

## IMPLEMENTATION OF AN ENHANCED RECOVERY PROTOCOL IN PEDIATRIC COLORECTAL SURGERY

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**Aim of the study:** Enhanced recovery after surgery (ERAS) protocols have been shown to decrease length of stay (LOS) and complications in adult surgical populations. Our purpose was to compare outcomes before and after implementation of a pediatric-specific ERAS protocol in children undergoing elective colorectal surgery.

**Methods:** A multi-disciplinary approach was used to develop a pediatric ERAS protocol that was implemented at a single center between 1/2015-12/2016. A retrospective review was performed including 43 patients (54%) in the pre-ERAS period (2012-2014) and 36 patients (46%) in the post-ERAS period (2015-2016). Outcomes of interest included the number of ERAS elements received, LOS, complications, and readmissions.

**Main results:** The most common diagnosis among study subjects was inflammatory bowel disease (n=70;87%). The pre-ERAS cohort included 17 (40%) ileocecectomies, 16 (37%) partial/total colectomies, 9 (21%) proctectomy and ileo-anal J-pouches, and 1 (2%) ileostomy reversal, while the post-ERAS cohort included 7 (19%) ileocecectomies, 17 (47%) partial/total colectomies, 6 (17%) proctectomy and ileo-anal J-pouches, and 6 (17%) ileostomy reversals. The median number of ERAS elements received per patient increased from 5 the pre-ERAS period to 11 in the post-ERAS period. The median LOS decreased from 5 in 2012 to 3 days in the post-ERAS period (Figure). We observed a decrease in median time to regular diet (2 to 1 day(s); $p<0.001$ ), mean dose of intraoperative (0.52 to 0.07 mg/kg; $p<0.001$ ) and postoperative narcotics (1.15 to 0.20 mg/kg; $p<0.001$ ), and mean volume of intraoperative fluids (9.20 to 5.43 mL/kg/hr; $p<0.001$ ) in the post-ERAS period. The complication rate (21% vs. 17%; $p=0.85$ ) and the 30-day readmission rate (23% vs. 11%; $p=0.63$ ) were not significantly different between the pre- and post-ERAS periods.

**Conclusions:** These preliminary results suggest that implementation of a pediatric ERAS protocol in children undergoing colorectal surgery is feasible, safe and may lead to shorter LOS and improved outcomes without an increase in readmissions.

