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Lessons learned from COVID-19 pandemic in undergraduate surgical education

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Abstract

In this editorial, we review our experience on distance teaching and based on our experiences suggest modifications to undergraduate surgical education.

Keywords

Plastic surgery, surgery, orthopedics, medical education, undergraduate, COVID-19

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The re-arrangements of undergraduate surgical education (USE) due to pandemic restrictions at the University of Helsinki led swiftly to virtual teaching, using various electronic communication platforms. For example, plastic surgery clinical round was replaced by virtual interactive round at the “ward,” and the concept was welcomed by the medical students. In a randomized study, virtual tailor-made online surgical platform improved outcomes in written examinations and stimulated learning as compared with traditional medical student-driven preparation.¹ We have adopted the online learning quizzes before written examination into teaching curriculum.

Integrating real-time image capture devices such as document camera, for displaying an object=wound model, has elevated virtual lectures almost to in-person sessions. Virtual teaching enables two teacher sessions, allowing more interaction during seminars. We noticed that utilizing communication platforms and web-based classroom participation systems invokes active discussion, maybe because it breaks the traditional group roles. These systems are individual and put every student to the center of session, unlike traditional large group lectures. Virtual teaching covers two basic senses, auditory and

vision. However, it does not cover the senses of touch, such as joint instability, the clunk feeling of fracture or joint undergoing closed reduction, crepitus of severe soft tissue infection, and abdominal distension, or sense of (bad) smell in wounds. Even during and after severe pandemic, real patient contacts are and will be essential to provide the students these learning possibilities. Virtual platforms cannot either substitute learning on how to act in a patient–doctor relationship.

The pandemic showed unequivocally that we are capable of agile change. The future USE should be agile, transforming quickly into changing needs of the society and infrastructure of health care. It also should be local to meet the needs of the regional population.^{2–5} Postpandemic USE might also benefit from integrating medical students into development of medical curriculum.⁶ Hybrid surgical teaching including methods of virtual teaching should be utilized alongside traditional teaching environments. Mixing online with in-person teaching such as two teacher sessions, one online and one at hand or lecture, held in the same way as (a large) group session activates students. Based on our experience, virtual teaching provides students with basic theoretical knowledge, giving more time to small group teaching.

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The latter should be focused on teaching procedures and dexterity, and practicing all the senses needed in surgery.

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