

## Commentary

**Rethinking dermatology resident education in the age of COVID-19****Lauren N. Ko<sup>1,2,3</sup>, MD, MEd, Steven T. Chen<sup>1,2</sup>, MD, MPH, MS-HPed, Jennifer T. Huang<sup>1,3</sup>, MD, Jean S. McGee<sup>1,4</sup>, MD, PhD and Kristina J. Liu<sup>1,5</sup>, MD, MHS**

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The COVID-19 pandemic has dramatically transformed health-care delivery across the globe. While hospitals have faced shortages of healthcare workers and life-saving resources, they also encountered quieter challenges. One such challenge is resident physician education. Many dermatology practices have been and continue to employ telemedicine to heed social distancing and reduce the transmission of SARS-CoV-2.<sup>1</sup> While cases have begun to stabilize and COVID-19-related healthcare demands decrease, residencies will continue to face challenges in providing adequate training for their residents as phased reopening plans, patient attitudes, and social distancing measures affect patient volumes. Furthermore, given the current absence of an effective vaccine, the nation remains braced for a potential second wave of the pandemic.

Looking forward, dermatology training must be prepared to undergo a paradigm shift as COVID-19 continues to disrupt clinic workflow. Specifically, we anticipate challenges in the following arenas: didactic education, inpatient consults, outpatient telemedicine, dermatopathology, and procedural skills.

Programs should consider creating nationwide standards to maximize consistent coverage of salient educational tenets. To engage various learning modalities, we encourage use of creative platforms such as Instagram Live and/or Tweetorials, where experts share clinical pearls. We also encourage institutions to share lecture content and best practices for leading engaging virtual didactics.

For trainees on consult rotations, programs should create algorithms to reduce the exposure risk of residents/staff. We suggest preparing guidelines to triage consult requests and limit in-person evaluation, based on diagnostic uncertainty and

disease severity.<sup>2</sup> Bypassing pre-rounding and seeing patients together decreases wasteful use of personal protective equipment.

In the outpatient setting, we encourage involving residents in teledermatology early, to help set patient expectations and identify optimal workflows. For the appropriate patient, a "bedside rounds" approach can be employed, in which patients are included in the formulation of the assessment/plan, a technique shown to be well-received by patients when used by hospitalists.<sup>3</sup> Furthermore, this method allows for attendings to directly observe as well as role-model compassionate, high-quality care.

Dermatopathology and surgery rotations pose the greatest obstacle for remote learning. Technology permitting, virtual glass slides can be used to simulate typical dermatopathology sign-outs. Regarding surgery rotations, innovative educational opportunities must be incorporated. Liu *et al.*, found that video education and simulation significantly increased resident excision skills and operative confidence.<sup>4</sup> Residency programs may consider providing residents with surgical materials for hands-on practice at home in conjunction with video instruction.

Kissler *et al.*, posited that SARS-CoV-2 may enter into long-term circulation, arising in unpredictable patterns over the next 5 years.<sup>5</sup> In light of this, teledermatology or hybrid models will become important modalities for care delivery. As patients return for in-person care, the reintroduction of residents must occur in a way such that residents feel empowered to thrive despite workflow changes. They may face time limits when seeing patients in order to adhere to strict schedules. Furthermore, patients may have different attitudes towards trainee participation in their care. These changes, while disruptive, present

opportunities for resident and programmatic growth. Teaching faculty can think creatively about their work flow by seeing patients together in a mini-CEX format, modeling patient visits for junior residents and incorporating more bedside teaching. Residents can use this challenge as an opportunity to develop their efficiency and resiliency, which when cultivated within a culture of safety and wellness cannot only prevent resident burnout but enhance self-efficacy.<sup>6</sup> Through a combination of virtual learning, surgical simulation, telemedicine, and safe reintegration of trainees in clinic, residency programs can rise to the challenge of providing excellent education during COVID-19. We hope that discussions on the optimization of trainee education evolve as this will impact the competency of residents entering our workforce for years to come.

## References

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