

Effect of wet-laboratory training on resident-performed manual small-incision cataract surgery

Manual small-incision cataract surgery is the most commonly taught cataract surgery in Indian ophthalmic residency training programs.^[1,2] Pradeep *et al.* need to be congratulated for such a meticulous study on the effect of wet-laboratory training in this important field.^[3] Residents in many training programs in India, and worldwide, do not get an opportunity to perform enough number of cataract surgeries, under supervision and independently, to groom them into confident and proficient surgeons.^[1,2,4] Fewer opportunities to operate upon cataracts translate into poor proficiency and an inability to deal with the unexpected and poorer visual outcomes, setting up a downward spiral. Poorly trained residents get less opportunity postresidency for fellowships and senior residency and consultancy positions. Many remain locked in the vicious circle of their skill deficit.

Pradeep *et al.* have shown that residents who had spent time in wet-laboratories had lesser complications and improved visual outcomes after cataract surgery. Their study demonstrates that incidence of posterior capsular rent, vitreous loss, and aphakia reduced, while immediate postoperative visual acuity after cataract surgery improved! The difference was most marked in the 2nd-year residents who were more likely to operate independently than the 1st-year ones who performed surgery under closer supervision. The residents who performed initial steps on goat's eyes, under an operating microscope, improved their hand-eye co-ordination, got the feel of the tissue, and came to know what to do if things went awry (button holing or premature entry during tunnel construction and extension of capsulorhexis). However, they were not able to explain why microcystic edema was more in Group B, those who were trained in wet-laboratory first.

Wet-laboratories can also be used for noncataract surgeries which are performed even less sparingly in residency programs, like for trabeculectomy and strabismus. A training program in the USA used commercially available bacon as an extraocular muscle substitute and cadaveric pig eyes for conjunctival and scleral tissue for teaching strabismus surgery.^[5] Cigarette carton transparent covers and boiled tomato and potato peels have been used in India to teach capsulorhexis.

Simulators are an excellent option for teaching phacoemulsification but are expensive and not easily available. A New York-based not-for-profit organization, HelpMeSee, has developed a simulator for tunnel making in manual small-incision cataract surgery. However, till now, such simulators are not readily available; wet-laboratories can be an excellent alternative in making cataract surgery training

easier and safer. There is a need to mandate the establishment and use of wet-laboratory facility in ophthalmology residency training in India, if the country is to tackle its enormous backlog of cataract blindness by improving surgical outcomes.

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