The MercyVision Team Overview
September, 2009

I. Overview

The MercyVision Team consists of 4 units working together to deliver quality eye care. The typical field service is 10 months in a west African nation.

A. Field unit: provides ophthalmic medical and surgical triage, educational program for translators, basic eye care, postop care, and spiritual nurturing for patients and translators. Responsible for approximately 25,000 patient encounters. Expected surgical yield approximately 15% over 40 weeks (625/week).

B. Tech unit: serves as the med/surg referral hub, provides preop final eval., & technical support (IOL calc, IOPs, ec), patient and family health education, and YAG laser site. Provides a spiritually encouraging environment for patients, translators, and visiting surgeons. Responsible for approximately 10,000 patient encounters (250/week).

C. Peri-operative unit: Serves as the surgical prep team and coordinates surgical schedule with the tech unit and field unit. Manages admissions, discharges and patient flow for all local and general anaesthesia cases. Provides a spiritually supportive environment that enhances the patient's sense of safety and security as they prepare for surgery. Responsible for approximately 4,000 patient encounters (120/week)

D. Operating room unit: Supports surgeon in delivering surgical care. Provides maintenance of surgical equipment and ORs and provides adequate skilled staff for safe and efficient surgical care. Provides a spiritually supportive environment that enhances the patient's sense of safety and security as they undergo surgery. Responsible for approximately 4,000 patient encounters (120/week).

II. Team goals

A. Delivery of high quality surgical intervention focused on correction of cataract blindness. In addition, selected pterygia, enucleations, strabismus, traumatic open globes (if within 72 hours of injury and reasonable prognosis), and minor lid procedures will be done as appropriate cases present. Limited pharmaceuticals are available for medical intervention in selected cases and local referral will be made when available.

B. Positive spiritual impact on patients, translators, and staff by expressing the joy of the Lord and the testimony of the gospel.

C. Education of local translators to increase our efficiency and build national capacity for the development of the eye care industry.

D. Education of local ophthalmic surgeons to build national capacity for high quality intervention and build a network of eye care providers for

the future. Training is focused on attaining basic proficiency in manual small incision cataract surgery.

E. Advanced education of African and international missionaries in ophthalmology (the Alcon mission cataract fellowship program) to multiply our effect in Africa by advanced training for high quality surgeons committed to service in developing nations. The focus is on developing leaders in ophthalmology who can train others.

III. Strategy

A. Establish and monitor weekly targets: Program output targets are set depending on the length of service and the amount of training planned but generally the 2 ophthalmic operating theatres are managed to handle around 100 cataracts per week in total. In addition, 4 to 8 pterygia, 1 enucleation, 1 strabismus, 4 minor operations (includes chalazia, trichiasis, symblepharon, conj masses, minor lid tumors) can be scheduled per week.

B. Establish and maintain full staffing through HR and solicitation of local talent. Visiting surgeons may bring their own operating room support staff if there is space available but generally, operating room staff are recruited internationally to meet the need. Local talent will be used to supplement staffing needs when needed. Selection of staff will be based on skills and desire to contribute to both the spiritual and physical goals of the eye team but there are wide differences in experience and style of the staff that require team work to manage.

C. Assure all staff skill sets are maximally utilized to meet goals. While flexibility in doing the jobs that need to be done are important, we will endeavour to utilize personnel according to their main skill set. Occasionally staff will be outside their comfort zone but this proper training and orientation will be provided as needed.

D. Utilize our spiritual foundation to guide and empower our efforts. The harsh and uncertain environment in which we work will always present challenges that best planning cannot prevent. Flexibility alone is not sufficient to overcome these obstacles but rather the pursuit of wisdom that must guide us. Every effort will be made to avoid working in a crisis management mode.

E. Build relationships to enhance effectiveness in capacity building efforts. Impact does not begin in the classroom but in the conversations and experiences that are shared. Mentoring will be used as much as possible supplemented by didactics as our model for capacity building in the eye department..

F. Invest in those who are most likely to provide sustained impact. We must steward our capacity building efforts energy directed towards those who have the most capacity for impact. We can provide educational input to every team member but we will invest significantly in only the best. Ophthalmic fellows are competitively selected for their potential to impact eye care for the underserved.

IV. Staffing plan

A. Field unit-

1. MS staff**-** 1 coordinator, 2 ophthalmic specialists, 1 medical reviewer (determines suitability for local or general anesthesia)
2. Hired in country- 6 translators (pastors preferred)

B. Tech unit

1. MS staff- 2 ophthalmic specialist, 1 nurse/coordinator,
2. Hired in country- 3 translators (pastors preferred), 0.5 data/supplies manager, 1 translator coordinator, 1 spiritual counsellor

C. Peri-operative unit

1. MS staff- 1 coordinator, 1 nurse
2. Hired in country- 3 translators

D. Operative unit (for 2 ORs)

1. MS staff**-** 5 RNs, 1 coordinator (scrubs and translators work as members of the operating room staff in general)
2. Hired in country- 2 translators/RNs

E. Administrative support

1. Mercy Vision director- all units report to this full time mercy ships ophthalmologist, currently Dr Glenn Strauss, M.D.
2. Logistics coordinator- full time Mercy Ships staff manages all resources for all teams, manages special projects, team resource for logistical problem solving, and all patient data management.

V. Patient surgical logistics

A. Daily patient flow

Patients will arrive on the ship in 2 groups- one at 7 a.m. for the morning surgical session and the second at 10:30 a.m. for the afternoon session. Any general anesthesia patients are admitted the night before surgery for clearance by anesthesia, IOL calculations, strabismus measurements, etc. Patients will be discharged from holding room on board in groups of 5 to 8 to return to the tech unit for postop education and appointment for the following day.

B. Detail on postop care:

1. Tech unit eye specialists perform 1 day postop exams and refer all patients problems back to surgeon on board unless otherwise arranged by attending surgeon. All postop eye drops, education (including proper eye hygiene), and an appointment for 7 to 10 days are given.
2. Visiting surgeons and trainees attend postop day 1 patients on selected days after 1 p.m. T-F.
3. Postop data is collected and entered in spread sheet on all cataract patients at 6 weeks postop. This data includes uncorrected visual acuity, complications of surgery, explanation for outcome worse then 20/80 (6/24), preop prognosis (poor or good), and patient age.

Significant systematic errors in IOL power are identified by random refraction of approximately 30% of patients.

4. All cataract patients in groups of 100 are given YAG appointments each Friday at 7:30 a.m. to correspond with their final postop check. Patients are all dilated but YAGs are performed on all patients (regardless of clarity fo posterior capsule) without laser lens or anaesthesia using the Nidek YAG. Patients with open posterior capsules are examined at the YAG slit lamp. Any patient with good preop prognosis and < 20/80 (6/24) outcome are examined at the YAG slit lamp with the 90 D lens and any pathology noted.

C. Non-emergency walk-in patients will generally be referred to field clinics. **Out of the ordinary patients (VIPs including crew emergencies) will be seen by appointment through the MercyVision director.** Generally these patients will be seen in aft eye room.

D. Medical eye care:

1. Field team prescribes treatment based on standing physician orders and/or availability of licensed prescribing eye care professionals in the field. (see attached standing orders)
2. All other patients requiring additional medical eye care or surgical decisions are referred to the on board medical clinic for surgeon review each Friday at 1 p.m. in groups of 15.

. **E. Specialty clinics:**

1. Specialized ophthalmic volunteers are invited to provide expertise at the request of the MercyVision director. This may include uveitis, infectious disease, retina, plastics, orbit, or any other specialty need identified.
2. All MercyVision units will be notified 4 to 6 weeks in advance of visit.
3. Special clinic will work in the on board eye room 9 a.m. to 4 p.m. M, T, and Thur.
4. Attending specialized physicians assist with YAG and medical clinic on Fri and postop care prn.
5. Best effort will be made to identify and refer appropriate patients.

F. Prosthetics clinic

1. Generally will operate half day per week on non field clinic days.
2. All enucleation/evisceration patients are referred for fitting at 6 weeks postop. Additional postopcare may be managed my prosthetics specialist as available.
3. Fittings for non-operated patients are made by referral from field unit as space and resources are available.

G. Patients presenting with non-ocular problems

1. The MercyVision team is focused on care for ocular pathology. Orbital and facial problems will be referred to max/fax service.

2. No lab or x-ray will be ordered by eye team for non-eye patients. The patient care coordinator is the point person for in house referral.
3. Refractive problems are common. Refractions and prescriptions for glasses may be provided on a case by case basis. In country glasses are generally low quality but glasses may be ordered from a quality provider and shipped.

VI. Patient selection

This is a complex issue requiring continuous review and updates. Ultimately the needs of the patient pool determine our lines for patient selection. For this reason we use a two tiered system to provide objectivity and flexibility in patient selection. All patient screening and selection is managed through the field clinic unit rotating at two to four sites 4 days per week beginning at least 1 week before surgery.

A. Criteria based selection

1. **cataracts**: primary criteria=6/60 or worse in both eyes, clear cornea in proposed surgical eye, and absence of afferent papillary reflex with obvious mature cataract. Patient should be medically stable and without active infection.
2. **pediatric cataracts**: relatively healthy children without history of seizures, bilateral white cataracts between 1 and 6 years old. Others will be considered on a case by case basis but requires approval of MercyVision director before scheduling.
3. **pterygia**: active pterygia within 1.5 mm of visual axis (roughly approximated as the edge of a 3mm pupil). Bilateral cases and nasal and temporal pterygia will be considered. Patients covering the visual axis will be considered only if bilaterally blind. Pterygia may be removed at the time of cataract surgery if adequate visualization of ant. chamber.
4. **enucleation/evisceration**: blind, painful eyes in 12 year old or above are primary criteria but may consider grossly deforming eyes for cosmetic reasons even in young children. Generally not possible to fit children with prosthetics.
5. **strabismus:** healthy children (2 to 10 years old) with alternating fixation, functional EOMs, and clear purpose for intervention. (May attempt atropine penalization to rule out accommodative strabismus).

B. Clinical judgement based selection (quality of life considerations)

Many cases do not fit neatly into the criteria above. They may still be considered with the reasons for consideration noted on patient chart. This must be signed off by attending surgeon before proceeding. Attending surgeon retains the right to refuse surgery for any case.

1. cataracts: unilateral cosmetic cataracts in young people, employment and safety considerations if vision is between 6/36 and 6/60, poor prognosis monocular patients in whom small improvement may be beneficial (for example, glaucoma patient blind in one eye and significant damage in the remaining eye).

2. pediatric cataract patients: monocular children with HM or LP vision, may be over 6 years old.
3. Minor ops cases such as trachoma, trichiasis, lid or conj tumors, entropion or ectropion, symblepharon or any other condition appropriate for ocular surgical care.
4. For the purposes of data collection, these patients will be labelled "poor prognosis".

C. Patients not selected for surgery will receive prayer and explanation for why their condition cannot be helped.

VII. Education of translators

The efficiency of our work is dependant upon our translators. The more educated they are about what we do, the better they can assist us and our patients. A complete training manual for field team is available separately.

A. Training will be managed by coordinators of each eye unit. Generally, training is provided in half day sessions once a week. Prior to start-up, 3 to 4 days of orientation are needed.

B. Curriculum is taught by eye specialists and includes basic eye anatomy and function for all members of translator team: includes appropriate technique for instillation of drops, proper hygiene and hand washing, proper technique for patch removal and cleansing of eye postoperatively.

C. Translators will be given opportunity to observe surgery. Each translator is an important mouth piece to their community about the safety and comfort of properly done eye cataract surgery.

E. Coordinators may select especially qualified translators for second additional advanced training.

VIII. Team communication

A. Each unit coordinator is a key communicator and maintains communication with Mercy Vision director regarding problems and needs.

B. Mercy Vision director is responsible for communication to Mercy Ships administration.

C. Logistics manager is responsible for communication with Mercy Ships procurement and shipping services and will update Mercy Vision director on a regular basis

D. All eye units will immediately be notified of any emergency situations for prayer and support as needed.

E. Devotions will be planned by MV director so that all units may meet weekly for encouragement and prayer.