

**Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity**

Oudomxay Provincial Health Department
Oudomxay Provincial Hospital
Lao Rehabilitation Foundation

No. **929** /PH

Oudomxay, Date. **18 OCT 2016**

Developing Eye Care in 4 Northern Provinces of Laos

Improving Cataract Surgery with the Introduction to Phacoemulsification Technique



September 25, 2016 to October 02, 2016

Oudomxay Eye Unit, Oudomxay Provincial Hospital

In partnership with

Lao Rehabilitation Foundation, Inc. and SEE International

Dear / To: Director of Curative Department of MoH
Director of Oudomxay Provincial Public Health Department
Director of Oudomxay Provincial Hospital
President of Lao Rehabilitation Foundation, Inc. USA.

Subject: Development of Eye Care in 4 Northern Provinces of Laos, by enhancing cataract surgery with phacoemulsification technique.

- Referred to Lao Rehabilitation Foundation 2016 planning and funding to improve cataract surgery by phacoemulsification.
- Refer to the agreement letter of Minister, Ministry of Health No. 164/MoH of September 09, 2016.
- Refer to agreement letter of Administration Office Department, Ministry of Foreign Affairs No. 13167/MoFA.CSL4, of September 22, 2016.

Lao Rehabilitation Foundation cataract surgery team joined local ophthalmologists at Oudomxay Provincial Hospital Eye Unit to teach cataract by phacoemulsification technique while providing a modern cataract surgery machine, September 25 to October 02, 2016. The details are as follows:

I. TITLE

Developing Eye Care in 4 Northern Provinces of Laos, Improving Cataract Surgery with the Introduction to Phacoemulsification Technique.

II. BACKGROUND INFORMATION

Oudomxay Hospital Eye Unit is one of 9 units of Oudomxay provincial hospital. There are 2 ophthalmologists, 1 optometrist and 3 ophthalmic nurses. Current plans are to establish the Oudomxay Provincial Hospital as a Regional Hospital to expand service coverage to Luang Namtha, Bokeo and Phonsaly provinces.

The main services provided by the staff of the eye unit are the prevention of blindness, basic treatment and eye surgery. Activities include outreach to remote communities.

In the year 2007, Laos PDR conducted a national survey for blindness. It surveyed people aged 50 years or more which account for 11.3% of the total population. The crude blindness rate from this survey is 2.85%. The most important cause of blindness in Laos is cataract, which accounts for 65.3% of all blindness. According to statistics provided by the World Health Organization (WHO), 0.1% of the population develops visually significant cataracts each year. Due to the extreme lack of specialist eye care in the region, a large backlog of visually significant cataracts has developed.

A total of **4,048** cataract surgeries were performed in the 4 Northern provinces between 2012 and 2016 which included 3,708 cases (91.6%) in a mobile clinic and only 340 cases (8.4%) in a hospital setting.

Technically, cataract surgery in Oudomxay began by ICCE (Intra-Capsular Cataract Extraction), followed by ECCE (Extra-Capsular Cataract Extraction) and SICS (Small Incision Cataract Surgery). Until now, cataract surgery by phacoemulsification was not available in Oudomxay province and is almost non-existent outside the capital. Although the quality of eye care services has increased

over the years, the rate of cataract surgery performed in hospital setting is relatively low because of distances to eye care services.

Improving cataract surgery by the introduction of phacoemulsification in Oudomxay is important and necessary for the development and the continued success of preventive causes of blindness in the region.

III. OBJECTIVE

1. In General

- To reduce avoidable blindness in Lao PDR
- To provide sustainable Comprehensive Eye Care

2. In Particular

- To enhance human resource development for Lao ophthalmologist of Oudomxay Eye Unit with donation of modern medical equipment.
- To increase access to high quality eye care services for the people of the four Northern provinces of Oudomxay, Luang Namtha, Bokeo and Phongsaly.

IV. TEACHERS AND PARTICIPANTS

1. Teachers and Observers:

- | | | |
|-----|--------------------------|----------------------------|
| 1.1 | Dr. Michel Pierre Gelin | Expert Cataract Surgeon |
| 1.2 | Dr. Nathaniel Ryan Gelin | Assistant |
| 1.3 | Dr. Luc Janssens | President of LRF |
| 1.4 | Ms. Sasithone Sengchanh | Country Coordinator of LRF |

2. Participating Students:

- | | | |
|-----|----------------------------|-------------------------------|
| 2.1 | Dr. Phetsamone Indara | Ophthalmologist, ODX Eye Unit |
| 2.2 | Dr. Sonchai Heuangvilay | Ophthalmologist, BK Eye Unit |
| 2.3 | Mr. Khamtanh Phanthou Amad | Ophthalmic nurse assistant |

3. Teamwork Assistants:

- | | | |
|-----|-------------------------|------------------|
| 3.1 | Miss. Sipa Khounmala | Ophthalmic nurse |
| 3.2 | Ms. Souliyo Setsongkham | Ophthalmic nurse |

V. LOCATION AND DURATION

- Oudomxay Eye Unit, Oudomxay Provincial Hospital
- September 26 through October 02, 2016

VI. INSTRUMENTS AND MEDICINE

This mission was performed with the use of quality modern equipment intended for teaching cataract surgery and effective medicines for treatment. Equipment and supplies were provided by LRF in cooperation with SEE International (Surgical Eye Expeditions of USA). It included:

1. Phacoemulsification machine (Amo Sovereign Compact)
2. Surgical instruments, equipment and supplies
3. Medical supplies for cataract surgery (Alcon)
4. Medicine for eye service (Alcon)
5. Autoclave

VII. ACTIVITIES PERFORMED

1. Setting up and maintaining equipment

Dr. Michel Gelinas, Team Leader instructed:

- How to set up phacomachine machine
- How to set up power and program
- How to use (setting up fluid dynamics, vacuum, pumps and foot switch)
- How to clean the machine and accessories
- How to maintain the machine and accessories
- Preoperative preparation
- Patient selection

Dr. Luc Janssens, provided training on:

- How to set up and run the autoclave
- How to maintain the autoclave
- How to prepare and set up equipment for mobile surgery

2. Technical Cataract Surgery by Phacoemulsification

Dr. Michel Gelinas taught phacoemulsification for beginner as follow:

- Incision construction (sclero corneal, limbal incision, paracentesis)
- Capsulorhexis
- Hydro procedures
- Divide and conquer nucleotomy
- Four quadrant, divide and conquer
- Phaco Chop
- Aspiration and irrigation
- Intraocular lens (IOL) implantation

VIII. RESULT

1. Training

This was a basic short term training in surgical practice, so that the trainee Dr. Phetsamone Indara could use the Phacoemulsification machine and understand well how to maintain the machine and its accessories.

2. Cataract Surgery Outcome

A total of 274 patients were examined, 64 cataracts cases were registered to proceed with surgery, and surgery was performed on 49 cases, as follow:

- By Phacoemulsification: 44 cases
- By SICS: 05 cases
- Complication intra-operative: 06 cases
- Complication post-operative: 02 cases

IX. BUDGET-EXPENDITURE

The actual expenditure for this mission was **52,540 USD**, supported by Lao Rehabilitation Foundation, Inc. in cooperation with SEE International and volunteer experts from USA. It included:

No.	Description	Unit	Qty	Amount (USD)
01	Phacoemulsification machine AMO Model: Sovereign Compact	Set	01	12,500
02	Equipment supplies (hand pieces, Phaco tips, cassettes, etc...)	Set	06	6,000

03	Autoclave machine for hand pieces sterilization. Model: ASU-12	Set	01	3,000
04	IOL, eye drops, medical supplies... (Alcon)	Set	60	22,500
05	Transportation and accommodation of eye expert team	person	02	5,210
06	Transportation and accommodation of LRF team	person	02	3,310
Total:				52,540

X. ACCOMPLISHMENTS AND WEAKNESSES

1. Accomplishments

- This is a very important improvement for Oudomxay Hospital Eye Unit and for the 4 Northern provinces of Laos.
- Poor patients who could not have had access to the finest eyecare in remote areas will now be able to receive treatment by phacoemulsification.

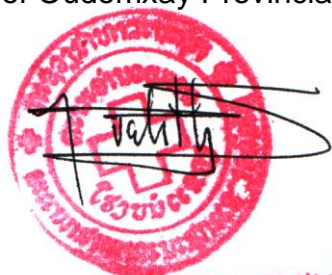
2. Weaknesses

- Medical supplies were delayed one day because of airline late arrival.
- Insufficient time to do in-depth training.
- The number of complication for intra-operative and post-operation was high.
- All medical supplies like IOL are quite expensive and difficult to find, order and purchase.

XI. NEXT MISSION PLANNING

- Provide mobile eye care (cataract surgery by phacoemulsification) in remote areas of Houn and Beng districts during November 2016.
- Provide phacoemulsification machine and surgery training in Bokeo province (under consideration).

Director of Oudomxay Provincial Hospital



ດຣ. ສຸວັນທອງ ແສນວັນນະຄຳ
Dr. Souvanthong SENVANNAKHAM

Presenter

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Director of Oudomxay Provincial Health Department



ດຣ. ສຸນທອນ ຫຼວງໄຊສີ
Dr. Sounethone LOUANGXAYSIV

ATTACHMENT DOCUMENTS

1. Photo of Activities
2. Teacher/Supervisor/participant
3. List of Donated Medical Equipment
4. List of Information and Approval Letters