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Objective:

Upon completion of the lecture, attendees should be better prepared to:

- Describe Burn Reconstruction global health campaigns and their purpose
- Measure outcomes of an ongoing burn reconstruction global health initiative
- Consider practices that have improved the patient safety and surgical outcomes of this initiative

Abstract:

Introduction: Traumatic injuries comprise the greatest surgical disease burden in low-income countries. Burn injuries are especially devastating as they produce both acute life-threatening injuries and persistent physical deformities that affect the injured person physically, psychologically, and socially for the rest of their lives. Burn reconstruction global health campaigns aimed to educate healthcare workers regarding burn injuries and their prevention as well as to care for people suffering from the sequelae of burn injuries are sparse. This is due to the severity of the deformities, the complexity of the reconstructive procedures needed to improve these problems, and the high complication rate associated with these interventions when performed abroad. The Department of Plastic & Reconstructive Surgery at Wake Forest University has conducted burn reconstruction global health campaigns annually to Bolivia, South America in an attempt to address these problems. We present our campaign model, clinical experience and lessons learned which have improved our capability of providing safe and efficient burn reconstruction abroad.

Methods: Prospectively collected data of global health campaigns to Cochabamba, Bolivia Viedma Children’s Burn Hospital over a 4-year period were retrospectively reviewed. The Campaign model consists of 2 Plastic & Reconstructive Surgery attending surgeons experienced in burn care and general reconstruction including extremity and microvascular surgery, one burn ICU nurse, a pediatric certified registered nurse anesthetist, and 2 plastic surgery mid-level to senior-level resident learners. Patient demographics, planned procedures, executed procedures, immediate complications, and 30 day postoperative complications were collected.

Results: One hundred and ninety four patients with persistent burn injury deformities were evaluated over 4 campaigns. The average patient age was 9.8 years with a range of 1 to 42 years of age. Of the patients evaluated, 63.4% underwent procedures to correct burn deformities. With regard to the 2018 Campaign, extremity deformities accounted for 39% of cases while 29% were performed on the head & neck, 14% of procedures were completed on deformities of the trunk, and 18% of patients had procedures in multiple operative sites. Of patients who underwent operative intervention, 32% had intraoperative plan alterations and this most commonly

occurred in patients undergoing procedures to ameliorate deformities of the head and neck. Twenty five percent (7/28) of patients had complications associated with surgery. Two of these patients had airway-related complications including intraoperative loss of airway requiring re-intubation and one patient requiring emergent neck contracture release in order to allow intubation. The remaining operative complications were related to partial skin graft loss (1 FTSG loss, 2 STSG loss), skin graft donor site wound problems, and flap donor site skin loss.

Conclusions: Burn reconstruction global health campaigns can be completed in a safe and efficient manner with the campaign model instituted. Lessons learned over the campaigns that have maximized patient safety and improved patient outcomes have been the incorporation of experienced anesthesia staff to aid in complex airway management, the use of axial and random pattern flaps with STSGs rather than full thickness skin grafts alone to minimize skin graft loss rates, detailed planning of daily operative schedule to account for those cases where intraoperative plan changes are likely as well as to allow for continuous follow-up of complex cases throughout the campaign period.

References and Resources:

<http://www.ncboliviapartners.org/annual-medical-team>

Disclosure:

Ivo A. Pestana – No Relevant Financial Relationships to Disclose
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