



## Advancements in Surgical Techniques for Neglected Tropical Diseases

Misael Jose\*

Department of Pharmaceutical Sciences, State University of Paraíba, Campina Grande, Brazil

### DESCRIPTION

Neglected Tropical Diseases (NTDs) are a group of infectious diseases that disproportionately affect populations in low-income countries, causing significant morbidity and mortality. Surgical intervention plays a vital role in managing the complications and sequelae of certain NTDs. In recent years, advancements in surgical techniques have transformed the landscape of NTD treatment, offering improved outcomes, reduced morbidity, and increased accessibility to surgical interventions. This article explores the innovations and progress in surgical approaches for NTDs, highlighting their impact on patient care and public health.

### Surgical challenges in neglected tropical diseases

**Chronic complications:** Many NTDs lead to chronic conditions and complications that necessitate surgical intervention. Conditions such as hydrocele in lymphatic filariasis, trachomatous trichiasis in trachoma, and disabling deformities in leprosy often require surgical correction to improve patients' quality of life.

**Limited access to surgical care:** Populations affected by NTDs often face barriers to accessing surgical care, including geographical remoteness, lack of trained surgical personnel, and economic constraints. Overcoming these barriers is essential for delivering timely and effective surgical interventions.

### Advancements in surgical techniques

**Minimally invasive surgery:** Minimally invasive surgical techniques, such as laparoscopy and endoscopy, have gained prominence in the management of certain NTDs. In conditions like hydrocele and female genital schistosomiasis, minimally invasive approaches offer reduced postoperative complications, faster recovery, and improved cosmetic outcomes compared to traditional open surgeries.

**Lymphatic filariasis:** Lymphatic filariasis, caused by *Wuchereria bancrofti* and transmitted by mosquitoes, often leads to the development of hydrocele, a condition characterized by the accumulation of fluid in the scrotum. Surgical interventions,

such as hydrocelectomy, are common in managing hydrocele. Advancements include the use of minimally invasive techniques like hydrocelectomy using a small incision, reducing the risk of complications and enhancing patient recovery.

**Trachoma:** Trachoma, a bacterial infection caused by *Chlamydia trachomatis*, can lead to trachomatous trichiasis, where eyelashes turn inward, causing corneal abrasions and visual impairment. Advancements in trichiasis surgery involve innovations such as the use of adjustable sutures, allowing surgeons to optimize lid position postoperatively. These techniques improve surgical outcomes and reduce the need for multiple surgeries.

**Leprosy:** Leprosy, caused by *Mycobacterium leprae*, may result in deformities and disabilities. Surgical techniques for correcting leprosy-related deformities have evolved, emphasizing early intervention to prevent irreversible disability. Advancements include reconstructive surgeries, tendon transfers, and nerve decompressions, aiming to restore function and improve the quality of life for affected individuals.

**Genital schistosomiasis:** Female genital schistosomiasis, caused by *Schistosoma haematobium*, can lead to severe gynecological complications. Surgical management may be required to address fibrotic lesions, stenosis, or calcifications in the genital tract. Advancements include the use of hysteroscopic and laparoscopic techniques for less invasive interventions, preserving fertility and reducing postoperative morbidity.

### Integration of surgical care with NTD control programs

**Community based surgical programs:** The challenge of limited access to surgical care, community-based surgical programs has been implemented. These programs involve training community health workers to perform specific surgical procedures, such as trichiasis surgery or minor hydrocelectomy. This decentralized approach enhances the reach of surgical services to remote areas and promotes community engagement in NTD management.

**Multidisciplinary Collaboration:** Advancements in surgical techniques for NTDs benefit from multidisciplinary collaboration

**Correspondence to:** Misael Jose, Department of Pharmaceutical Sciences, State University of Paraíba, Campina Grande, Brazil, Email: misaeljo@gmail.com

**Received:** 02-Nov-2023, Manuscript No. TPMS-23-24216; **Editor assigned:** 06-Nov-2023, PreQC No. TPMS-23-24216 (PQ); **Reviewed:** 20-Nov-2023, QC No. TPMS-23-24216; **Revised:** 27-Nov-2023, Manuscript No. TPMS-23-24216 (R); **Published:** 04-Dec-2023, DOI: 10.35248/2329-9088.23.11.335

**Citation:** Jose M (2023) Advancements in Surgical Techniques for Neglected Tropical Diseases. Trop Med Surg. 11:335.

**Copyright:** © 2023 Jose M. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Surgeons, infectious disease specialists, public health experts, and community health workers collaborate to ensure a holistic approach to NTD management. This collaboration extends beyond the operating room to include preoperative care, rehabilitation, and postoperative follow-up.

**Sustainability of surgical programs:** The sustainability of surgical programs for NTDs remains a challenge. Ensuring continued access to surgical care requires long-term commitment, infrastructure development, and ongoing training for healthcare professionals. Integration with broader health systems is essential for sustained impact. Surgical interventions for NTDs often address visible deformities, reducing physical disability. However, the psychosocial impact and stigma associated with these conditions persist. Future advancements should consider the

integration of psychosocial support and community education to address the holistic well-being of affected individuals. Rehabilitation and postoperative care are integral components of NTD surgical interventions. Future directions should explore innovations in rehabilitation techniques, including physiotherapy, prosthetics, and orthotics, to optimize functional outcomes and improve the overall quality of life for individuals undergoing surgery. While significant progress has been made in addressing well-known NTDs, emerging and re-emerging NTDs pose ongoing challenges. Research into surgical interventions for these diseases is essential for developing effective and context-specific strategies. Advancements in surgical techniques for neglected tropical diseases represent a critical step forward in improving the lives of affected individuals.