

## Evaluation of a structured hernia repair course for intern physicians in Northern Uganda

Elena Parvez, MD MSc<sup>1</sup>, Tom R. Okello MBChB<sup>2</sup>, Ronald Lett MD MSc<sup>3</sup>, Martin D. Ogwang MBChB MMed<sup>2</sup>, Patrick Mugabi MBChB<sup>4</sup>, Ghee Hwang MD MBChB<sup>4</sup>

<sup>1</sup>Department of Surgery, McMaster University, Hamilton, Ontario, Canada

<sup>2</sup>Department of Surgery, St. Mary's Hospital, Lacor, Gulu, Uganda

<sup>3</sup>Canadian Network for International Surgery, Vancouver, British Columbia, Canada

<sup>4</sup>Departments of Surgery, Gulu Regional Referral Hospital, Gulu, Uganda

<sup>5</sup>Department of Surgery, Vernon Jubilee Hospital, University of British Columbia, Vernon, British Columbia, Canada

**Introduction:** Due to the critical shortage of surgeons in Northern Uganda, inguinal hernia repair is often performed by general physicians. Skills transfer workshops delivered with the assistance of international partnerships can help provide adequate training in resource constrained environments. The purpose of this study was to evaluate the knowledge and skills acquired by intern physicians in Northern Uganda after completing the Canadian Network for International Surgery Structured Hernia Repair (SHR) course.

**Methods:** The 5-day SHR course was delivered at Gulu Regional Referral Hospital in October 2013 and March 2014 by local faculty and visiting Canadian faculty. The course included didactic and simulation-based instruction, as well as supervised operating. Students completed 3 inguinal hernia surgeries as the primary surgeon under direct supervision. All patient participants provided informed consent. Students provided information on their experience with inguinal hernia surgery before the course. Students' knowledge was evaluated with a pre- and post-test. Various aspects of students' operative skills were evaluated by supervising faculty using a 1-5 Likert scale. Univariate analyses and descriptive statistics were used to analyze the data.

**Results:** Seventeen students participated in the course at GRRH. Only 41.2% of students had performed an average of 1.86 groin hernia repairs/student before the course. Before the course, 38.5% of students felt they had enough knowledge to perform an inguinal hernia repair vs. 100% after the course ( $p < 0.05$ ). Similarly, only 30.8% of students felt they had adequate skill to complete a repair before the course vs. 100% after the course ( $p < 0.05$ ). The average score on the pre-test was 40.6% vs. 81.6% on the post-test ( $p < 0.05$ ). The average rating on the 1-5 Likert scale by the supervising surgeons on various aspects of the students' operative performance was 4.3.

**Conclusion:** Prior to the course, students had limited knowledge of and experience with inguinal hernia surgery. Following the course, all students felt they had the knowledge and skill necessary to complete a repair, and this was reflected on their test scores and evaluations. This study demonstrates that the SHR course is an effective method of teaching inguinal hernia repair surgery. Further research could assess the impact of the course on complication rates after inguinal hernia repair.