



# Report on Myanmar *Hands across Borders* Project 2017

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*February 8th 2017*

## Background of project and general information

Myanmar has a population of 51 million with Mandalay accommodates around 1.2 million inhabitants. An estimated 200 physiotherapists are working in Myanmar and no Occupational Therapists.

Dr Wim Theuvenet who is a specialist in plastic, reconstructive and hand surgery has been visiting Myanmar on a regular basis to teach and train doctors and staff in reconstructive surgery at Mawlamyine Christian Leprosy Hospital (MCLH). In 2016 a Hands Across Borders (HAB) project was conducted and then it was concluded that future visits would be valuable and were considered. This Hand Therapy Workshop 2017 at Mandalay Orthopaedic Hospital (MOH) was planned after the 2016 invitation by Prof Win Ko of the MOH.

Dr Zaw Moe Aung, country Director of The Leprosy Mission Myanmar has been involved in coordinating both the 2016 and 2017 visit and was supported by Mr Jan Robijn from the Netherlands Leprosy Relief (NLR) association who supported both projects.

Through email and Skype commutations between Mr Robijn, Dr Zaw and Dr Wim Theuvenet and Ton Schreuders a program was constructed on two sites at the same time: a 6 day surgical camp at the MCLH and a 5 day workshop at Mandalay and a joined workshop at the Yangon Orthopaedic Hospital.

### Myanmar Project 2017

- |  |                                      |
|--|--------------------------------------|
| • Dr Wim Theuvenet (M.D., Ph.D)            | Plastic surgeon                      |
| • Ms Aly Boven OT                          | Nurse                                |
| • Dr Ton A.R. Schreuders (PT, PhD)         | Hand therapist                       |
| • Mrs Hanneke Zoutendijk – van Beelen (PT) | Hand therapist                       |
| • Dr Zaw Moe Aung                          | Director The Leprosy Mission Myanmar |
| • Dr Myat Thida                            | Field Operations Manager TLM Myanmar |

The members were divided into two teams Mawlamyine Team and Mandalay Team and travelled independently. On Sunday 22<sup>nd</sup> January 2017 a short meeting at breakfast in 7 Mile Hotel Yangon took place with the four members and Dr Myat Thida, Field Operations Manager The Leprosy Mission Myanmar.

Dr Wim Theuvenet, Ms Aly Vrijhof and Dr Myat Thida travelled to Mawlamyine for a week of seeing patients and doing surgery with the team of the Yenanthar Leprosy Hospital that had come for training to Mawlamyine Hospital. Hanneke and Ton were joined by Dr Zaw Moe Aung, director The Leprosy Mission Myanmar in travelling to Mandalay.

## Activities and programme

### ***Mandalay team***

**Monday 23rd January** was the first day of this workshop, which was attended by a large group of about 60 persons consisting of surgeons, therapists and physiatrists (rehabilitation doctors) from the main Hospitals in Mandalay. The topics for this first day were anatomy of the hand and examination of the hand with patients demonstrations. Several patients with severe injuries to their upper extremity were presented by MOH staff and discussions about therapy done surgery was done. Patients with crush (machinery), knife injuries, but also a large number of young male patient with brachial plexus injuries after motorcycle accidents.

MOH serves the whole north of Myanmar with 500 beds and a special unit for hand surgery with three hand surgeons and 11 Physiotherapists.

### **Tuesday 24th Jan**

Presentations were given on flexor, extensor tendon injuries and tendon transfers. In the afternoon several patients were seen who had undergone this surgery. It was common practice to start therapy 2 weeks after surgery, resulting in most patients having stiff hands. Those with 4 strand repair were not given a splint and some probably had ruptures. It was concluded that there was a genuine need for a Mandalay Flexor Tendon Protocol.

Tuesday night a group of medical staff was participating at a dinner with discussions about training and organization of care for these patients.

### **Wednesday 25th Jan**

The plan was to start with a presentations about International Classification of Function (ICF) model\* by one of the physiatrists but due to some misunderstanding of one participant who was asked to prepare a presentation on the ICF model was kindly taken over by Dr Zaw Moe Aung, director The Leprosy Mission Myanmar. Discussion about the ICF function/structure - activities – participation followed and important measurement instruments in the different domains were discussed and presented.

A lack of measurements instruments for activities was apparent and suggestions were made to translate the DASH questionnaire in Myanmar language.

In the afternoon many patient were seen with focus on their activities and disabilities.

\* <http://www.who.int/classifications/icf/en/>

### **Thursday 26th January**

Presentations were given on splinting and the management of stiff joints, followed by demonstration of splinting. The thermoplastic material send by Yangon manufacturer was unfortunately of a kind which need a high temperature and a long time before it is useable. The same material was used in Yangon and did not seem to have this problem.

The rest of the afternoon was spend on splinting; e.g. making Kleinert splints for the surgeons and intrinsic plus splints for the therapists. For some patients splints were made.

Plans were discussed to construct a flexor tendon protocol, with the therapists, physiatrists and Prof Dr Htin Aung Lin (hand surgeon).

In the evening a dinner was arranged where two visiting surgeons also joined in, one from France (Toulouse) and another from Spain (Alicante) who regularly visited Mandalay, invited by a Children Action organization and were specialist in paediatric surgery (brachial plexus) and spine surgery. They also spoke about the need for brachial plexus therapy and surgery.

**Friday morning 27th Jan**

The Flexor Tendon Injury Protocol /All Zones 2017 was presented again and critical points discussed. The desire was expressed to evaluate the protocol within the year. Outcome measure were discussed and determined.

Dr May Hmin (physiatrist) volunteered to supervise the project, make a register and a form and collect the data for evaluation.

- Saturday** Day of and night bus to Yangon
- Sunday** Meeting with Mawlamyine group



*Pictures: Some of the participants of the Hand Therapy Course at MOH January 2017 and patient demonstration.*



## ***Mawlamyine team***

Dr Wim Theuvenet (M.D., Ph.D)	Plastic surgeon
Ms Aly Boven	OT nurse
Dr Myat Thida	Field Operations Manager The Leprosy Mission Myanmar

The main purpose of this Training Course was to train the team from Yenanthar Hospital (near Mandalay), Dr Sithu Won and the Matron of the OT there and Dr Won had received 6 months leprosy surgery training in 2016 at the Naini Leprosy Hospital (The Leprosy Mission) near Allahabad. There was a clear need for further practical training of the Yenanthar team and this was generously facilitated by a training grant coordinated by Mr Jan Robijn and the Netherlands Leprosy Relief (Lepra Stichting). Mrs Aly Boven joined the team again to train all staff in the upgrading of the aseptic procedures in the Operation Theatre.

### **Monday 23 January**

On this first day we started again with the screening and selection of a great number of patients at the OPD and at the wards. In total we saw around 60 patients of whom a 25 were listed for operation. Of these around 50% had leprosy related problems, the remaining half had a myriad of indications for surgery like burn or spastic contractures, eyelid problems, malignancies etc. In the afternoon Mrs Aly Boven had a presentation on aseptic procedures at the OT.

### **Tuesday 24 January**

#### Operation program.

The OT department has one larger and one smaller OT, the latter for minor procedures. At the end of the morning the Mawlamyine team operated in the small OT a boy of 13 with contractures at the ankles and knees. At the end of the operation there suddenly was a cardiac problem with a sinus tachycardia and in spite of several attempts to correct this, it resulted in cardiac failure upon which the boy passed away. Needless to say that this tragedy had great impact on the whole team and the family. It appeared from further discussions by the medical team with the family, that the boy was known with a muscle problem and that perhaps this condition was responsible for the cardiac failure. Dr Myat Thida played a significant role in discussing all aspects with the bereaved family, who were content with all explanations at the end. General anaesthesia other than with ketamine was not available at Mawlamyine Leprosy Hospital thus far and with great effort of the leprosy Mission Netherlands ("Leprazending") an apparatus suitable for SevoFlurane GA was obtained from Medic and sent to Mawlamyine to be used for this course and hereafter. Unfortunately, the young anaesthesiologist contracted for her assistance during this course was incapable to use this type of GA apparatus which blocked us from operating on 2 patients with severe burn contractures.

### **Wednesday to Friday 25-27 January.**

Dr Sithu Won assisted or was the first surgeon in a great number of procedures. Most of these were tendon transfers (e.g. for triple nerve palsy, claw hand, foot drop, lagophthalmus and other indications)

### **Saturday 28 January**

"Great ward round" for the final check of the 30 operated patients and the post-op arrangements.

Evaluation:

It was concluded that the level of expertise of Dr Sithu Won was greatly enhanced.

Possibilities of a strengthening cooperation between Mawlamyine and Yenanthar Hospital were formulated.

After Lunch Dr Sar, Aly Boven and Wim Theuvenet took one of the small boats to visit the island in front of Mawlamyine and on the back of 3 scooters the Island was toured. With the evening bus Aly and Wim returned to Yangon where they arrived in the early morning, to be joined by Ton and Hanneke later the same morning.

### ***Yangon workshop***

Monday 30th Jan Hand Therapy Workshop at the Department of Physical and Rehabilitation Medicine of Yangon General Hospital (YGH).

All four members participated in the one day work shop at the Yangon Orthopaedic Hospital. A group of over 70 persons attended the workshop; therapists, surgeons, physiatrists.

Two presentations were given by local staff; one on hand injuries in Yangon and one on hand surgery. AN impressive number of 45 toe- to hand transfers were performed in the past and replantation of upper and lower arm were performed. Micro surgery was done by the orthopaedic surgeons.

Ms Thet Zar Chi is a PT trained in hand therapy and presented several cases with tendon injuries, fractures and brachial plexus lesions.

A Thai company kindly provided thermoplastic splinting material and demonstrated the use of this



*Picture: Demonstration of splinting with thermoplastic material at Hand Therapy workshop at YGH January 2017*



## Conclusions

1. The timing was right, surgeons are eager and planning to expand their hand surgery services and expressed the need for better trained therapists
2. Leprosy has been talked about in several circumstances as patients needing care of therapists and surgeons and a patient was brought into the workshop in MOH
3. English for some of the therapists is still a problem, translation should be provided  
Resource persons Dr Zaw, Dr Myat Thida and Mrs Mayflower were crucial in helping out in translate and explanation.
4. Thermoplastic material Myanmar is still something that needs discussion about price, durability and its usage in hot climate
5. Need for measuring instruments like goniometer and dynamometers and can possibly be considered by NGOs to be sponsored. The DASH can be translated into Burmese language.
6. Still many surgical issues in MOH like usage of k-wire pinning, tendon grafting (FDS for FDP), treatment post-op.
7. Expressed need by medical staff for knowledge and input on CP treatment, stroke and brachial plexus
8. Cooperation with other groups like Australian group is preferable.

## Resource persons and organizations

### TLM

- Dr Zaw Moe Aung Director The Leprosy Mission Myanmar
- Dr Myat Thida Field Operations Manager The Leprosy Mission Myanmar

### MOH

- Prof Win Ko orthopaedic hand surgeon
- Prof Dr Htin Aung Lin orthopaedic hand surgeon  
[dr.mhkh10@gmail.com](mailto:dr.mhkh10@gmail.com)
- Dr Phyto Kywe ortop surg trainee [phyokywe99@gmail.com](mailto:phyokywe99@gmail.com)
- Dr May Hmin physiatrist trainee
- Dr Hay Mar Myint physiatrist trainee [dr.haymarmyint@gmail.com](mailto:dr.haymarmyint@gmail.com)
- Ms Daw Lwin Lwin Win Chairperson Dep. physiotherapy MOH
- Ms May Yamone Phoo PT helped in flexor tendon protocol  
[mayyamonephoo physiotherapist@gmail.com](mailto:mayyamonephoo physiotherapist@gmail.com)
- Ms Khaing Zin Thein PT, [khaingzinthein.pt@gmail.com](mailto:khaingzinthein.pt@gmail.com)

### YOH

- Prof Dr Khin Myo Hla head of PM&R Department Yangon
- Dr Kyaw Zaya ass prof Hand Unit Yangon Orthopaedic Hospital
- Ms Thet Zar Chi PT, most experienced hand therapist  
[RoyalOasisClinic@gmail.com](mailto:RoyalOasisClinic@gmail.com)
- Ms Thi Thi San Director MediGuard (providing splinting material)  
[Anita@mmnshipping.com](mailto:Anita@mmnshipping.com)

## Schedule

Sunday 22 <sup>nd</sup> January	Meeting at breakfast in Yangon and travel
Monday 23 <sup>th</sup>	MOH workshop day 1 – Mawlamyine patients selection and planning
Tuesday 24 <sup>th</sup>	MOH Workshops      MCLH operations
Wed 25 <sup>th</sup>	MOH Workshops      MCLH operations
Thurs 26 <sup>th</sup>	MOH Workshops      MCLH operations
Friday 27 <sup>th</sup>	MOH Workshops      MCLH operations
Saturday 28 <sup>th</sup>	day off – travelling back to Yangon
Sunday 29 <sup>th</sup> Jan	Meeting at 7Mile Hotel Yangon
Monday 30 <sup>st</sup> Jan	Hand Therapy workshop at Department of Physical and Rehabilitation Medicine of Yangon General Hospital.
Tuesday 1 <sup>st</sup> Feb	Travelling

## Acknowledgments

We sincerely thank Mr Jan Robijn of the NLR, and Dr Zaw Moe Aung and Dr Myat Thida of TLMM for facilitating and sponsoring the local costs of this visit.

We thank Dr Tin Shwe of American Leprosy Mission in facilitating temporary medical registration for Dr Wim Theuvenet to be able to undertake surgical procedures at MCLH.



## Attachments

### ***Netherlands Leprosy Relief (NLR) i***

1995 was the first year of NLR's involvement in Myanmar when NLR signed an agreement with the Ministry of Health and the American Leprosy Missions, which maintains an office in Yangon through which the NLR support is channelled.

Netherlands Leprosy Relief (NLR) is active in five of the six countries in the Mekong region: Myanmar, Thailand, Laos, Cambodia and Vietnam. These countries share the Mekong River but are very diverse in ethnicity, cultures, languages and stages of economic development.

Their health conditions reflect their different stages of economic development, with Myanmar, Cambodia and Laos still ranking among the world's least developed countries. Leprosy is prevalent in all of the countries, with Myanmar harbouring the most.

New leprosy patients continue to be found in Myanmar and Cambodia, but in Vietnam, Thailand and Laos they are becoming fewer and fewer. Nevertheless, the disabling effects of leprosy are more serious in this region than elsewhere in the world. NLR has been supporting projects in the region since 1981, initially in leprosy disease control, and later in the rehabilitation of persons with disabilities due to leprosy. Its work has brought tremendous change in the lives of thousands of people. It has recently broadened its support focus to include general disability regardless of cause.

#### Disease Control

Support is directed to the National Leprosy Eradication Programme. The driving force of the programme are the midwives, the so called 'red angels', who identify cases, refer them and ensure treatment compliance. Leprosy is endemic in Myanmar and priority will need to be given to disease control activities for several years to come. A large proportion patients suffer from permanent nerve damage and remain disabled after being cured of the disease.

#### Disability

2012 was the first year of a new five-year three-party agreement between the above-mentioned partners. Under this agreement, the prevention of disabilities programme was expanded with the goal of reaching complete national coverage by 2015. Different training approaches were used for a number of high (10) and low endemic townships (15). In 2012, an important new programme component was added when support to the Yenanthar Leprosy Hospital in Mandalay was formulated. This hospital has great potential to develop into a general rehabilitation hospital, which NLR will further explore in 2013. The support given in 2012 consisted of some € 15,000 in materials and equipment for the orthopaedic workshop attached to the hospital.



## ***The Leprosy Mission Myanmar***

Essential leprosy services

This project based at Mawlamyine Hospital is assisting approximately 4,000 persons affected by leprosy in southern Myanmar (Burma) in accessing prompt, affordable and effective treatment to prevent worsening disability. It is also providing people affected by leprosy with the skills to prevent further disability by implementing effective self-care programmes.

Through the project new cases of leprosy are being assessed, treated and followed up to ensure high levels of completion rate of multidrug therapy. The hospital now provides reconstructive surgery services following recent training of a doctor at Naini Hospital, India.



[www.leprosymission.org.uk/about-us-and-leprosy/where-we-work/myanmar.aspx](http://www.leprosymission.org.uk/about-us-and-leprosy/where-we-work/myanmar.aspx)

Pictures of the Mandalay workshop can be found here:

[www.facebook.com/LeprosyMission/photos/pcb.183884998755191/1666629763634731/?type=3&theater](https://www.facebook.com/LeprosyMission/photos/pcb.183884998755191/1666629763634731/?type=3&theater)

## ***Hands Across Borders***

Hands Across Borders was founded by a group of volunteers to increase the knowledge about hand and wrist care and rehabilitation especially in countries where basic knowledge is lacking

The mission of the Foundation Hands Across Borders (HAB) is to improve expertise by exchange of experiences and stimulation of cooperation between the various health disciplines in the field of hand therapy.

Regardless of race, religion or political point of view we particularly work in countries where basic knowledge is lacking. Our volunteers aim to improve professional skills and, where possible, introduce the specialty of hand therapy into local structures.

E-mail: [handsacrossbordersNL@gmail.com](mailto:handsacrossbordersNL@gmail.com)

[www.handsacrossborders.nl](http://www.handsacrossborders.nl)



## ***Flexor Tendon Injury Protocol / All Zones 2017***

Mandalay Orthopedic Hospital, Mandalay

Supervised by -Ton A.R. Schreuders (PT, PhD)

The patient is sent to PT 1 -2 day after surgery for intake and advice, check splint.

What do we want to know from orthopedic surgeon?

- What repaired? (Tendons, nerve, ...)
- What kind of injury? (Clean cut or crush injuries)
- Associated injuries (nerve, blood vessel, fracture, etc.)
- Which zone?
- Type of repair (2 or 4 strands)
- Time of removal of fixation
- Complaints (pain, tingling, ...)

What do we want to ask the patient?

- What happened (accident), when
- Rt./Lt. handed
- Age
- Complaints (pain)
- Occupation
- Smoking
- Past Medical History and regular use of drug
- Complaints (pain)
- Hobby
- Any injury before
- How far away from home (address)

Physiotherapy assessment: Look

- Scar, wound, signs of infection
- Skin color
- Deformity (position)
- Swelling

Examination

- Mobility (Passive)
  - Gentle flexion of PIP, DIP jt. without tension on repaired tendon
  - Gentle extension PIP, DIP jt. (Not allowed to extend fully)
- Measure with goniometer (e.g. AROM PIP2 ext/flex)
- Full active extension in splint
- Swelling (+) — measure circumference

Splint - Dorsal splint for 6 weeks 10°-30°

Wrist flexion 30°-40°

MCP flexion

Straight PIP & DIP jt.

2/3 of forearm - No use of elastic bandage

**Exercises (starts 3-4 days after surgery)**

1. Passive flexion at PIP jt.

2. Passive extension of DIP jt.
3. Active extension at PIP jt.
4. Flexion of MCP jt.
5. Active finger flexion (try to touch index finger slowly & gently) — picture
6. Elbow & shoulder exercise
7. Put the hand in elevated position (against edema)
8. Protect hand with sling in outdoor activities
9. Teach home exercise & health care education
10. Not allowed to lift weight more than 15gm.

How often? 10 repetitions hourly

- Explain the patient to elevate the arm & splint and possibly to do a little exercise in post-op 1st day.

More effective in doing exercise post-op 3 day

Usually not remove splint for 6 weeks.

### **2nd week**

- Check wound & if find out the signs of infection, inform the doctor.
  - Re-check the exercises
1. 1, 2, 3 & 4 to be continued.
  5. Progress Active finger flexion gently (try to touch middle finger slowly & gently)

### **3rd week**

1. Continue exercises 1, 2, 3 & 4
6. Progress Active finger flexion gently (try to touch ring finger slowly & gently)

### **4th week**

1. Continue exercises 1,2,3 &4
7. (For complaint patient) If splint removed, start tendon gliding exercises — picture
8. Active flexion of MCP, PIP & DIP jt. (full)
9. Progress exercises & allow some more force
10. Wrist flexion & extension. Be careful not to put stress on tendon

### **After 6th week**

- Continue exercises, splint can be removed
- Allow for lifting some light weights, activities
  - Continue exercise 1-2-3-4, 7, 8, 10

### **After 2 months**

- Full finger flexion (fist)
- Allow to do ADL but no heavy duties

Follow-up — Weekly (in post-op 1st & 2nd week)

Once per 2 weeks (in next 3 months) At 3 months — allow full loading and work

We need to take measurements again in next **3 months** to know about progression. -ROM

- Grip/ pinch strength
- Pain
- ADL (DASH)
- (Swelling)
- Rupture