REACHING OUT

Grow your skills and help surgeons in the developing world put a dent in the backlog of cataract cases.

BY ZAIBA MALIK, MD

The World Health Organization estimates that 285 million people are visually impaired worldwide and that 90% of those people live in low-income settings.[1] The most affected areas are in south and east Asia and parts of sub-Saharan Africa. Because the global population is living longer, the burden of blindness will continue to increase. The number of blind people worldwide is expected to triple by 2050.[2] David F. Chang, MD, who has collaborated with many Indian and Nepalese surgeons in international cataract camps, identifies the single greatest challenge in ocular surgery as the huge backlog of cataract cases in the developing world.[3] A lack of equipment and a shortage of trained ancillary staff add to the cost of phacoemulsification surgery, while comorbidities such as trauma, corneal scarring, and zonulopathy increase the complexity of cases.

Although phacoemulsification is possible in the underdeveloped world, the aforementioned considerations and usually dense cataracts at presentation make manual small-incision cataract surgery (MSICS) a better option for high-volume, low-cost cataract surgery. In India, MSICS can cost about $15 per eye; phacoemulsification costs four to six times as much. The additional upfront cost of $100,000 for a phaco machine and the need for trained technicians to calibrate and run it makes phacoemulsification a restrictive technology.

> **"The single greatest challenge in ocular surgery [is] the huge backlog of cataract cases in the developing world."**

AT A GLANCE

- There is an extraordinary backlog of cataract cases in the developing world that new and experienced surgeons can help address.
- Surgeons who are interested in international outreach can work with organizations such as Surgical Eye Expeditions International to identify opportunities.
- It is important for a surgeon to have a clear understanding of the expectations of the site, the country's culture, and the patients' customs to have a successful and educational experience.

WHERE TO LEARN

While complications can arise in MSICS, there is less of a learning curve, which makes it safer and results in equivalent postoperative visual actuity. As such, it is important for US doctors to become familiar with the procedure if they wish to have a global impact in countries where technology is a barrier. Those whose training included experience with extracapsular cataract extraction can develop their skills through a wet lab offered by the American Academy of Ophthalmology. Many surgeons who routinely perform MSICS, either in their practices or in international camps, teach these wet labs.

For those interested in learning MSICS directly in the field and performing actual surgeries under faculty supervision, partner sites with Surgical Eye Expeditions International (SEE) and Vision Outreach offer second-tier courses. Long-term courses ranging from 1 to 3 months are offered through the Aravind Eye Care System. Performing cases under supervision helps surgeons understand how to handle complications such as iris bleeding and long incisions that require suturing.

WHAT IT TAKES TO PREPARE

It is important to have a clear understanding of the expectations of the site where you will be working. When researching specific locations, speak with ophthalmologists who previously visited the sites in which you are interested. They can offer insight into the flow, equipment, patient load, and any expectations regarding your surgical experience.

Are you going there to provide services? If so, how much equipment (lens, portable phaco machines, loaner microscopes, etc.) are you expected to bring? Are you expected to learn the host's techniques and have a local surgeon available there? Many organizations already have a supply list made up for a typical week.

It is also important to understand the local customs and culture of the people. For example, in Asia and Latin American, many patients defer to the surgeon to make the final decision on surgery. Finally, note any special medical precautions, preventive immunizations, and health concerns of the area you will be visiting.

Being open-minded and truly collaborating with your host center will promote a fulfilling and educational experience for you.

HOW TO STAY FRESH

Planning MSICS for dense white cataracts can help surgeons maintain the skills required for MSICS. In my own practice, I use MSICS for the densest cataracts when I feel that comorbidities such as a crowded anterior segment, zonular weakness, corneal opacity, or severe miosis may make phacoemulsification a risky procedure for the endothelium or posterior capsule. MSICS is a wonderful option to have in my surgical armamentarium.

HOW TO GET INVOLVED

Two major subgroups of ophthalmologists travel overseas for global ophthalmology. One group consists of surgeons wishing to gain additional training, either in MSICS or simply more complex phaco cases. The other, larger group comprises experienced surgeons who want to offer their services to help in humanitarian camps and teach skills to local eye care providers. Both categories of ophthalmologists are often stuck on where to find information about possible global opportunities. Here are four places to start:

1. SEE

SEE (www.seeintl.org) is a nonprofit humanitarian organization based in Santa Barbara, California. Founded in 1974, SEE connects more than 650 volunteer ophthalmologists and medical professionals to host clinic sites worldwide. The organization's website is constantly updated about current expedition needs. Last year, approximately 250 campaigns were coordinated through SEE, and for 2017, SEE is on track to screen around 100,000 patients and perform 20,000 sight-restoring surgeries.

2. Global Sight Alliance

Global Sight Alliance maintains an ongoing list of future missions, training videos, and webinars on its website (www.globalsight.org).

3. The American Academy of Ophthalmology

The American Academy of Ophthalmology maintains a database of countries needing surgeons (https://www.aao.org/global-ophthalmology-guide).

4. The University of Iowa

The University of Iowa has compiled a list suitable for residents looking for extra training (bit.ly/IowaInternational).

It is important to realize that participating in one mission camp will not solve the worlds' cataract problem, but setting up sustainable eye care with an emphasis on skills transfer will help make a dent. ■

1. World Health Organization. Visual Impairment and Blindness. WHO Fact Sheet No 282. 2014. http://www.who.int/mediacentre/factsheets/fs282/en/. Accessed November 17, 2017.
2. Mazumar T. Global blindness set to 'triple by 2050'. BBC News. http://www.bbc.com/news/health-40806253. Published August 3, 2017. Accessed November 17, 2017.
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Zaiba Malik, MD
- assistant professor, Wright State University School of Medicine, Dayton, Ohio
- global health wet lab instructor for the MSICS course, American Academy of Ophthalmology
- volunteer, numerous surgical eye camps all over the world, mostly partnering with SEE sites
- zmalik01@gmail.com
- financial interest: none acknowledged