

A Closer Look at the Perioperative Care PRN

Overview of the PRN

The Perioperative Care PRN (PERI) was established in 2014 to provide education and resources related to the overall treatment of perioperative patients, address the regulatory requirements of accrediting bodies, and provide a place for members to discuss complicated perioperative patients and seek input and recommendations on care. The PRN offers a means to network among members, provide educational opportunities, and promote an exchange of information. In its 3-year history, the PRN has grown to include 115 members, has hosted two Annual Meeting focus sessions, and recently held a Lunch & Learn Webinar on *Development and Implementation of Pre-emptive Analgesia Protocols and Sugammadex Stewardship*.

For students/residents/fellows, the Perioperative Care PRN provides an opportunity to play an active role in an emerging field in clinical pharmacy. Health care systems are constantly looking to improve quality, decrease hospital length of stay, and improve patient satisfaction – one of the major health care focus areas revolves around patient care in the perioperative arena. Developing multimodal pain management regimens, preventing adverse events from pain medications or anesthesia, and improving patients' overall postoperative course (and consequently, patients' satisfaction with their care) is providing an entirely new practice arena for pharmacists. Active involvement in this PRN can take a variety of roles, from working on the Annual Meeting focus session to participating in the Lunch & Learn webinars. This is also a field in which future clinical pharmacist positions are likely to continue to emerge.

Opportunities and Resources for Students/Residents/Fellows

The Perioperative Care PRN invites all members to join/follow and interact on the ACCP Perioperative Care PRN Facebook group page (<https://www.facebook.com/ACCP-Perioperative-Care-PRN-172647483256115/>). The PRN will also host a focus session on *Enhanced Recovery—The Paradigm Shift in Perioperative Care*, currently scheduled for Saturday, October 7, 2017. The PRN will host its business meeting on Sunday, October 8, 2017, from 6:30 to 8:30 p.m. (local time) at the Sheraton Grand Phoenix.

New this year, the Perioperative Care PRN offered travel assistance scholarships to one student and one resident. These are \$250 stipends, and the application may be found on the Perioperative Care PRN webpage (<http://periprn.accp.com/>). Information and application are also available on both the student and the resident travel award sites.

Clinical Issue—Enhanced Recovery After Surgery (ERAS) Protocols

Programmatic changes are taking place worldwide in the care of perioperative patients in an effort to reduce their overall operative stress when undergoing major surgical procedures. These enhanced recovery programs rely on interdisciplinary collaboration to improve surgical outcomes through improved patient education and preparation, regular auditing and feedback to the surgical team regarding the attainment of program elements, and application of knowledge translation methods to sustain program implementation. Elements of these programs involve pharmacotherapy and are a synthesis of validated strategies that, when applied and measured, lead to reduced morbidity in surgical patients.

Enhanced recovery after surgery (ERAS) programs include all aspects of perioperative care, from preoperative assessment through the procedure to postoperative care. These programs and protocols began in Europe and Canada and are just beginning to be incorporated into patient care in the United

States. As seen in Table 1, these interventions require a multidisciplinary approach to patient care, providing an excellent opportunity for pharmacists to contribute their expertise.

Table 1. Example ERAS Protocol Components

Preoperative	Intraoperative	Postoperative
<ul style="list-style-type: none"> Detailed history and physical examination Smoking cessation Nutritional status assessment/supplementation PRN Allow oral intake until 2 hr before anesthesia VTE prophylaxis Antimicrobial prophylaxis Skin decontamination Preoperative multimodal analgesic protocol 	<ul style="list-style-type: none"> Avoid long-acting opioids Epidural anesthesia for gastrointestinal surgery, if possible Laparoscopic procedures, if possible Multimodal postoperative nausea/vomiting prophylaxis Prevention of hypothermia Fluid optimization with crystalloids and colloids Avoid hypotension (vasopressors PRN) Drain insertion only if needed 	<ul style="list-style-type: none"> Early oral intake of fluids and solids Liberal oral nutrition supplements Minimize opioid analgesia Incorporate multimodal analgesia (NSAIDs, gabapentin, pregabalin, and opioids) Glucose control (< 200 mg/dL) Correct electrolytes Early ambulation/mobilization

ERAS = enhanced recovery after surgery; PRN = as needed; VTE = venous thromboembolism. Adapted from: Ljungqvist O. ERAS—enhanced recovery after surgery: moving evidence-based perioperative care to practice. *JPEN J Parenter Enteral Nutr* 2014;38:559-66.

ERAS protocols have been studied in many different types of surgical settings. Nygren et al. published their outcomes after implementing an ERAS protocol for patients undergoing colorectal surgery. Compared with patients treated before protocol implementation, the authors reported that:

- Only 15% of patients in the ERAS group required parenteral nutrition postoperatively compared with 80% in the pre-protocol group (p<0.00001).
- Increased mobilization occurred in the ERAS group.
- Return of bowel function occurred 3 days earlier in the ERAS group.
- Hospital length of stay decreased by 2–3 days in the ERAS group.
- Patients undergoing a colectomy had fewer complications in the ERAS group.

Overall, the ERAS group had significantly improved outcomes and fewer complications after implementation of an ERAS protocol.²

Daneshmand et al. also published an article looking at the effects of implementing ERAS protocols in radical cystectomy for patients with bladder cancer. They showed that implementing their ERAS protocol decreased hospital length of stay by 4 days without increased complications or readmission rates.³

ERAS guidelines have been developed and published for several different surgical procedures, including gynecologic/oncology surgery, gastrointestinal surgery, gastrectomy, cystectomy, pancreaticoduodenectomy, colon and rectal surgery, bariatric surgery, head and neck surgery, and breast reconstruction. These guidelines are available at www.erassociety.org.

References:

1. Ljungqvist O. ERAS—enhanced recovery after surgery: moving evidence-based perioperative care to practice. JPEN J Parenter Enteral Nutr 2014;38:559-66.
2. Nygren J, Soop M, Anders T, et al. An enhanced-recovery protocol improves outcome after colorectal resection already during the first year: a single-center experience in 168 consecutive patients. Dis Colon Rectum 2009;52:978-85.
3. Daneshmand S, Ahmadi H, Schuckman AK, et al. Enhanced recovery protocol after radical cystectomy for bladder cancer. J Urol 2014;192:50-5.

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