

Insight into the Clinical Practices of US Humanitarian Surgical Non-Governmental Organizations



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INTRODUCTION: US humanitarian surgical non-governmental organizations (NGOs) are providing urgently needed care in low- and middle-income countries (LMICs) via short-term surgical missions (STSMs). Few studies have investigated the clinical practices and intentional or unintentional deviation from standard of care during such interventions. We hypothesize that the majority of organizations provide guideline-based care and avoid deviations from the US standard.

METHODS: A survey was sent to 83 US-based NGOs providing general or subspecialty surgical care via STSMs soliciting information about demographics and clinical practices. Statistical analysis was performed to identify factors associated with protocol-driven practice (more than 3 protocols).

RESULTS: Thirty surgical NGOs (36%), mean age of 24 ± 15 years, responded. Twenty percent reported that deviation from standard US practice occurred "often" or "very often," most commonly in the areas pain management (18%), preoperative workup (16%), and operative technique (16%). Only 32% of NGOs believed these deviations affect outcomes. Sixty-seven percent followed at least 4 protocol-based practices (protocol-driven) and were significantly older than those less protocolized (22 ± 9 vs 17 ± 14 years; $p < 0.05$). Eighty-five percent of NGOs expressed interest in using consensus best practice guidelines for STSMs (Table).

Table. Select Survey Questions and Answers (n = 30)

Protocol-based practice used by NGO	%	Comparison with US standard	%
1. Standard operative exclusion criteria?	76	Fewer imaging studies?	41
2. Preoperative work-up protocol?	44	Fewer laboratory tests?	46
3. Perioperative antibiotic protocol?	79	Fewer preoperative antibiotics?	28
4. Standard OR timeout-checklist	87	Fewer IV/PO narcotics?	68/89
5. Maintain your own medical records?	75	More PO NSAIDs/acetaminophen?	46/47
6. Collect clinical information?	83	Never use venous thromboembolism prophylaxis?	52
Long-term outcomes?	40		

NGO, non-governmental organization.

CONCLUSIONS: This is one of first studies to describe the clinical practices of US humanitarian surgical NGOs. The majority of NGOs follow guideline-based practices. Despite this, some deviation from the US standard of care does occur. Older NGOs appear to be more protocol-driven, suggesting experience breeds structure. Development of consensus best practice guidelines can benefit the NGO sector.

Light-Emitting Diode Light Source in a Complementary Metal-Oxide Semiconductor-Driven Flexible Nasoendoscope: A Journey from First World to Third



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INTRODUCTION: We demonstrated the technological and logistical feasibility, as well as clinical advantages, of using a novel and inexpensive light-emitting diode (LED)-based flexible nasoendoscope in Vietnam, a low-resource country.

METHODS: We designed a prototype called ENsiTe, a portable flexible nasoendoscope using an LED-integrated complementary metal-oxide semiconductor (CMOS) camera. ENsiTe has 2 key components: a detachable liquid-crystal display screen that can be connected to a computer via USB and a handle that houses a steering mechanism, 4 AAA batteries, the CMOS processor, and a flexible shaft. After obtaining IRB clearance from the National Otorhinolaryngology Hospital in Hanoi, Vietnam, we conducted a pilot trial to obtain clinician's and patients' feedback on the device. Patients enrolled in the trial underwent endoscopic assessment using both ENsiTe and a standard rigid nasoendoscope. The prototypes were disinfected using Tristel Trio Wipes System (Smallwell, UK) between cases.

RESULTS: A total of 17 patients were examined. The clinicians found ENsiTe no more difficult to operate than the rigid scope 53% of the time and that patient tolerated the procedure better 88% of the time. The latter finding is consistent with the mean patient reported pain score of 4.7 for the rigid scope and 3.4 for the flexible scope ($p < 0.05$). The prototype is equivalent to the rigid scope in identifying normal anatomy and pathological lesions.

CONCLUSIONS: An inexpensive flexible nasoendoscope using LED and CMOS processor is a viable alternative to rigid nasoendoscopy. Furthermore, with Internet of Things capability, it can become a framework that enables wider access to care in low-resource countries.

Payer Type Predicts Hospital Admission for Trauma Patients in a Sub-Saharan African Country



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INTRODUCTION: Injury is a significant cause of morbidity and mortality in low- and middle-income countries (LMICs), in which an estimated 81 million individuals face catastrophic expenditure from surgical conditions annually. To better understand how to