

## Commentary: Optimizing surgical training

Imparting knowledge is challenging at the best. An interaction with many variables – attitude of trainer and trainee, the trainee's basic knowledge of subject concerned, the level of complexity of the subject under consideration – to name a few. When the issue under consideration is surgical training, it becomes even more complex. There are added concerns of patient safety, ethics, concerns about complications and meeting expectations – of both patient and trainee. Many a times the perceptions about the training and different aspects vary from the trainer to the trainee. The trainer might overestimate a trainee's competence and comprehension.<sup>[1]</sup> On the other hand, a trainee's perspective to training could be altogether different. Dialogue to overcome these differed views can play a crucial role in making training more meaningful.

India has a skewed doctor-patient ratio. Although many institutions provide surgical training, but they are not well

equipped and the provided training is often inefficient. Pandey *et al.* very precisely highlight the lack of adequate training in cataract surgery during post-graduation in India.<sup>[2]</sup> In the article "Surgical outcomes, complications and learning curve of the glued intraocular lens of a vitreo-retinal fellow in training" the authors highlight the differences in surgical performance of glued scleral fixated intra ocular lens between an experienced surgeon and a fellow.<sup>[3]</sup>

An environment conducive to training can greatly improve efficacy of surgical training. Healy *et al.* highlight the lack of structured mentorship and negative impact of poor role models in surgical training.<sup>[4]</sup> Just like a surgeon approaches a surgical case in a methodical stepwise manner – pre-surgical evaluation, intra-operative precision and post-operative care – training can similarly be stepwise.

A strong foundation is very essential for good outcomes. Trainees should be guided to good reading materials on the surgical aspects. Various techniques should be discussed. Each surgeon has his own preferences. In larger centers – panel discussions and debates, videos demonstrating various

techniques can orient trainees to various options available. Conducting a thorough pre-operative evaluation, along with the consultant – and discussion of key points can help trainees develop a proper approach to surgical decision making. A well-planned surgery is half the job done.

Intra-operative training has many pitfalls, and this is where many a times training may falter. Observing competent surgeons has its own importance, as one can witness management of complex scenarios. Wet-lab practice on cadaveric eyes or animal eyes can improve hand eye coordination and give a basic orientation to tissue handling. An excellent combined technique was reported by Sengupta *et al.* of integrating a human nucleus in goats eye for phacoemulsification practice.<sup>[5]</sup> But vitreo-retinal training is not possible in cadaveric eyes. In this concern, simulators are a great tool.<sup>[6]</sup> They provide almost realistic scenarios and can be of great help in training the budding surgeons. Though attractive, they are expensive and not widely available and not systematically validated. Complex multi-layered surgeries like vitreo-retinal surgeries can also be taught in a stepwise fashion, with trainees doing a part of the procedure. Gradually competence to the whole can be achieved.

A post-surgical analysis of the cases can also be helpful. Video recording of surgeries and discussion with attending surgeon can help trainee resolve doubts. Morbidity meetings where complications are dissected – though oft unpleasant, can be great learning opportunities if approached with a healthy mindset. Various tools are available for assessing competence in surgical performance, mainly for cataract. The use of such tools can make the assessment more structured and objective, thus enabling trainer to address specific areas and trainee to work on them.<sup>[7]</sup>

Surgery is multi-faceted. Training also has to be. A well-structured surgical training program, with open communication between mentor and mentee can transform a novice to an expert.

**Manavi D. Sindal, Kanika Chhabra**

Vitreo-Retina Services,  
Aravind Eye Hospital and Postgraduate Institute of Ophthalmology,  
Pondicherry, India

Correspondence to: Dr. Manavi D. Sindal,  
Vitreo-Retina Services, Aravind Eye Hospital, Thavalakuppam,  
Cuddalore Main Road, Pondicherry - 605 007, India.  
E-mail: mdsindal@gmail.com

## References

1. Venincasa MJ, Hubschman S, Kuriyan A, Berrocal A, Sivalingam A, Albini TA, *et al.* Perceptions of vitreoretinal surgical fellowship training in the United States. *Ophthalmol Retina* 2019;3:802-4.
2. Pandey SK, Sharma V. Cataract surgery training during ophthalmology residency in India: Challenges and how to overcome them? *Indian J Ophthalmol* 2017;65:1279-80.
3. Oli A, Balakrishnan D. Surgical outcomes, complications and learning curve of glued intraocular lens of a vitreo retinal fellow in training. *Indian J Ophthalmol* 2020;68:78-82.
4. Healy NA, Glynn RW, Malone C, Cantillon P, Kerin MJ. Surgical mentors and role models: Prevalence, importance and associated traits. *J Surg Educ* 2012;69:633-7.
5. Sengupta S, Dhanapal P, Nath M, Haripriya A, Venkatesh R. Goat's eye integrated with a human cataractous lens: A training model for phacoemulsification. *Indian J Ophthalmol* 2015;63:275-7.
6. McCannell CA. Simulation surgical teaching in ophthalmology. *Ophthalmology* 2015;122:2371-2.
7. Honavar SG. How good a surgeon are you?-Standardized formative assessment of surgical competence for ophthalmology residents in training. *Indian J Ophthalmol* 2017;65:777-8.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online	
Quick Response Code:	Website: www.ijo.in
	DOI: 10.4103/ijo.IJO_1791_19

Cite this article as: Sindal MD, Chhabra K. Commentary: Optimizing surgical training. *Indian J Ophthalmol* 2020;68:82-3.