

## Modifications to dermatology residency education during the COVID-19 pandemic



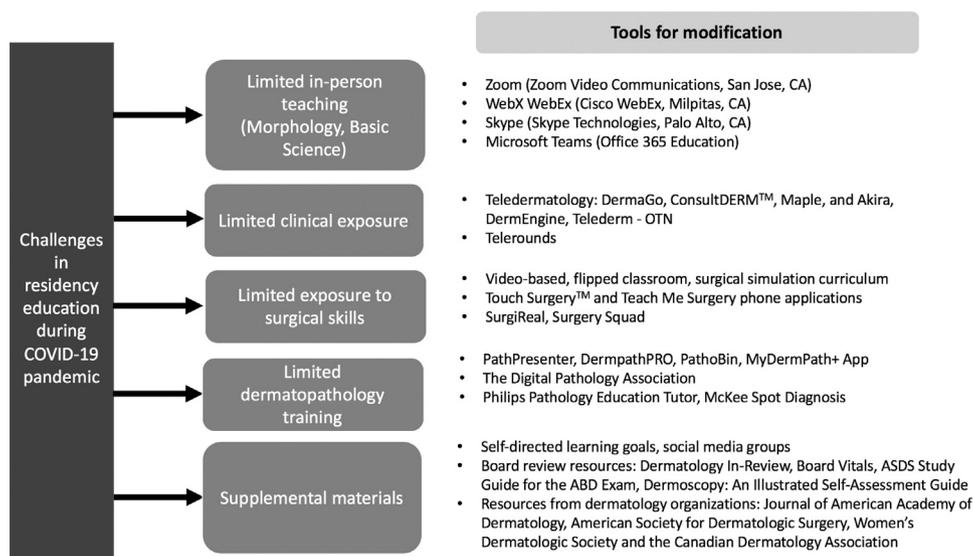
*To the Editor:* The coronavirus disease 2019 pandemic has significantly affected medical education, including dermatology residency training, for an unclear duration. The need to minimize nonurgent medical care and potential for transmission via asymptomatic carriers<sup>1</sup> requires balancing education with the safety of patients, learners, and faculty. With the reduction of in-person clinical visits, along with social distancing guidelines, dermatology residents may find it difficult to engage in structured learning. The health and safety of patients and health care providers remains our primary focus; however, proactive strategies from residency programs can help ensure residents have the tools and resources to engage in continued learning in the months ahead.

Clinical and in-person academic activities such as teaching seminars, dermatology rounds, and conferences have been significantly minimized or cancelled.<sup>2</sup> Nonurgent consultations and surgical procedures have been postponed to limit transmission. Additionally, rotation between different hospital training sites may be restricted. Dermatology residents may also be redeployed to support overloaded departments (eg, internal medicine, emergency medicine, intensive care unit). These necessary changes to dermatology training have led to decreased in-person resident case

volume. We propose possible modifications, as illustrated in Fig 1, to dermatology programs to preserve high-quality resident education during this pandemic.

Our proposed approach to supporting residents is multimodal and can be augmented with novel technologies. To replace in-person lectures and other educational rounds, programs can make use of a variety of online platforms, including Zoom, Webex, and Skype. These can also be recorded and stored to provide trainees access to a repository of video lectures for later review. Resident procedural skills can be supported through a video-based, flipped-classroom, surgical simulation curriculum, which has been shown to be effective in dermatology.<sup>3</sup> With attending physician supervision, residents can use teledermatology to assist with virtual video visits from remote locations to increase clinical exposure.<sup>4</sup> Web-based learning tools (eg, PathPresenter) that provide whole-slide imaging for virtual pathology diagnoses can be leveraged to advance teaching of dermatopathology among residents.<sup>5</sup>

Furthermore, residents should be encouraged to use this time and engage in structured self-directed learning. They can create personalized learning plans with rotation supervisors that will help them achieve their rotation objectives. Programs can use online platforms, such as secure and private resident-only groups, that could be used to share board review practice questions daily. Additionally, residents are advised to take advantage of podcasts,



**Fig 1.** Recommendations for modified dermatology residency education during the coronavirus disease 2019 pandemic. CA, California; COVID-19, coronavirus disease 2019.

teaching modules, online journal clubs, self-assessments, virtual networking, and education events provided by various dermatology organizations.

Amid this unprecedented situation, mitigating its effect on trainees is an important consideration. Our hope is that the suggestions presented here will enable educators to modify dermatology residency education and allow for maintenance of value during this pandemic. We hope to preserve desired core learning opportunities through virtual means, ensure high-quality training toward board certification, and maximize opportunities to help residents maintain their technical skills while providing overall structure despite limited in-person activities. Collaboration between residency programs and dermatology organizations is needed to support postgraduate dermatology training during this time.

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