# PONV Following Pediatric Electrophysiology Ablation: A Multimodal Quality Improvement Intervention

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## Introduction

Electrophysiology (EP) procedures are particularly high risk for post-operative nausea and vomiting (PONV) in pediatric patients…

- Anesthetic duration (+ lie flat time)
- Anesthetic drug side effects
- Autonomic fluctuations
- Young patient age

PONV is associated with…
- Less patient satisfaction
- Longer PACU stay
- Unplanned hospital admission
- (Groin site complications)

**Aim** = To decrease the incidence of PONV in this patient population

## QI Project

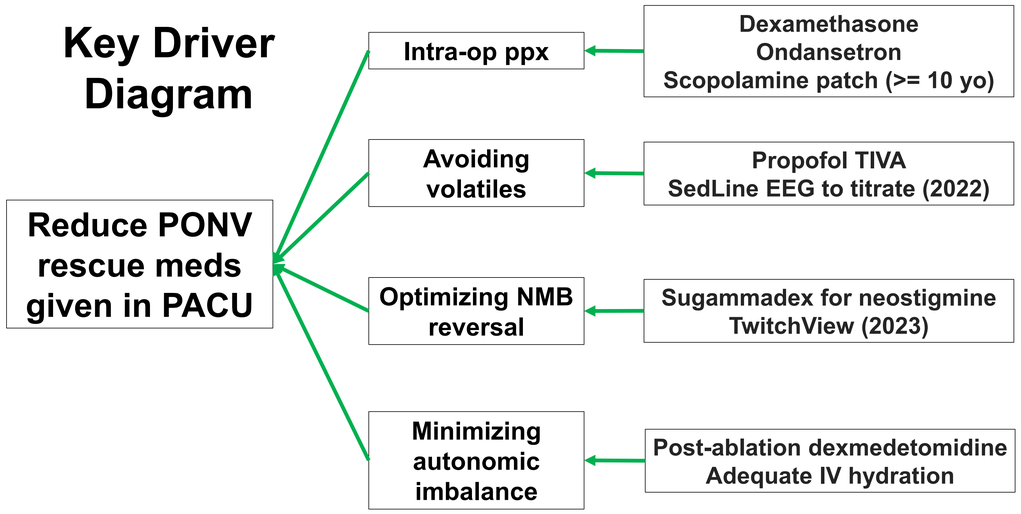
Establishing Baseline
- Attending anesthesiologist gestalt
- Retrospective PACU data on rescue med usage (AdaptX)

Stakeholders
- Anesthesiology attendings
- Anesthesiology CRNA's
- Anesthesiology residents/fellows
- (PACU RN's)

Measures
- PACU rescue nausea medication usage (outcome measure)
- PACU IV opioid medication usage (balancing measure)

Interventions/Implementation
- Developed package of PONV clinical interventions
- Serial email reminders to relevant anesthesia providers

## Key Driver Diagram




## Results

Outcome Measure
- PONV rescue rates fell from 15.3% to 3.5%
- Result was quickly achieved and sustained over 5 years

Balancing Measure
- Reduction in (unintended) IV opioid administration in PACU, from 10% to 4%

Pre-Intervention (Jan 2017 - Feb 2020)

| Averages | Avg | Std Dev |
|---|---|---|
| Monthly N | 9.8 | 4.6 |
| Monthly rescues | 1.53 | 1.4 |
| Monthly rescue rate | 0.16 | |
| | | |
| Yearly N | 121 | 18.4 |
| Yearly rescues | 19 | 5.0 |
| Yearly rescue rate | 0.16 | |

Post-Intervention (Jan 2020 - Dec 2025)

| Averages | Avg | Std Dev |
|---|---|---|
| Monthly N | 12.2 | 3.1 |
| Monthly rescues | 0.43 | 0.3 |
| Monthly rescue rate | 0.04 | |
| | | |
| Yearly N | 151 | 7.4 |
| Yearly rescues | 4.8 | 1.3 |
| Yearly rescue rate | 0.03 | |

## Learning Points

**Local data** can improve practice (i.e. QI)

**Standardization** can improve outcomes, this can be both rapid and sustained

This improvement was achievable with no added complexity or cost

**Culture change** likely matters more than the intervention itself, a relatively small EP anesthesia team helped in this project

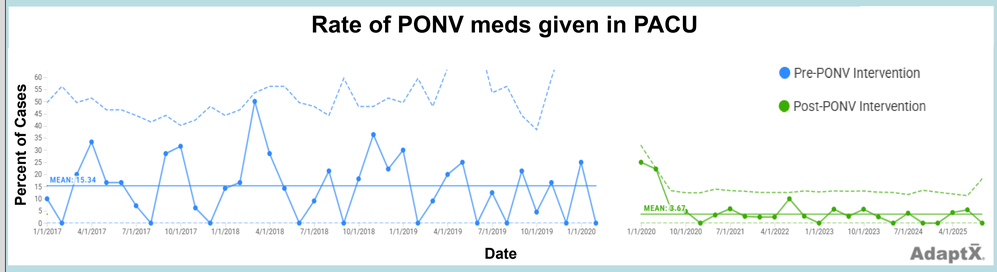
Our results parallel larger institutional changes (away from opioid use) and general clinical practices surrounding PONV prophylaxis

## Next Steps

Ongoing institutional memory for PONV prophylaxis

Epic maco with intra-op reminders

## Results




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