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The Implementation of a Pectus Bar Insertion ERAS Pathway

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Introduction & Background

- ERAS protocols were first introduced in the 1990s and have continued to evolve. All ERAS protocols aim to optimize perioperative care through protocols based on the best scientific evidence available.
- Pectus bar insertion has traditionally been a multi-day hospital stay for postoperative pain control. Cryoablation has dramatically improved post-op pain and thus opportunity to shorten length of stay
- We utilize the Department of Evidence Based Practice to help with the development and implementation of these pathways

Pre-Op

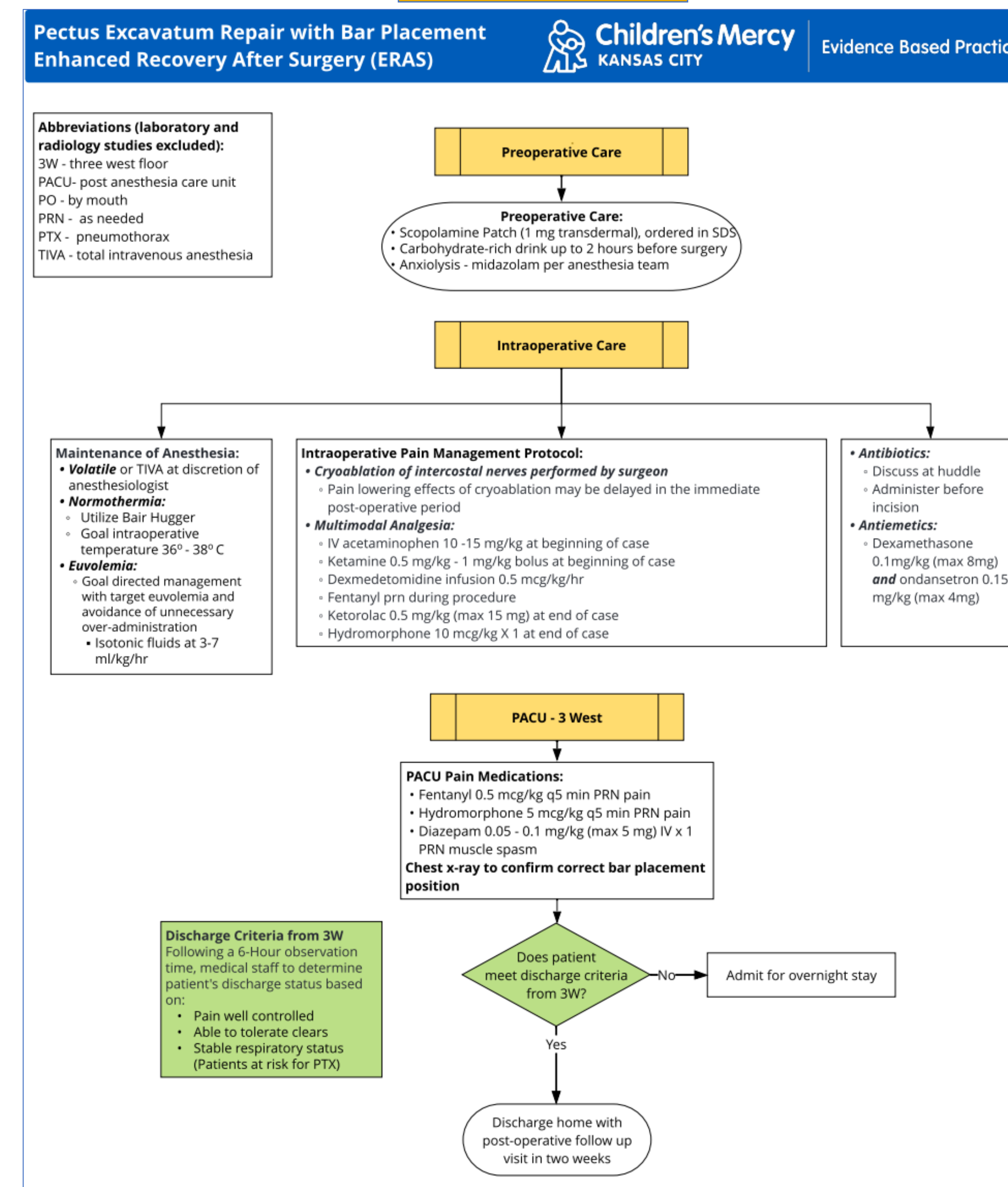
ERAS		Children's Mercy KANSAS CITY
Pectus Excavatum Repair with Bar Placement Enhanced Recovery After Surgery Pathway		Pectus Center
BEFORE SURGERY	<ul style="list-style-type: none"> Attend preop visit on the diagnosis, treatment and management of pectus excavatum (www.childrensmc.org/pectus) Sign up for the patient portal Perform daily pectus exercises Take 1 capful of MiraLAX once daily starting 3 days prior to surgery Bathe or shower the night before or morning of surgery. No lotions, oils, powders, or creams after the bath/shower 	PECTUS CLINIC HOME
DAY OF SURGERY	<ul style="list-style-type: none"> Do not eat solid food six hours before surgery Finish drinking a carbohydrate-rich drink 2-3 hours before surgery - you must not eat or drink anything a full 2 hours before surgery Take pre-operative medication for anxiety, if needed A topical patch for prevention of nausea/vomiting will be placed 	PRE-SURGICAL AREA
DURING SURGERY	<ul style="list-style-type: none"> Cryoablation will be performed to freeze the intercostal nerves on each side prior to placing the bar. This will temporarily decrease pain transmission through these nerves. Multiple approaches to treat pain and reduce opioid need Prevention of post-operative nausea 	OPERATING ROOM
AFTER SURGERY	<ul style="list-style-type: none"> Transition from IV to oral medications as soon as possible Combination of medications to treat pain Prevention of nausea and tolerate oral intake of food Getting out of bed as soon as possible after surgery Achieve good pain control Review postoperative instructions including recommended pain and bowel medication regimen 	OBSERVATION UNIT
FOLLOW UP	<ul style="list-style-type: none"> Monitor recovery and appearance of incisions Follow recommended medications and methods for pain control Complete the satisfaction survey Attend follow-up clinic visit in approximately 2 weeks after surgery 	HOME

Developed by Departments of Surgery and Evidence Based Practice
9.10.22

Creation & Implementation

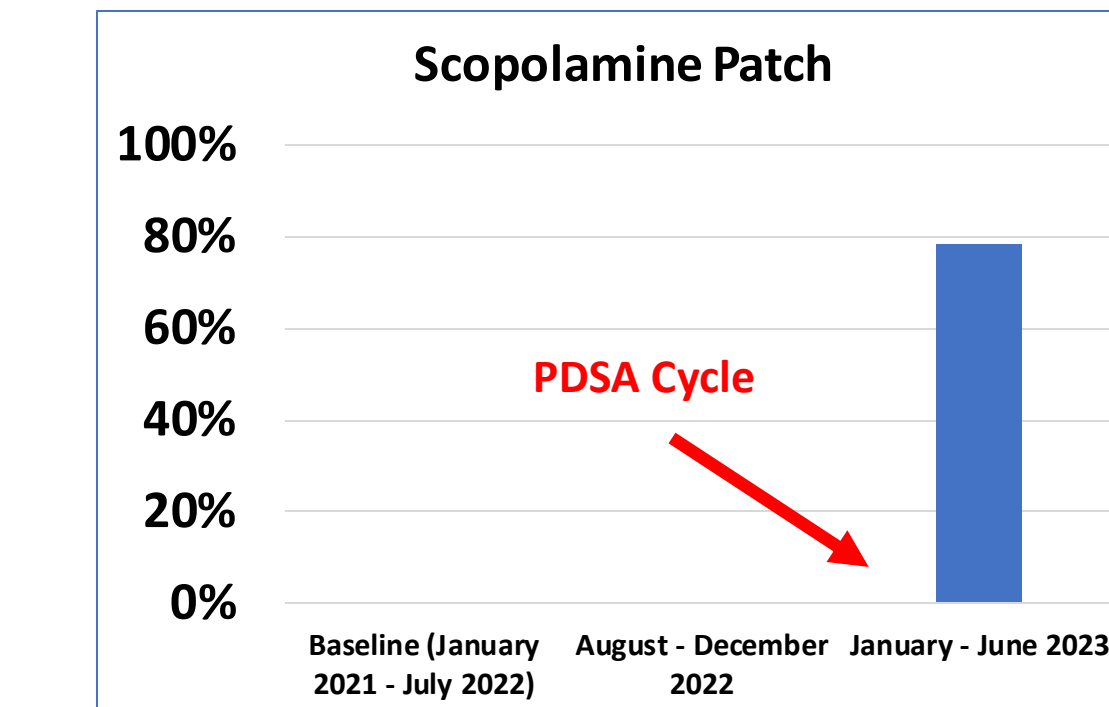
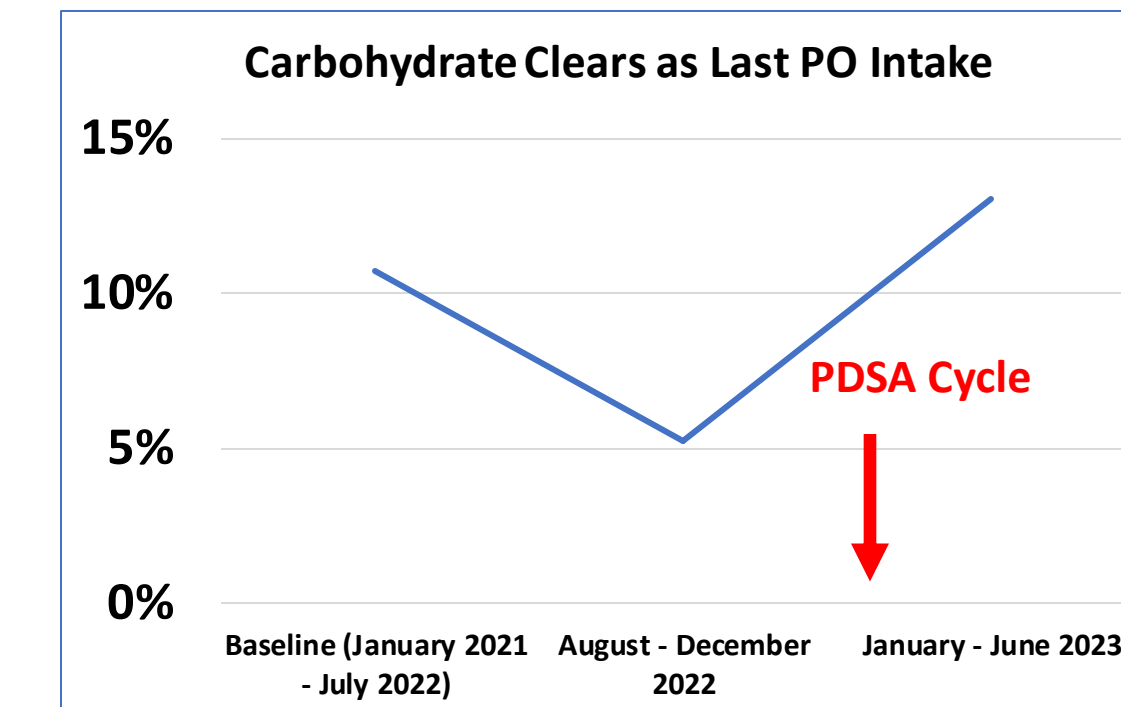
- Collaboration between Departments of Evidence Based Practice, Anesthesiology, & Surgery. Included anesthesia APRNs, surgery APRNs, SDS, Extended Stay
- ERAS pathway presented to anesthesia department and agreed upon
- Monthly metrics report developed
- Final product released on EBP external website and anesthesia internal Sharepoint for easy access

Pathway



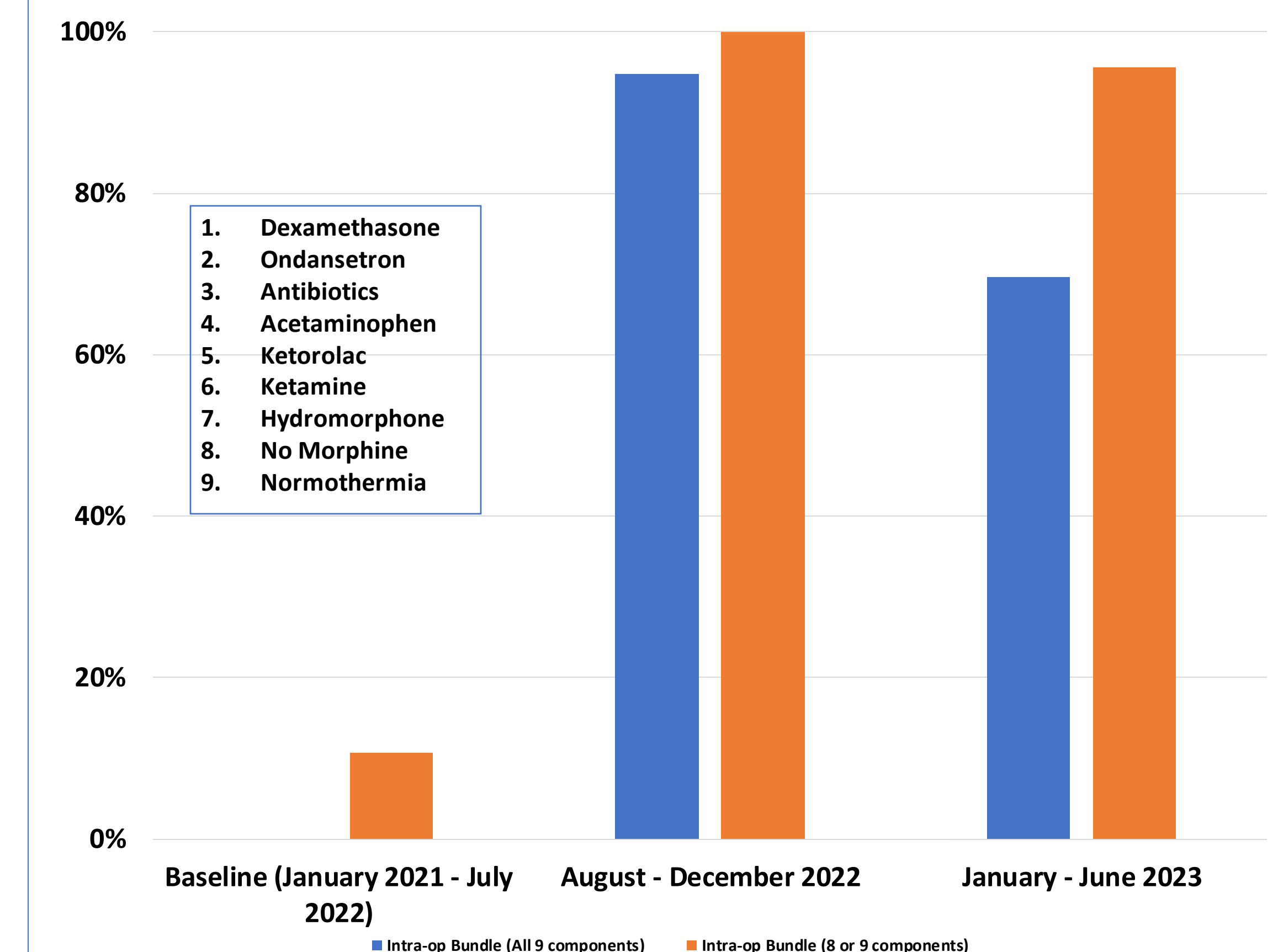
Results

PECTUS BAR	Baseline (January 2021 - July 2022)	August - December 2022	January - June 2023
Patients (n)	56	19	23
Age (Yrs)	16.12	16.12	16.17
Weight (kg)	61.59	62.16	58.48

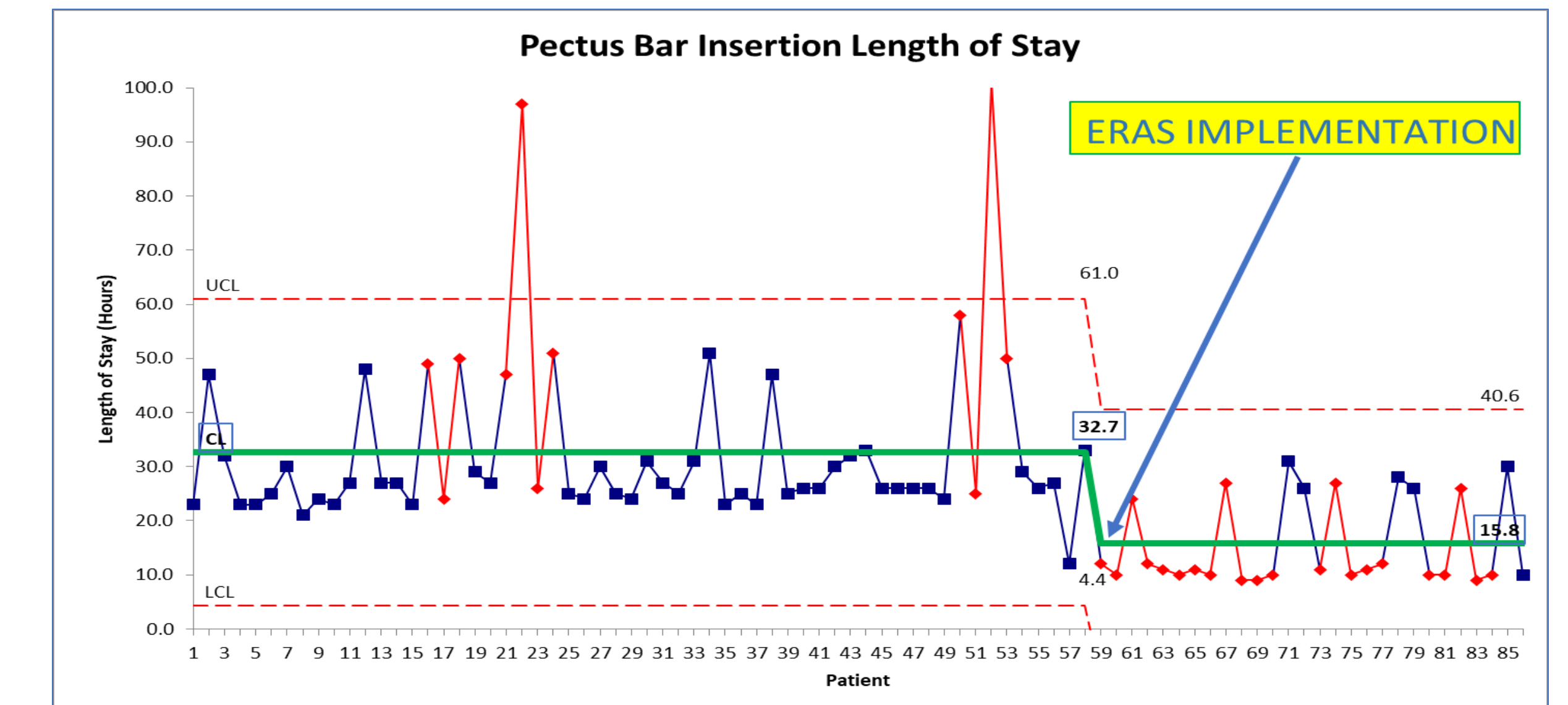


Intra-op Bundle

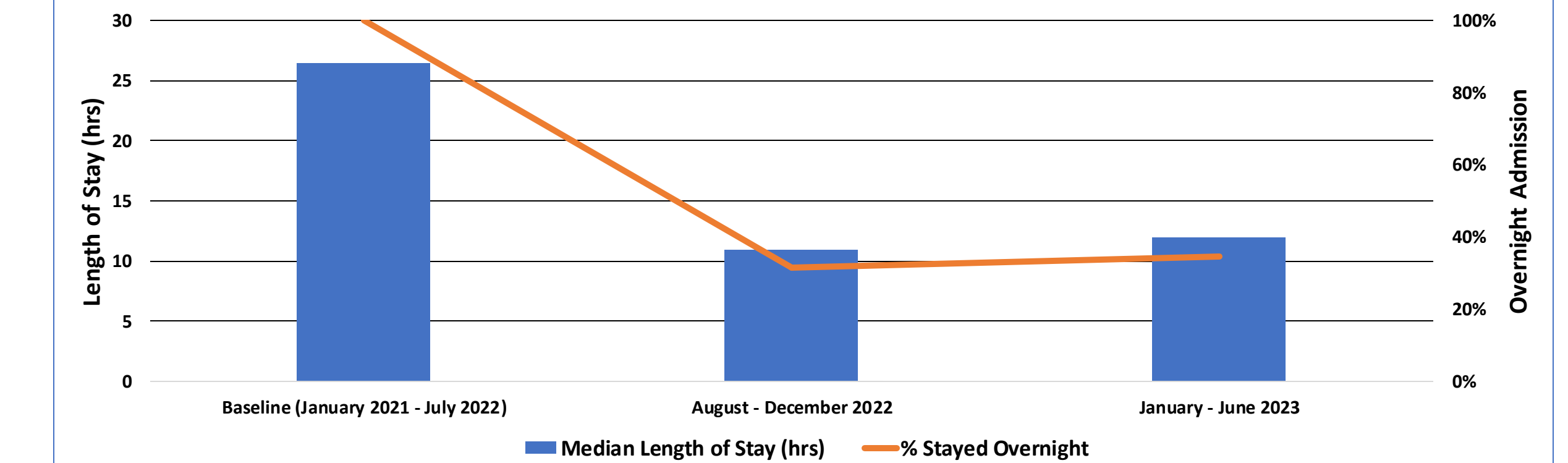
Intraoperative Bundle Compliance



Length of Stay



Overnight Admission



Challenges & Discussion

- Culture change is hard
 - Pre-op carbs continue to be challenging, even though we have many ERAS pathways where it's recommended
 - Pectus patients typically do not come to PAT, where carbs are emphasized
- Intra-op Bundle Compliance: Reinforcement/data is key
- Future PDSA Cycles: Continue to review data & make adjustments.
 - Pain is the main reason patients do not go home
 - Opportunities to study the variation in onset time of cryo?
- Same day discharge for Pectus Bar Insertion is feasible