

CORRESPONDENCE



Animated video to enhance surgical training during COVID-19 pandemic

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TO THE EDITOR:

We read with interest the paper by Ferrara et al. [1]. Reduction in surgical exposure has in fact affected surgical training both in direct surgical skills acquisition and as well as observational surgical learning. We herein share an example of our recent innovation using animated video to complement surgical simulation.

Reduction in direct surgical exposure during COVID-19 has reduced the opportunity for direct demonstration of surgical skills in the theatre environment. To overcome this issue, we used SketchUp (Trimble Inc, Boulder, Colorado, USA), an engineering software to create video to simulate a theatre environment. The animation consists of routine cataract theatre staff (surgeon, scrub nurse and floor nurse) whilst demonstrating a scenario in the theatre when posterior capsular rupture (PCR) occurs (Fig. 1).

Peyton's four steps (demonstration, deconstruction, comprehension and performance) is one of the most common methods used in practical skill training [2, 3]. Using animated video, new knowledge (in this case, PCR) is demonstrated. Following video demonstration, trainees can be asked to deconstruct and perform PCR management using a virtual reality eye simulator and a simulated patient for communication skill practice.

To testify the acceptability of animated video, we have collected feedback from trainees in our deanery. Of the 15 respondents, 93% of trainees feel strongly agree they would recommend this video to other Ophthalmology residents and all trainees feel the video increased their confidence in PCR management.

An Animated video that simulates the theatre environment is useful to teach management of a rare complication such as PCR. It is also useful in the COVID-19 pandemic where real-life theatre

exposure is limited [4]. Animated video can be used alongside with along with recorded live surgical videos to complement simulation training. This would help the trainee to “observe” the whole scenario rather than just the surgical steps. It would also benefit other theatre team members to help familiarisation with necessary steps/adjuncts to deal with the vitreous loss [5].

We echo the authors' emphasis on reshaping training following the COVID-19 pandemic to re-enhance environment surgical training. Effective learning requires carefully planned educational intervention using instructional design frameworks.

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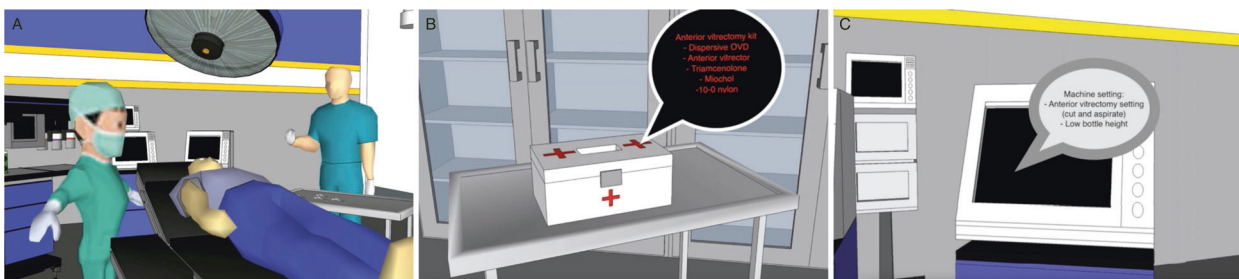


Fig. 1 Animated video demonstrating scenario in the theatre when posterior capsular rupture (PCR) occurs. **A** Surgical theatre scene created using SketchUp. **B** Anterior vitrectomy pack consisting essential items needed for anterior vitrectomy. **C** Recommended settings for anterior vitrectomy demonstrated.

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