

2. Researchers need to determine if girls are re-infected more readily than boys following antibiotic distribution.
3. Researchers must determine which local community-based approaches best improve uptake (and equity in uptake by men and women) of trichiasis surgical services before vision loss occurs. Researchers must also examine whether women have a higher rate of recurrence of trichiasis following surgery and what can be done to reduce recurrence.

### Childhood eye diseases

1. In each context, researchers need to determine what prompts parents to bring their children for surgery and when. Do mothers and fathers have different perceptions of the need of eye care for children and does this depend on the household structure or economic

status? How do these perceptions affect utilisation of services?

2. Researchers need to explore why, in most settings, parents bring more boys for juvenile (non-traumatic) cataract surgery than girls. They must also study long-term follow up of children receiving surgery to assess utilisation and benefit of low vision services.

### Other conditions

1. For glaucoma and other major causes of blindness, researchers need to clarify the utilisation of services and outcomes of service by men and women. Very little information exists to date on screening, medical and surgical services. In many settings there are more men than women receiving surgery.
2. For leprosy, researchers need to determine if the burden is similar for men

and women and if more cosmetically appealing lagophthalmos surgery (compared to tarsorrhaphy) can improve socio-economic status or quality of life. Lagophthalmos is a significant cause of vision loss and disability in leprosy patients and is a burden on quality of life because of its stigmatising qualities.

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## Report

# Training Principles for Ophthalmic Care in Developing Countries

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### Introduction

Over the past few decades the authors have visited a number of developing countries in Africa, Asia and the Americas, providing both general ophthalmology care and specialised consultation, teaching and service. The programmes initially were largely oriented towards cataract surgery and glaucoma care in more rural areas, then towards teaching in the field of paediatric ophthalmology and strabismus in large city hospitals. There seems to be a never-ending amount of service needed in these countries, although, over time, the ability of colleagues to provide service to their own people has increased. However, as the cataract backlog is reduced, there develops an interest in learning specialised ophthalmic concepts and surgery techniques.

Volunteers visiting a developing country should not make assumptions based on previous visits because perceptions and conditions in the country vary. It is essential to have good communications with colleagues in the country visited.

The recognition and application of three major principles should be observed on medical mission trips:

1. **Appropriate technology** based on the existing infrastructure and the needs determined at both local and national level.
2. **'Empowerment' of the physicians and paramedical personnel** in the country. This should include informal teaching in the clinic, working together with colleagues in the operating room, as well as formal lectures and courses at centres of medical education.
3. **Project sustainability.** Equipment should be donated to local organisations, such as Lions Clubs or Rotary Clubs with support organisations placed in those Clubs so that return trips can be organised more effectively. There is a need, also, for colleagues in these countries to come for further training in more developed countries. This provides the greatest amount of 'multiplier effect', as then a person can return to his or her own country and devote his or her career to service in ophthalmology – particularly paediatric ophthalmology and strabismus, the specialty interest of the authors.

### Appropriate Technology

Supporting the improvement in technology in a developing country should be 'step by

step', rather than by introducing the latest technology, which may remain unused. For example, phakoemulsifiers at small hospitals in the poorly served periphery (e.g., rural areas) may be used by the visiting specialist, after which it may be placed under a dust cover for years. In countries where the water supply is not clean, sediment in the water supply typically contaminates the lenses of lasers, reducing effectiveness and ultimately the use of the laser. It is best to work with colleagues in these countries to select what is appropriate. Surgical instruments are most commonly needed.

### Empowerment of Physicians and Paramedical Personnel

Most people in the developing world, including physicians, are so used to diminishing resources and an unresponsive government that they may have given up trying to establish new programmes. It is, therefore, important to empower the physicians and other personnel to improve this situation. Service programmes can bring in visiting specialists with expensive equipment and highly trained technicians to do a large number of operations or procedures in a short period of time. These programmes leave a clear and inappropriate message that visiting doctors can carry out various procedures and the local doctors cannot. Should this type of visit continue as the developing country progresses, the

service organisations can easily run into more and more problems, formally and informally.

The inability of getting goods through customs, for instance, tends to occur where local organisations have not been asked to participate and cooperate with mission service trips. Some countries, such as Mexico, restrict the type of volunteer organisations allowed by requiring letters of support from local Mexican physicians or local medical societies – before any organisation is allowed to work within that country. It is important to ask questions constantly of those participating in medical service visits – is it appropriate and will it provide empowerment?

## Programme Format

A typical programme format that we have evolved over the years is to provide first consultation, second lectures, and third demonstration surgery. Lectures are done both formally as well as informally. Demonstration surgery is done together with colleagues of the country, working with them on patients within their own practice. The policy of coming in with inexperienced visiting surgeons is entirely inappropriate, suggesting that they have come simply to practice their surgical techniques.

Another common mistake is to allow very important people from the local villages and cities to come in and receive care from the visiting ‘experts’. These typically are those who could afford to pay for private care locally. Providing care to these people provides a direct loss of revenue to the local physicians. This should be avoided whenever possible, and patients referred to the local ophthalmologist should be seen in consultation, with the local ophthalmologist providing a bill for services. An important rule in making any decisions in developing countries is to include not only the local ophthalmologists in these decisions, but actually adopt their preferences whenever possible.

## Project Sustainability

One of the other important concepts to share is that of the ‘spirit of volunteerism’. In many countries, the ability to help people beyond the local family or village unit has not been developed. This can be addressed by suggesting the formation of volunteer organisations by the local ophthalmologists.

In Nicaragua, following the formation of an organisation called Fundacion Ayudemos Aver, local ophthalmologists

provide volunteer services for screening and surgery on the last Friday of every month. Their transportation and supplies are organised through either the local Lions or the Rotary Clubs. Also, organisations like Fundacion Ayudemos Aver, working with local Lions and Rotary Clubs, are a great source of support in the organisation and planning of future visits as well as fundraising for equipment and supplies purchase. Basic surgical instruments are most often needed. Commonly, local service clubs will provide funds (~£2000) for the purchase of a set of instruments. These can be donated and procured with the help of a local club in the host country.

## CPR and Developing Countries

Sadly, many developing countries can be recovering from war and, in the early stages of recovery, have three phases (called ‘CPR’) through which the country progresses in restoring health care for the people.

The **first phase** is that of **crisis and chaos** (‘C’). At times like this any help will be useful and does not have to be coordinated with local doctors as much as in the later stages. However, help at this time can be dangerous to volunteers as the country may still be effectively a war zone. Eye care may largely be related to trauma.

The **second phase** of recovery would be characterised by **peace with poverty** (‘P’). Government resources have largely been devoted to providing the most efficient aid for indigenous diseases and epidemics. Unfortunately, many governments provide very small amounts of their countries resources to the health care of their people. In this stage of recovery, public health measures are most needed with basic health training and distribution of health resources. Health funding from outside sources is still most appropriate.

The **third phase** is that of **recovery and resourcefulness** (‘R’). Medical schools are typically started or revived at this stage, and then ophthalmology training is re-established. The training model may include educating ophthalmology technicians along with ophthalmic surgeons. Specialty care is then taught at teaching

hospitals, usually in large cities. Until this phase is reached, children’s needs are usually ignored. Well-documented childhood starvation at times of drought or political crisis illustrates this. As concerns paediatric ophthalmology, these conditions are manifest as a lack of childhood screening programmes in cataract camps, lack of general anaesthesia services, lack of equipment in hospitals, and in the lack of paediatric ophthalmology and strabismus management skills by general ophthalmologists.

Once in the recovery phase, ophthalmologists have begun to address the backlog of war injuries, industrial trauma and cataracts, and are more able to help in paediatric care. This phase is the most appropriate for teaching paediatric ophthalmology and strabismus surgery.

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## Further Reading

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## SURGICAL EYE EXPEDITIONS INTERNATIONAL

Volunteer ophthalmologists in active surgical practice are needed to participate in short-term, sight-restoring eye surgery clinics around the world.

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