

# MEDICAL MISSIONS: The Mechanics

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Our world is filled with people who have insurmountable obstacles to freeing them from the grip of poverty and destitution, not the least of which is access to healthcare. Reliance on governments to institute solutions to the problems of the poor is fraught with obstacles such as lack of resources, indifference by the ruling regime, graft and corruption and sometimes frank political obstruction. Devastating human misery can remain without relief as governments ponder something as mundane as a definition.<sup>1</sup>

Medical missions collectively comprise one method of helping to alleviate poverty and suffering. Their goal is to bring skilled people who care into contact with people who need. Nevertheless, there are critics who feel that medical missions provide substandard care and squander millions of dollars that could be put to better use by local authorities.<sup>2</sup> Still others argue that only the best trained specialists should provide such care in the third world.<sup>3</sup> To counter these arguments, if we were to wait until such utopian conditions could be established, thousands of people would continue to suffer unaided. When a team dramatically changes the life of even one child, one individual, then the members have collectively contributed to a better world. It is seen in the smiles of gratitude from the recipients and their families observed on every mission. Just like the "starfish story."

### VOLUNTEERS

People volunteer to participate in medical missions for a variety of reasons, the most common being to express their compassion for the less fortunate. It takes courage and a sense of commitment to volunteer. It not only costs time and money but it involves exposure to the raw side of poverty as well as various levels of risk. On the positive side, serving on a medical mission team leaves each volunteer with a profound sense of accomplishment and the gratification of having made a small difference in the lives of a few unfortunate fellow human beings. There is an indelible bond between the team members as a result of a unique

experience together, an experience that involved generosity, hardship, camaraderie, teamwork and insight into another culture.

Desirable characteristics have been listed to help recruit reliable volunteers to achieve successful medical missions (Table 1). A volunteer must demonstrate the right commitment.<sup>4</sup> Unfortunately, not all people volunteer for the most altruistic of reasons. Selfish motives of any individual can threaten any operation, but they can devastate a medical mission.

### THE INVITATION

Although a medical mission can be offered to attend to any needy people, it really must end up being a response to an invitation. It should never be foisted upon another people, no matter how destitute. Their dignity should always be respected.

Ideally, one or more organizers can make an advance scouting trip to the host country to assess the needs and resources available. This type of on-site contact is invaluable as it can firm up an invitation and provide valuable information for the pretrip preparation.

There are many sponsoring organizations that function as logistics coordinators, communication centers and combined resources for information,

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Table 1

### VALUES THAT MOTIVATE STAFF AND VOLUNTEERS FOR HEALING THE CHILDREN

- love of children
  - respect for people
  - application of best medical and business practices
  - people working together in teams
  - collaboration with other organizations
  - hope, optimism and faith in God
  - the ability of one person to make a difference
  - the passionate commitment to take action.
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contacts and coordination. They are invaluable for the support that they can provide. A sponsoring organization is important for logistics and funneling financial support, as well as a resource of experience and volunteer training. It can be any one of the many nonprofit organizations set up to organize and implement medical missions and to bring nationals from the host country stateside for specialized treatment. Representative examples of such organizations are seen in Table 2. They may also be service clubs such as Rotary, Kiwanis or Soroptomists, church entities or other NGO's.

### THE TEAM

A medical mission consists of a team of health care volunteers traveling usually to another country to provide medical services to the indigent at the invitation of the host entity in that country. Being invited is essential to the acceptance of the good will intended by the proposed mission. The various entities that may invite and be integrated into the coordination and implementation of the project include local foundations, hospitals, clinics, orphanages, religious organizations, and government agencies.

A successful medical mission requires a reliable sponsoring organization, meticulous planning, a mutually supportive team of dedicated volunteers, a strong team leader and responsive team administrator, continuing coordination with

the host entity, and endless communication and cooperation amongst the organizations supporting the mission and those involved in carrying it out. A team may vary from an individual doctor or dentist or other provider and an assistant who incorporate local resources<sup>5</sup> (e.g., brigada) to a complete entourage of surgeons and support personnel who transport all their equipment and supplies. (Table 3)

### THE MISSION

The main purpose of the medical mission is to provide specialized services to the needy not available in their country or due to their circumstances, without charge. The second goal is education of the local medical and social support personnel. Involving nurses and doctors in as much of the evaluations, surgery and treatment as possible extends the benefits of the mission and ensures follow-up care, besides engendering good-will. Arranging adequate postoperative care is essential. The third objective of the mission is to expose the team to the local culture and customs and, at the same time, deliver supplies, equipment and other gifts to improve care delivered locally.

The duration of a medical mission varies from one week to one or more months to the establishment of a more durable mission that provides the core set-up to cycle volunteer providers on a regular basis. One week is popular because it fits into the usual western work/vacation schedule and is the most affordable for most volunteers.

It is thought to be ideal for a medical mission

**Table 2**

#### SPONSORING VOLUNTEER ORGANIZATIONS

- Healing the Children (HTC)
- Esperança
- Interplast
- Rotaplast International
- Orthopedics Overseas (AAOS)
- Health Volunteers Overseas
- Outreach & Education Fund (AOFAS)
- Operation Condor – Peru
- Doctors of the World
- Doctors for the Poor
- Central Asia Institute
- Wisdom in Action
- Northwest Medical Teams

**Table 3**

#### A TYPICAL FOOT SURGERY MEDICAL MISSION TEAM\*

- 1 Team Leader
- 1 Team Administrator
- 2-4 Surgeon(s)
- 2-4 Anesthesiologists/Nurse Anesthetists
- 1-2 Pediatricians/Family Practitioners
- 2 Scrub Nurses/Surgical Scrub Technicians
- 2 Circulating Nurses
- 2 PACU Nurses
- 1 Logistics Coordinator
- 1 IT Processor
- 1-4 Translators

\*Assumes access to at least two operating tables

to go back to the same location regularly so as to provide some measure of care continuity. However, a greater impact is realized when medical volunteers commit to a year or more in the same area.<sup>5</sup>

Achieving a successful mission also involves the cooperation of many support organizations and other entities: government agencies, other NGO's, nonprofit organizations in the host country, service organizations with international branches, and corporate donors. As long as one is not too intrusive or presumptuous in his or her approach corporate donors can be surprisingly generous. This valuable relationship should never be abused. It takes many people from the donor country and the host country working together to organize a viable medical mission.

A pretrip meeting or two of as many team members as possible is highly recommended. It serves as a time to focus on the goals of the mission, review everyone's roles, check off supply and equipment lists, pack them and get a preview of the culture of the host country. Each part of the team: anesthesia, surgery, surgical assistants and medical are responsible for assembling their needed supplies and equipment (Table 4). Great care must be taken to keep the bags and boxes within the airline weight and dimension guidelines. It is important for every team member to carry their share both to and from the mission.

### TYPICAL ONE-WEEK MISSION

After months of organization and assembly of equipment and supplies, a medical mission ideally assembles at one US exit airport to fly together to a destination airport near where the medical mission is to take place. On arrival, it is essential that all documentation is in order to clear local immigration and customs. The more detailed the organization, the less likely that there will be people and luggage detained by the authorities. Having lists of the contents of each bag or box inside, outside and in a separate folder can help decrease the need for officials to search them.

Once all team members have cleared immigration and customs, prearranged ground-transportation takes people and baggage to their accommodation. This may be for the mission itself or for an overnight stay so as to be transported to a more distant location for the mission the next day.

Saturday is a good time for the team to assemble in the evening for dinner to get acquainted and socialize and hopefully meet some of the host country personnel. Perhaps, there is even time to tour some of the facilities that are being made available.

Sunday is usually the day when the potential patients preselected by the hosts are screened by the surgeons and then by the doctors responsible for medical management and anesthesia. Preoperative screening for anesthesia is important as it helps minimize the potential complications for the children.<sup>6</sup> This is a very demanding session that can be quite hectic. So, it takes detailed organization and coordination. Records and diagnostic films from the hosts are made available and kept with the record for each patient. Translators need to be readily

**Table 4**

### EQUIPMENT AND SUPPLIES FOR A MEDICAL MISSION

Anesthesia machines
Anesthesia monitors
Anesthesia supplies and drugs
Surgical gowns (pre-sterilized)
Drape and starter packs
Masks, gloves, shoe covers, caps
Surgical instrument sets
Antiseptics and prep sets
Miscellaneous surgical instruments (to supplement the sets)
Single instruments
Internal fixation instruments and implants
External fixation equipment (optional)
Power instrument sets and attachments
Cautery units and handpieces
Portable suction
Tourniquets
PACU monitors and equipment
Drugs for analgesia, antibiotics, anti-inflammatories, anti-emetics
Sutures
Dressing materials
Casting materials
Cast cutter
First aid kit
Toys and gifts

available to all stations involved in this screening and information assembly process.

An information record is established for each child selected for surgery, preferably with the aid of a laptop computer. A Polaroid or digital photo should be taken of the patient and attached to the record. Information forms and history and physical forms as well as preoperative and postoperative instructions should be prepared in both English and the local language prior to the mission. Having a computer printer along is invaluable for making last minute forms, printing photos and making signs. The computer can store data, forms, lists and photos. It can also be used for internet activity.

While the doctors are screening the patients the OR crew is taken to the operating facility to set up the operating rooms, organize the supplies and meet the local medical staff. They must quickly assess the resources available and arrange how the team's resource's can be used to compliment those available locally.

At the end of the screening, the doctors and other team members meet to establish the surgery schedule for the week. The computer is a great resource for this but it can be done on paper if necessary. The team leader is responsible for assigning the surgeons and other supporting team members to the individual patient's treatment. Sometimes, non-surgical care is prescribed, such as casting out a flexible clubfoot deformity, and the local medical personnel are involved.

Surgery to correct the children's deformities is usually performed Monday through Friday. Each day starts with rounds in the morning on the previous day's surgical cases and preparing the children for the schedule of the day. This requires a lot of coordination, especially first thing in the morning and during case turnovers. It is not unusual for two operating tables to be active in the same operating theater. A good PACU staff is another essential. The children usually stay one or two nights before being discharged with written instructions, medication and an appointment for follow-up care.

It is important to invite the local medical staff to participate in the evaluations, surgical and hospital care and prepare them for postoperative management. Even before any invitation to send a

medical mission team, a local orthopedic surgeon or trained physician must be identified as agreeing to provide the care postoperatively.

On Saturday morning, the final hospital rounds are completed with care for the remaining patients being transferred to the local staff. Then the team heads either directly home or to an area town or village of interest for a day and a night to unwind before flying back to each member's country.

## LOWER EXTREMITY PATHOLOGY

The range and variety of pathology encountered on medical missions draws on every ounce of one's training and experience as well as creativity and resourcefulness. Many congenital deformities, neurological deficits and inherited disorders are routinely encountered as well as the sequellae from injuries due to mines, burns and trauma. A list of typical deformities and disorders encountered on medical missions is seen in Table 5. Deformity repairs, revisions and reconstructions entail a variety of releases, arthrodeses, osteotomies, tendon transfers, and amputations, or revisions (Figures 1-12). They often require team consultation, decision-making and surgery participation. Bringing one or two reference textbooks can be extremely helpful but certainly adds to the luggage weight.

## EPILOGUE

Team members must be forewarned about the return home. Even after a short week away, the intensity of lengthy travel, working in adverse conditions immersed in poverty and experiencing limited resources, a person's emotional and physical capacity can be fairly exhausted. There is quite a culture shock with the return home and a twinge of guilt can set in when confronted with the abundance. However, the feeling of accomplishment that naturally permeates one's whole being following a mission far outweighs the feelings of inadequacy at not being able to solve all the problems. Contributing to improving so much as one child's life brings a sense of joy and fulfillment that is more than enough reward for committing to the medical mission.<sup>7,8</sup>

Table 5

**TYPICAL PATHOLOGY AND PROCEDURES ENCOUNTERED ON MEDICAL MISSIONS**

- Clubfoot
- Congenital Malformations
- Vertical Talus
- Arthrogyphosis
- Cerebral Palsy
- Post Polio
- Neurological Deficits
- Amputations/Revisions
- Fracture Mgt/Revision
- Burn Scar Revision

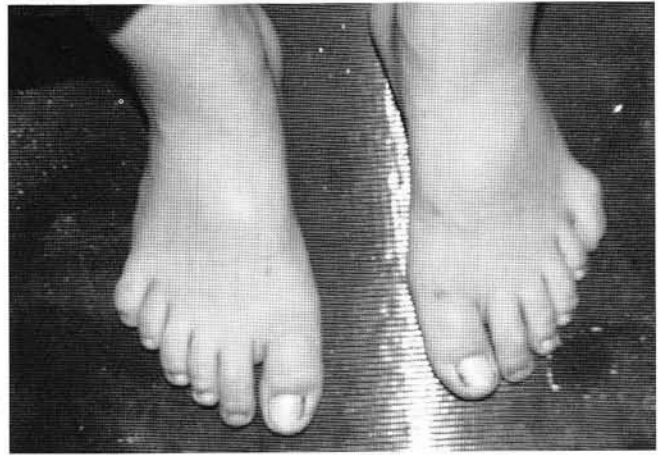


Figure 1. Polydactyly feet.



Figure 2. Polydactyly post surgical reduction.



Figure 3. Amputation stump deformity preventing use of prosthesis.

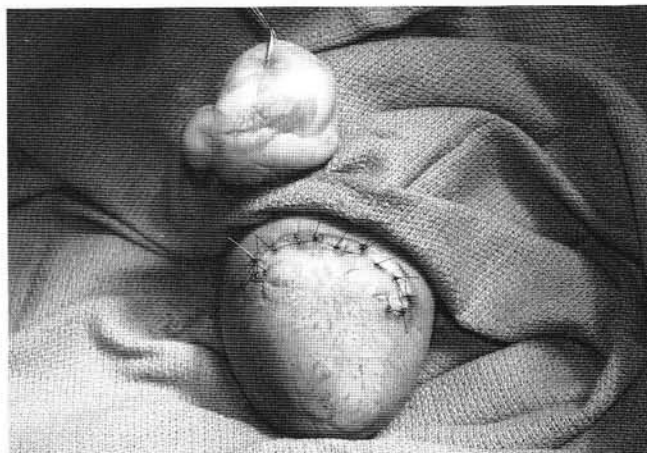


Figure 4. Post amputation stump revision.



Figure 5. Post-polio cavoequinus deformity.



Figure 6. Post-polio flaccid paralysis.



Figure 7. Cerebral palsy patient with contractures.



Figure 8. Post-surgical release of Achilles and hamstring contractures.



Figure 9. Resistant clubfoot in 9-month old infant.



Figure 10. Incision marked for posteromedial release of clubfoot deformity.

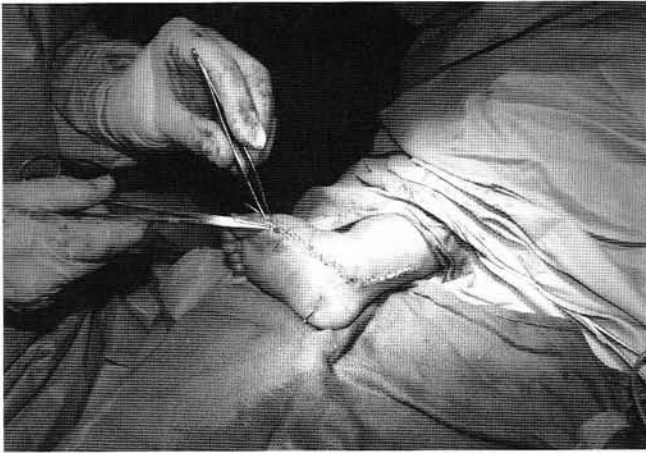


Figure 11. Post-surgical reduction of clubfoot deformity.



Figure 12. Neglected clubfoot deformity.

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