GO GLOBAL COMMITTEE

HOSPITAL REGIONAL MATERNO INFANTIL

TRANSFORMING PEDIATRIC SURGERY EDUCATION IN NORTHERN MEXICO: EARLY KEY FINDINGS AFTER THE IMPLEMENTATION OF GLAP PRO PROGRAM IN A TRAINING HUB

Authors: Jorge Colin-Garnica, MD; Carlos A Colunga-Tinajero, MD; Jacqueline Narvaez2



INTRODUCTION

Pediatric surgery training in Mexico has been slow to adopt emerging surgical modalities, particularly simulation tools, for enhancing minimally invasive surgery (MIS) skills. Consequently, surgical residents have limited opportunities to develop critical MIS techniques.

OBJECTIVE

This study aimed to present the preliminary outcomes of the cour I from the GLAP PRO course, which was recently implemented at a training center in northeastern Mexico.

METHODOLOGY & RESULTS

A comparative analysis of MIS procedures from 2012 to 2022 showed an average of 107 surgeries per year (nine per month). After the start of our pediatric surgery residency in 2022-2023, this number increased slightly to 114 annually. Following the implementation of the GLAP PRO course in 2024, MIS procedures have increased substantially, with 104 surgeries performed in just eight months, averaging 18 procedures per month. Of these, 93% were performed by residents under supervision, all of whom enrolled in the GLAP PRO course. Additionally, the use of advanced technologies, such as Ligasure, Harmonic Scalpel, ICG, and IRIS U-kit, increased by 80%. A satisfaction survey among participants showed high ratings for course content, lecture clarity, and interactive opportunities, averaging 4.5 or higher on a 5-point Likert scale. The instructor performance was rated 4.67, material quality 4.33, and course recommendation 4.5.

GLAP
Global Laparoscopic Advancement Program

COUR I LESSONS

- Introduction
- Laparoscopic Equipment
- Energy Sources
- OR Setup
- Pneumoperitoneum
- Patient Selection/PreOp Assesment
- Anesthesia
- Current & Diagnostic Lap Procedures
- Laparoscopic Ssuturing
- Hemorrhage & Hemostasis
- Post-Op complications
- Part 1 Recap

DISCUSSION

- **The GLAP PRO course significantly improved surgical training, increased the number of MIS procedures, and integrated advanced technologies. Pre-course assessments showed moderate confidence in basic principles (3.57/5) and preoperative preparation (3.71/5) but lower confidence in managing complications (2.57/5). Post-course evaluations revealed substantial improvements, with participants rating their understanding of basic principles and ergonomics at 4.5/5, and safety protocols at 4.67/5. Confidence in managing complications improved to 3.5/5, although this remains an area of further development.**

Timeframe	Before Glap Pro	After Glap Pro
MIS surgeries per month	9	18
MIS Surgeries performed by Residents	14%	93%
Use of Advanced energy technologies	-	80% Increase

Conclusion

The GLAP PRO course positively affected the training of pediatric surgery residents by increasing MIS procedures and incorporating advanced surgical technologies. We anticipate continued improvements in surgical time and patient outcomes with ongoing monitoring and evaluation.