# MEDICAL MISSIONS FOR SURGICAL TRAINING

The pros and cons.

## **BY STAN PLETCHER, MD**



Given that 18 million individuals worldwide are legally blind due to cataracts, ophthalmology is needed for the mission field. Cataract surgeons who are trained in both manual sutureless small-incision extracapsular cataract surgery (SICS) and phacoemulsification can generally adapt well to situations with limited resources. SICS is a high-quality, low-cost technique

that many Western surgeons wish to learn. In a famous comparison study conducted in Nepal, Ruit et al have shown the results of manual SICS to be similar to those of phacoemulsification.<sup>1</sup>

Several global fellowships with training in SICS have been started in the United States, however, SICS and similar procedures are not being taught routinely in US residency programs. Most university faculty members are only trained in phacoemulsification and/or laser cataract surgery and are uncomfortable teaching standard extracapsular cataract extraction, much less SICS. I find it ironic that SICS is recognized as an elegant, high-quality, and safe procedure, but our ophthalmic training institutions are unwilling to incorporate it into the curriculum.

Is a medical mission a good time for surgeons to learn or relearn surgical techniques? Learning SICS on the mission field may be the only real way for Western ophthalmologists to gain expertise and competence. This article discusses the pros and cons associated with learning in that setting.

### WHY MISSIONS ARE NOT SUITED FOR TRAINING

The mission field around the world is under a rapid state of change due to a combination of increasing numbers of trained national ophthalmologists, the global reach of the Internet, increased scrutiny by countries to traveling humanitarian doctors, and the legal climate of communities and cultures all over the globe.

Here are 10 reasons why the mission field may not be an ideal setting to learn SICS and other surgical techniques.

- 1. The learning curve for SICS is higher than expected, especially for clear corneal phaco surgeons.
- 2. There is a high prevalence of difficult cataract cases (eg, loose zonules, small pupils, black cataracts).
- 3. The language barrier with patients.
- 4. There is a lack of vitreoretinal support.
- 5. The surgeries and the environments in which they are performed may be unsupervised.

- 6. Surgeons may need to use unfamiliar or lesser-quality microscopes.
- 7. The surgeon's stool may be uncomfortable.
- 8. The higher volume of patients may result in pressure to perform many surgeries per day.
- 9. Potential jet lag or stomach upset due to travel and unfamiliar foods.
- 10. A seasoned SICS surgeon volunteer may not necessarily be a good SICS teacher.

Although I may sound pessimistic and not give enough credit to seasoned surgeons, many surgeons have experienced some or all of the situations I described. One Western mission agency recently received a letter requesting that the agency never come back because 75% of the patients operated on by the surgeon became blind due to complications associated with the surgery.

Poor patients know the difference between good and poor quality. Poor outcomes hurt all involved and destroy the confidence of a well-meaning volunteer. Local providers are left with disasters to clean up, the reputations of clinics or hospitals are tainted, and ministries of health are faced with difficult decisions that affect the future care of needy populations.

# WHEN MISSIONS CAN BE A GOOD SETTING FOR LEARNING

Dr. Eduardo Mayorga, director for e-learning with the International Council of Ophthalmology said that, "Any surgical



- A comparison study conducted in Nepal found the results of SICS to be similar to those of phacoemulsification
- There are many reasons why medical missions are not an ideal setting to learn SICS. Poor outcomes hurt all involved and destroy the confidence of a well-meaning volunteer.
- When specific strategies, processes, procedures and, parameters are put in place, the mission field can be an excellent place for training.



Figure. Renowned missionary surgeon Dr. Norval Christy demonstrated how to perform high-volume cataract surgery in a missionary setting in Pakistan in the 1960s and 1970s. (www.youtube.com/watch?v=cfggse-WbUo).

procedure done at any place can be a learning opportunity if it is supervised by a well-trained surgeon following good practice teaching strategies, processes, and procedures."<sup>2</sup> What strategies, processes, procedures and, parameters are ideal for the mission field? The initial strategy involves diligently preparing to learn, which involves a commitment to not only watch the best teaching videos but to also attend available courses or wetlabs to become versed in the variations of each step of the technique and complication management, which are outlined in various textbooks.

The learning process will look very different for a resident versus a surgeon who has performed several thousand extracapsular cataract extraction procedures or an experienced phaco and a laser cataract surgeon versus a recent graduate. This process will involve identifying the key steps that must be mastered and a commitment to their mastery with proper monitored instruction before performing unmonitored surgical procedures.

The specific parameters need to be established by the trainer and those in charge of a mission clinic or OR setting. The trainer must have extra available competent staff for teaching and monitoring, select the cases that are conducive to teaching, and decide how many cases are scheduled. An extremely busy OR packed with blind patients with no extra surgeon for teaching is not an ideal situation for learning in this manner. Furthermore, there is no substitute for one-on-one mentoring at the surgical microscope with the appropriate teaching head for the trainer to allow an excellent view of each step the student is doing. Lastly, breaking down a procedure into small steps and requiring mastery of one step may be one parameter before a student is allowed to progress. An educator should require some defined advanced study and perhaps some demonstration that a core level of knowledge competency was achieved before beginning to perform surgeries on his or her own.

# TRAINING RESOURCES

#### Global Sight Alliance (www.globalsight.org)

Find mission trips, learn from a global community, research mission agencies, and share your experience with others.

#### Aravind Manual for Manual SICS (www.globalsight.org/latest-news/ free-msics-manual.html)

A free downloadable manual for the iPad (Apple)

Standard Operating Procedure Manual for SICS (www.globalsight.org/online-msics-classroom/ standard-operating-procedure-manual-for-sics.html) A manual produced by the Tilganga Eye Center

#### The Manual SICS Classroom (www.classroom.globalsight.org)

Provides videos and training materials specifically for learning the steps of SICS.

#### Yo2Go (www.yo2go.org)

An online community of residents, fellows, and other young ophthalmologists who share resources, ideas, and connect through their interest in global ophthalmology.

Finally, working with an established national trainer can be an excellent setting for learning new techniques. An experienced national physician knows the equipment, the best procedures, the legal environment, and what to do when complications arise.

## **RECOMMENDATIONS FOR THE FUTURE**

SICS needs to be incorporated into the training for cataract surgeons. There are established models for training, and many involve partnerships with an international training program (Figure). Examples of using SICS in the United States as a standard procedure need to be studied and duplicated. High-fidelity surgical simulation of SICS as is being developed by HelpMeSee (www.helpmesee.org) may be a reality someday.

More Western ophthalmology departments need a global ophthalmology fellowship position. It may not be until after we have 50 to 100 fellowship-trained global ophthalmologists that the proper incorporation of training of global skills for all ophthalmologists in the Western world will take place.

For more information on training in the mission field, watch a webinar from Global Sight Alliance (www.globalsight.org/global-sight-webinars).

 Ruit S. Tabin G, Chang DF, et. A Prospective Randomized Clinical Trial of Phacoemulsification vs Manual Sutureless Small-Incision Extracapsular Cataract Surgery in Nepal. Am J Ophthalmol. 2007;143(1):32–38.
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