

## Commentary: Teaching surgical skills during COVID-19-ills

Wet labs have been a part of the ophthalmic surgical training for quite some time. With the advent of minimally invasive ophthalmic surgeries, the learning curve for surgical residents has become steeper. Also, due to the increasing cost of medical treatment, patient expectations and medico-legal issues are on the rise, and early trainings for the novice surgeon on human eyes are therefore no longer feasible or ethical. Moreover, the unprecedented scenario created by the COVID-19 pandemic has brought wet lab training into the spotlight, since elective and emergency surgeries have reduced drastically. Surgical trainees, thus, are unable to operate on human eyes and are suffering great academic and skill loss.

Surgical training in a skills lab is a practical solution for these problems in improving the handling of sophisticated machines and precision instruments, improving fine motor skill, hand eye coordination, and the stereoscopic skills. Repetition is key to acquiring any skill. Wet labs provide a risk and stress-free environment for surgical training, as residents can identify and rectify their mistakes, and hone their skills to perfection at their own pace. Moreover, the help of their seniors can be more easily available and accessible to their mutual convenience, independent of patients. They can also be trained in the management of surgical complications – created artificially in animal eyes or on simulators.

It is time to revamp the medical education and make skills lab training a compulsory part of all resident programs, even after the pandemic ends. Scoring systems, such as those based on the International Council of Ophthalmology–Ophthalmology Surgical Competency Assessment Rubric<sup>[1,2]</sup> can be used to assess the skill level of the trainees and provide feedback for their improvement. Distance wet lab courses are also possible with teleophthalmology, such as those conducted by Cybersight, the telemedicine platform of ORBIS, to help residents in institutions where trained instructors are not available.<sup>[3]</sup>

However, training in wet labs is only an adjunct and not a substitute for surgical experience on human eyes. Patient feedback is missing, the tactile sense and tissue responses are also different and hence residents may become overconfident when working on artificial tissues or animal eyes. Anatomical differences between animal/artificial eyes and human eyes should always be taken into consideration. Several techniques have been described to modify the animal tissues to become more akin to human tissues. While the present article has covered anterior and posterior segment procedures, there have been efforts to have models for extraocular muscle surgery too, which are more difficult to simulate, and even in normal times, there is a scarcity of such cases in most training centers.<sup>[4]</sup>

Setting up a competent skills lab is a costly affair and not all institutions can afford to do so – constant maintenance is required, and permanent staff must be employed to take care of the lab. Also, the SARS-CoV-2 has demonstrated zoonotic potential,<sup>[5]</sup> and the safety of using animal eyes for surgical training has not been studied.

As adversity is the mother of new opportunities, the present COVID-19 pandemic, despite all the ominous clouds it envisages, has a silver lining in offering. It provides us an opportunity to rejig our curriculum and provide our residents and fellows an opportunity to improve their surgical skills without any risk to the patients. The article shows a practical example of the same being done and stimulates more such endeavors.

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