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## Plastic Surgeons Critical to Surgical Care and Rehabilitation of Patients with Neglected Tropical Diseases --Manuscript Draft--

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# **Plastic Surgeons Critical to Surgical Care and Rehabilitation of Patients with Neglected Tropical Diseases**

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**MANUSCRIPT TEXT**

We commend the authors for bringing attention to the role of Plastic and Reconstructive surgery for neglected tropical diseases (NTDs), particularly leprosy or Hansen's Disease (HD).(1) In 2016, we published the first article related to HD in Plastic and Reconstructive Surgery Global Open.(2) We discussed the treatment of peripheral neuropathy in patients with HD. We are encouraged others have since published additional articles discussing HD in PRS-GO. These articles influence global priorities and funding and should be encouraged. For example, the protocol for an international RCT investigating peripheral nerve decompression in HD has been published and awaits funding, which the recent article may help to create.(1,3)

Plastic surgery missions for cleft lip/palate, burns, and other disfiguring conditions in underdeveloped nations have helped immensely with training and reducing the surgical burden. We suggest that such missions are still needed to help patients with HD.

Worldwide, an estimated 4 million HD patients suffer from chronic sequelae and neuropathic problems.(4) HD is more than a progressive upper extremity neuropathy requiring tendon transfers and joint releases/fusions/fixations. HD is the most common cause of incomplete facial palsy in the world; thus, there is a critical need to address sequelae, including ectropion and lagophthalmos.(5) (Figure 1A) Patients may also have saddle-nose deformity requiring nasal reconstruction. (Figure 1B) Commonly, patients present with upper and lower extremity peripheral nerve damage (e.g., compression) requiring nerve surgery.

There is also increased need for limb salvage of hands and feet. A common intervention is resurfacing the sole of the feet at locations prone to excessive pressure, such as the lateral malleoli and the non-weight-bearing heel. At present, HD surgical centers do not provide sensation to the sole, and breakdowns are frequent. This is an opportunity for sensory neurotization techniques. In addition, instability of the ankle and subtalar joint require orthopedic work to stabilize and salvage neuropathic (Charcot's) limbs. Thus, a combination of plastic and orthopedic surgery techniques is still in demand today for HD worldwide.

In the US, from 2011 to 2020, between 159 and 216 new HD cases were diagnosed each year (SDC). The National Hansen's Disease Program treats patients at 11 regional clinics across the country. Patients needing advanced surgical and medical management are cared for in Baton Rouge, Louisiana, with all costs for HD care paid for by the US government.

Yet, there is hardly any expertise left in reconstructive surgery for HD. This wasn't always the case; the significant suffering associated with HD motivated innovative plastic surgeons, including Milton T. Edgerton of Johns Hopkins and Joseph E. Murray of Harvard to travel to Vellore, India, to work with Paul Brand, an orthopedic surgeon, who was developing hand tendon transfers. They recognized that restoring form and function enables the HD patient to return to productive social and economic life.

We present readers with opportunities to participate in HD surgical care around the world. (Table 1) We implore PRS GO readers to engage in these opportunities with our authors. Most authors listed are also conducting research and welcome collaborations.

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**Figure 1.** Shown here are some sequelae of Hansen’s Disease that are amendable to plastic surgery. A. Ectropion and lagophthalmos. B. Saddle-nose deformity.

**Table 1.** A list of surgeons, their locations and affiliations, and opportunities for collaboration.

**SDC:** United States Reported Hansen's Disease Cases by Year 2011 – 2020

(Editorial team, please note that the United States Government National Hansen’s Disease Program is currently in the process of updating this graph to include 2021 and 2022 figures; they anticipate having a completed graph around the end of August.)

Table 1

Plastic/Reconstructive Surgeons	Location	Website	Opportunities
Andrés F. Rivadeneira, MD and James Wilton, DPM	Damien Foundation and Universidad Católica de Santiago de Guayaquil; Guayaquil, Ecuador	<a href="http://doctorrivadeneira.com">http://doctorrivadeneira.com</a> <a href="https://www.drjameswilton.com">https://www.drjameswilton.com</a>	Surgical missions in leprosy and general reconstructive surgery
Indra Napit, MBBS, MS	Anandaban Hospital; Lalitpur, Nepal	<a href="http://www.tlmnepal.org/">http://www.tlmnepal.org/</a>	Surgical missions for observers or students. (Nepalese law does not allow foreign doctors to operate without a work permit.)
Willem Theuvenet, MD, PhD	Leprosy Mission Netherlands at various sites (Indonesia, Myanmar, Tanzania)	<a href="https://www.leprazending.nl/">https://www.leprazending.nl/</a>	Surgical missions and training in physiotherapy in leprosy and general reconstructive surgery
Marcelo Tarso Torquato, MD and José Antonio Garbino, MD, PhD	Instituto Lauro de Souza Lima; Bauru, Brazil	<a href="http://www.ils.br/">http://www.ils.br/</a>	Surgical missions, lower limb and foot rehabilitation, and clinical neurophysiology
Jerry Joshua, MBBS, MS, MCh	Schiefflin Institute of Health Research and Leprosy Centre; Karigiri, Vellore, Tamil Nadu, India	<a href="https://leprosyhealth.org/">https://leprosyhealth.org/</a>	Surgical missions in leprosy and general reconstructive surgery
Yegeremu Eado, MD	ALERT Hospital; Addis Ababa, Ethiopia	<a href="http://www.aau.edu.et">http://www.aau.edu.et</a>	Surgical missions in leprosy and general reconstructive surgery
Ronnie Mathews, MD	National Hansen's Disease Program; Baton Rouge, Louisiana	<a href="https://www.hrsa.gov/hansens-disease/clinical-center">https://www.hrsa.gov/hansens-disease/clinical-center</a>	Visitors for surgical training or information exchange





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## **REPRESENTATION AND INDEMNIFICATION**

In connection with my submission to the Journal, *Plastic and Reconstructive Surgery*, of the Manuscript entitled \_\_Comment of Leprosy as a Neglected Disease\_\_, I represent that I have obtained or made every effort to obtain all necessary and appropriate patient releases including (i) specific permission from any individual whose images appear in my manuscript to use the images for educational and patient information purposes and (ii) specific permission to release the images for publication and dissemination in print and online.

I agree to indemnify, defend and hold harmless the American Society of Plastic Surgeons and the Journal, *Plastic and Reconstructive Surgery*, to the fullest extent permitted by law from and against any expenses (including attorneys' fees), judgments, fines, penalties and amounts paid in settlement, actually and reasonably incurred by American Society of Plastic Surgeons and the Journal, *Plastic and Reconstructive Surgery*, in connection with any threatened or completed suit, action or proceeding arising out of my failure to secure appropriate releases from any individual whose images appear in my manuscript.

A Lee Dellon, MD, PhD, M.D.

*A. Lee Dellon, MD, PhD*

Signature

Date 8/14/23

## United States Reported Hansen's Disease Cases by Year 2011 – 2020

