpoint is the lowest fluence that causes mild whitening at the surface. One should avoid using a fluence so high that the epidermis is dislodged completely. Retained epidermal debris forms a biological dressing which accelerates healing and decreases the likelihood of postinflammatory hyperpigmentation.

3. For longer pulsed technologies, such as intense pulsed light, pulsed dye laser, and long pulsed KTP laser, the desired pigment lesion endpoint is progressive darkening of the lesions and mild perilesional erythema. Normally these changes require 5 to 20 minutes to evolve. Because these endpoints do not occur immediately, one needs a certain amount of experience to proceed confidently over a large area. One option, particularly when treating large areas, is to (a) perform small test pulses with a range of reasonable fluences, (b) use numbing cream over the entire treatment area for 30-45 minutes, and (c) reevaluate the test spots. By this time, the endpoint should have evolved so that the operator can confidently treat the remainder of the area without risk of significant side effects. Immediate greying or blistering indicates too high a fluence. In general, for pigmented and vascular lesions, use of a polarizing illuminator head set will enhance visualization of the endpoints.¹

4. For treating red scars, one can use either purpuric or non-purpuric settings. When applying purpuric settings, which I find works better for most red scars (versus non-purpuric settings), the optimal fluence is one that establishes the smallest amount of purpura, typically for pulsed dye laser, about 4 to 6 J/cm² and 0.45 ms. Occasionally, a blanching phenomenon, which can mimic epidermal damage, occurs after pulsed dye laser. The operator should rest assured, however, that with adequate cooling and these lower settings, whether it is for a port wine stain or an erythematous scar, the epidermis will be preserved.

5. For adnexal tumors (i.e., syringomas or trichoepithelioma) and nevi treated with either Er YAG or CO2 laser, the endpoint should be elimination of the exophytic portion of the lesion, using a series of stacked pulses. You may often observe a whitish fibrous stroma at the base of the flattened lesion. Normally the laser surgeon can apply a few more pulses until an approximately 0.25-0.5 mm depression is observed. This type of fine work requires magnification.² ³

References:

Victor Ross, MD, is a dermatologist in San Diego, specializing in laser surgery of the skin.

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

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Master the rule of O’s
Contributed by Marki Swick, MD; Daniel Knabel, MD, and Ian A. Maher, MD

It is challenging to remember the differences between various modes of electrosurgery. Colloquialisms used as a catchall for several types of electrosurgery can overlap with technical terminology (e.g. “electrocautery”) making learning the technical definitions more challenging still for trainees. Here we present a rule to help residents and dermatologists alike to remember forms of electrical hemostasis.

Rule of O’s — the number of “o”s in the word corresponds to the number of terminals
1. Everything has the prefix “electro-,” so disregard this “o.”
2. Everything is monopolar except bipolar.
3. Electrocautery— No “o” in cautery— no terminals (heat only)
4. Electrodesiccation and Electrofulguration— 1 “o”— monopolar
   → Electrodesiccation has direct contact with skin
   → Electrofulguration has no contact with skin (far away)
5. Electrocoagulation— 2 “o”s— biphasal (bipolar is a subset of electrocoagulation)
6. Electrosection is the exception. It is an undamped waveform of electrocoagulation that allows for tissue cutting.

Monoterminal devices do not use a grounding electrode and the electrons are dispersed from the patient to the table, floor, walls and air. Biterminal devices have a grounding pad or biterminal forceps which act as a grounding electrode. This allows the current to travel through the body from the active electrode to the dispersive electrode and exits. Electrocautery is simply heat used to destroy tissue and therefore has no potential interference with electronic devices given there is no current transferred to the patient. The “Rule of O’s” elucidates the nuances of correct nomenclature when discussing various forms of electrocautery and electrosurgery. DR

Resident Life

Start-up mentality
By Tyler Evans, MD, PGY-2 at UNMC Dermatology

The state of Nebraska has long been underserved regarding dermatologic care. In July of 2020 the inaugural University of Nebraska Medical Center (UNMC) dermatology residency was originated. Our program consists of three residents a year, with a full complement of nine residents starting in July of 2022. This year has been unique, being the first class of dermatology residents here at UNMC. One great aspect is that we have gained extensive insight on the inner workings of a program, something that will prove to be beneficial down the road when starting a practice. We have been involved in the hiring and interview process of potential faculty candidates, an experience many residents never have. Almost all of our attendings are within 5-10 years of residency making it very easy to connect with them on a personal and professional level. I believe we have as good of a relationship with our attendings as anywhere in the country. They act as our upper levels, and have helped us through the initial, ‘what did I get myself into??’ phase of dermatology residency. As the first class, we have been forced to ‘grow-up’ quickly with four months of inpatient consults as a PGY-2. We pride ourselves in having a ‘start-up mentality’ with no task being beneath us.

We are a close-knit group and I am very thankful for my co residents (shout out Dillon Clarey, MD, and Ritu Swali, MD). I think having a solid relationship with your co-residents can make or break your experience. We regularly share pictures of different patients we have seen throughout the day, discuss new inpatient consults as they come in, and attend (virtual) conferences together. We have been lucky to have several hands-on resident cosmetic sessions which we all enjoy (see picture). With the business of residency, we always make a point to have fun at work. We recently put an over-the-door basketball hoop up in our lounge and shoot around daily (I am currently undefeated at PIG, by the way). Resident life can be stressful, especially at a brand-new program, but having great people to work with and a supportive program behind you can make all the difference. Overall, the experience at UNMC has been nothing short of incredible and I’m looking forward to the years that lie ahead! DR
As didactics, conferences, interviews, and even some patient encounters shifted to online platforms with the onset of the COVID-19 pandemic, we have adjusted to the new reality of virtually meeting with colleagues, mentors, and patients. While most have conquered the initial learning curve and swiftly adapted to conducting meetings through online platforms, I still find myself making silly (but all-too-common) mistakes, such as forgetting to unmute myself. As senior dermatology residents begin to apply for fellowships and jobs after residency, and others are looking ahead to the future, this issue’s feature topic, “Remote control: Tips for successful virtual interview” is especially valuable. Like many other residency programs throughout the nation, our program recently wrapped up our first virtual dermatology residency interviews. I empathize with medical student applicants who have the challenging task of ranking programs they did not have a chance to visit. Dermatology residents interviewing for positions during this time may potentially encounter a similar scenario. We hope that this issue’s feature topic will help you shine during the interviews and enable you to determine the best fit for your own career goals.

As I entered residency, I was so excited to attend conferences and meet other residents and dermatologists. While virtual sessions are quite different from our traditional in-person meetings, I am thankful for the many dermatologists who have been so generous by providing virtual didactics and conferences for dermatology trainees during this unconventional time. One of the silver linings of the past year has been the many educational sessions which have been readily accessible online to dermatology residents everywhere, without the cost and time of traveling. I look forward to one day meeting you all in person. However, in the interim, I look forward to connecting with you during the AAD’s next VMX meeting in April!

- Janice Ma, MD