#### LYMPHOEDEMA RESEARCH AND EDUCATION. AISBL

Le lymphoedema is a chronic progressive disease , affecting more as 120000000 people , with the additional risk of 1 billon in the world. (World Health Organisation)

Actually, lymphnodes transplantations combined sometimes with additional procedures), can cure many cases, or improve them dramatically. The advancements in biotechnology, radiology and surgery can give more hope to those patients

### The goal of this association is:

1.to create international centers of excellence to treat the lymphoedema (education)

- 2. to promote the clinical and fundamental research in the congenital pathologies, and in the filariosis
- 3. to treat the children having lymphoedema, in poor countries, for free.

Corinne Becker, MD is a plastic and reconstructive surgeon who pioneered microsurgical lymph node (LN) transplantation. Based in Paris, Dr. Becker has performed over 4,000 lymph node transfers in the treatment of both upper- and lower-extremity lymphedema over the last 20 years. Dr. Becker has committed her life to treating patients with lymphedema and launched this foundation specifically to accelerate development and deployment of new treatments and therapies.

# What is Lymphedema?

Lymphedema develops when the lymphatic system is unable to carry the liquid and large molecules to the venous system. When the very thin lymphatic vessels are hypoplasic in congenital malformations, or if the lymphatic nodes are destroyed by surgery, radiation or inflammation, lymphoedema do appear. It is characterized by gross swelling of the affected limb, significant pain and discomfort, accompanied by fibrosis, susceptibility to serious infections (cellulitis and skin ulcers) and can lead to severe deformity (elephantiasis) and even amputation.

**Secondary lymphedema** in Western countries most commonly occurs as a result of cancer treatment. Metastatic tumor cells (particularly breast cancer and melanoma) can frequently spread via the lymphatic vascular system and colonize in lymph nodes, necessitating radical surgery that often destroys lymphatic vessel networks and leads to impairment of afferent lymphatic flow. Many of these patients undergo irradiation therapy as part of this treatment, which can further worsen the condition. It's estimated that 4-6 million patients in the US and EU suffer from secondary lymphedema.

Breast cancer-associated lymphedema is the most common form of Secondary Lymphedema, with an estimated 300,000 new cases per year occurring in western countries. A 2011 study showed that about five percent of breast cancer survivors who had sentinel node biopsy and about 35 percent of women who had axillary lymph node dissection developed lymphedema (Susan G. Komen).

Lower leg lymphoedema can occur after hysterectomy and adenectomy, pelvic tumors, sarcoma, Secondary lymphedemas are common in **oncologic treatment**, especially after lymph node dissection and radiotherapy.

Cancers, whose treatments are commonly associated with lymphedema, include pelvic tumors (i.e., enlarged hysterectomies and prostatectomies), Hodgkin's tumors, sarcoma and melanoma.

Alternatively, lymphedema may also be caused by **non-oncologic procedures** such as *saphenous vein removal, hernia repair, or thigh lifts, internal liposuctions*. The lymphedema can appear immediately or many years after the surgery. Chronic infections can destroy all the remaining lymphatic collectors and elephantiasis can occur with skin thickening, folds, redness, fibrosis.

**Primary lymphedema** is a **congenital disorder**, due to a malformation of lymph vessels and/or nodes (hypotrophic or hypertrophic).

Congenital lymphedema can appear at birth or during the first years of the life. In most of the cases it develops during puberty, perhaps due to the hypotrophy of the lymphatic system which is too small for the growing body, or dysplasia.

**Lymphatic filariasis**, a parasitic insect-transmitted infection that is prevalent in tropical regions, is the most common cause of secondary lymphedema internationally. The World Health Organization estimated the global burden of filariasis to be 120 million cases, with 1 billion people being at risk of infection.

### Witch results can be obtained?

#### Secondary lymphoedema:





In upper arm lymphoedema after treatment for breast cancer, we can achieve 40% of normalization and 98% of improvement

Result 2 years after lymphnodes transplantation: no more infections, no sleeve needed.

Even in difficult cases, like this young girl suffering from so important lymphoedema with chronic infections since 4 years, that she was prepared for amputation...Result obtained after lymphnodes transposition. Complete healing, no physiotherapy needed anymore.



It is possible to rebuilt the breast at the same time of the treatment of the lymphoedema.

This 75 years old, suffering since 25 years of lymphoedema did benefit from a abdominal free flap containing lymphoedes. Result 1 year after the surgery





Elephantiasis occurred after treatment of melanoma.

Result after 2 free nodes transplantations combined with local resection of the fold at the knee level.





Complete healing after lymphnode transplantation in the deep inguinal region for lymphoedema appeared after treatment for uterus cancer





### Primary Lymphoedema:





This young boy came at 22 years old, but he was born with lymphoedema. Result after 2 lymphnodes transplantations



This child with lymphoedema has been operated at 11 months: complete healing, results at 2 and 6 years old...

## What are we already doing?

The dr Becker did travel already in 26 countries to operate some cases and teach the surgeons, the physiotherapists and the families.

The principle is to find interested surgeons to teach them, and to operate children without resources.

Actually, dr Becker is doing regular missions in Hanoi and Buenos-Aeres to treat the children.



Results 5 months after lymphnodes transfer.









Help us to treat more babies in the world!

3.Research:
Actually, some clinical researches are focused on:
Regenerative factors of the tissues and lymphatic vessels (heparane sulfate, collagen threats, stem cells)
Fat absorption: how to reduce it in the lymphoedema patients
Inflammatory factors: how to reduce it in the lymphoedema patients
Imaging: virtual medicine advancements.
Help us!!!
AISBL lymphoedema research and education
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Tank you!!!