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**Sir,  
The development of a virtual reality training  
programme for ophthalmology: study must take  
into account visual acuity and stereopsis**

We read with interest the important study undertaken by Saleh *et al*.<sup>1</sup>

However, the only exclusion criterion for selection of candidates was novices with more than 2 h of simulation/ intraocular surgical experience. The authors do not mention whether a baseline test of visual acuity and stereopsis was recorded for participants. The importance of stereopsis in achieving satisfactory skills in ophthalmic surgery remains debated.<sup>2</sup> Recent studies have demonstrated that a decreased stereoacuity results in a statistically significant decrease in simulated surgical performance for most participants.<sup>3,4</sup> We suggest that all ophthalmic simulator-based studies should measure participant visual acuity and stereoacuity to ensure reliable results.

The authors also discuss the emergence of a 'learning curve' achieved in repeated tasks. In our simulator-based studies evaluating parameters affecting surgeon performance, we minimised the learning curve before data collection.<sup>5</sup> Using one attempt level 1, one attempt level 2 and six attempts level 4 forceps module, stabilised scores for our participants. Applying the same methodology to other modules might produce similar results and could be used in training.

**Conflict of interest**

The authors declare no conflict of interest.

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**Sir,  
Response to Swampillai *et al***

We thank Dr Swampillai *et al* for their correspondence<sup>1</sup> regarding our article.<sup>2</sup> In our study, the main inclusion criterion was ophthalmic trainees with minimal surgical experience<sup>2</sup> (as defined in the paper). No other essential or desirable criteria from the ophthalmology training selection process were tested as trainees recruited had already passed through all this process. As Swampillai *et al* rightly pointed out, the importance of stereopsis in achieving satisfactory skill in ophthalmic surgery still remains debated.<sup>3</sup> There are various gradations of stereopsis impairment, and until a clear relationship between these and surgical skills performance is defined their influence on data can only be speculated. There is also a range of other potential extraneous factors that could potentially influence surgical performance, some described, for example, sleep deprivation,<sup>4</sup> and likely many more that have not been examined formally. It was for this combination of reasons that during the study, outset inclusion and exclusion criteria were defined as they were.

Defining the surgical learning curves will become central as the use of simulators broadens. We thank Swampillai *et al* for highlighting their observation and pretraining description. Importantly, our study showed that there were statistically significant differences in the results between the different tasks, thus the learning curves are likely to vary significantly depending on the task selection. Without more detailed quantitative analysis of how the simulator scores vary during this pre-training process, along with its effects thereafter,

we feel the validity of this methodology cannot be assumed and cannot be uniformly applied to all tasks.

It is likely that as training systems progress that the definition of competency of performance for an individual will not just include being able to perform a task to a high level, but also demonstrate that this can be done consistently (with low variability).

The authors feel that this is a very important question and significantly more work will be required in this field to best define methods for increasing consistency of performance.

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## Sir, Awareness of sight-testing entitlements in patients referred for suspected glaucoma

Awareness of sight-testing entitlements and costs incurred by new patients attending a glaucoma clinic has not been previously reported.

In all, 335 consecutive new patients who attended a glaucoma clinic in a semirural setting completed an anonymous questionnaire that addressed several of the dimensions developed by Gerteis and the eight Picker

principles.<sup>1,2</sup> The questionnaire explored the reasons for attending the optometrist, awareness at the time of sight testing of eligibility for free sight tests, what a sight test entails and travel arrangements including cost.

The most common reason for attending an optometrist was in response to a reminder letter (44%), followed by the patient subjectively feeling new glasses were required (18%), and not being able to see clearly (13%). Ninety-five per cent of patients knew that attending a sight test appointment involved an examination of the health of the eye. Eighty per cent of patients were aware that sight tests are available at no cost to those aged 60 years and older, and 61% of patients were aware that this was also the case for those aged 40 years and older with a family history of glaucoma. Ninety per cent of patients travelled to the hospital appointment by car, 5% by public transport, 3% by foot, 1% by motorcycle and 1% by hospital transport. In comparison, 76% of patients travelled to the optometrist appointment by car, 6% by public transport, 15% by foot and 3% by bicycle. The mean patient-reported cost to travel to the hospital was £2.08 and £0.91 to the optometrist (permutation paired *t*-test,  $P < 0.001$ ).

The mean distance travelled by patients to attend the hospital appointment was 9.4 miles compared with 5.5 miles for the optometrist (permutation paired *t*-test,  $P < 0.001$ ).

## Comment

Reasons for attending a sight test are complex and multifactorial. Experience from Scotland suggests that universal free sight testing does increase attendance although the under-privileged are still under-represented.<sup>3</sup> The Royal National Institute of Blind People (RNIB) Community Engagement project had identified limited community awareness of eye health and symptom-led demand for eye examinations as barriers for uptake of sight testing, a finding supported by this study.<sup>4</sup> The results of this study highlight the need to increase awareness and promote patient education about free sight testing, particularly in those with a family history of glaucoma. This will facilitate more effective opportunistic glaucoma case-finding in the absence of a cost-effective national screening model.

## Conflict of interest

The authors declare no conflict of interest.

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