Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Technical note

Modification of a face shield to allow point-of-view (POV) assisted training during the COVID-19 pandemic

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The COVID-19 pandemic has changed the landscape of surgical practice. It has limited access to the operating theatre due to the redeployment of theatres, staff, and equipment to support critically ill patients, and only emergency and cancer surgeries have been performed because of the risk posed by the COVID-19 infection to both patients and staff. The reduction in operating has had an adverse effect on surgical training. Opportunities for surgical trainees will remain limited and it is essential to optimise the training experience.[1]

To prevent the aerosol transmission of disease, personal protective equipment (PPE), including eye protection has become mandatory.[2] Baraclough and Parmar described a new modification of a visor mask for use with a head-light and loupes.[3] This technical note describes an adaptation of a face shield with the placement of a GoPro Hero8 Black (GoPro Inc) camera for point-of-view (POV) recording. POV video recording assists the learning experience in several ways. When an operation is performed by a trainee and video-recorded from their POV, the recorded video is re-run at a time convenient to the trainee for their reflection. It can also form the basis of a workplace-based assessment (WBA) for a feedback session with their trainer. The sequential POV recordings may also be used as an adjunct to monitor progress and confirm competency for the Annual Review of the Competency Progression process.[4]

A GoPro helmet mount (GoPro Inc) is attached to the face shield using a curved adhesive mount (Fig. 1). This mount system is designed to attach on to the helmet to video-record action sports such as mountain biking and snowboarding. These are readily available online and are affordable. The attachment is robust enough to withstand the disinfection pro-

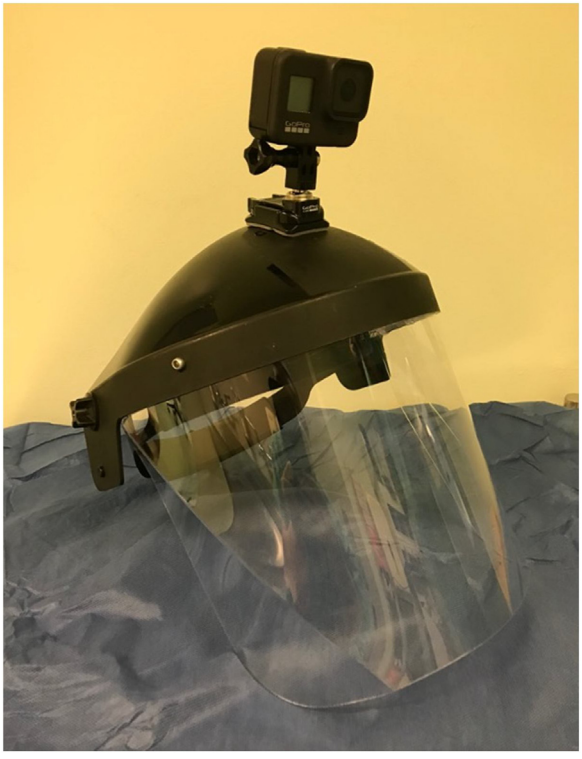

Fig. 1. Face shield mounted with a GoPro video camera (GoPro Inc).

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Fig. 2. Full PPE with GoPro-fitted face shield (GoPro Inc).

cess and the camera is water-resistant and easy to clean after use.

The quality of recorded video is excellent. There is adequate resolution and focus to visualise the anatomical structures and appreciate surgical techniques, and no intrusive shakiness has been noted. The slight disadvantage of this modification is its bulkiness (Fig. 2). As it adds extra height to the face shield, the camera occasionally hits the assistant's face shield when looking into a narrow area and, as the distance to the camera from the head is increased, the weight of the camera is perceived as heavier.

This modification to the face shield will allow us to video-record the surgical procedures from a surgeon's POV while protecting them from the aerosol transmission of COVID-19. The recording will enhance surgical training during this challenging period when COVID-19 is adversely influencing the opportunities for training.

Conflict of interest

We have no conflicts of interest.

Ethics statement/confirmation of patients' permission

Not applicable.

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