



**Mount  
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Queens**



# ACCELERATING RECOVERY:

## A Nurse-Led Fast-Track Ophthalmology Pathway in a Blended PACU

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### BACKGROUND

Rising ophthalmology volume created a strain on throughput within the blended PACU model at Mount Sinai Queens. Cataract Extraction cases were recovering under the same traditional pathways designed for higher-acuity surgical populations, which often resulted in unnecessarily prolonged recovery stays. This workflow mismatch contributed to longer recovery durations, peak-hour bottlenecks, reduced bed availability, and inefficient use of nursing resources. To address these operational challenges while maintaining patient safety, a nurse-led fast-track recovery pathway for eligible low-risk patients was implemented beginning in May 2024. The initiative aimed to streamline recovery processes, improve PACU throughput, and optimize nursing workflow without compromising quality of care.



### METHODOLOGY

This quality improvement initiative evaluated the impact of a fast-track ophthalmology recovery pathway implemented in May 2024. The project included ASA I-II adult patients with Mallampati airway classifications of 1-2 who were considered eligible for fast-track recovery. For the

sensitivity analysis, patients with Mallampati scores of 3-4 and recovery durations greater than 60 minutes were excluded to better reflect the target fast-track population.

The primary outcome measured was PACU recovery duration in minutes. Statistical analysis included Welch's independent t-test to compare pre- and post-implementation recovery times, calculation of Cohen's d to assess effect size, and estimation of 95% confidence intervals to evaluate the precision of the observed differences.

Nurse-led fast-track recovery **significantly reduced PACU length of stay for ophthalmology patients, improving throughput without compromising safety.**

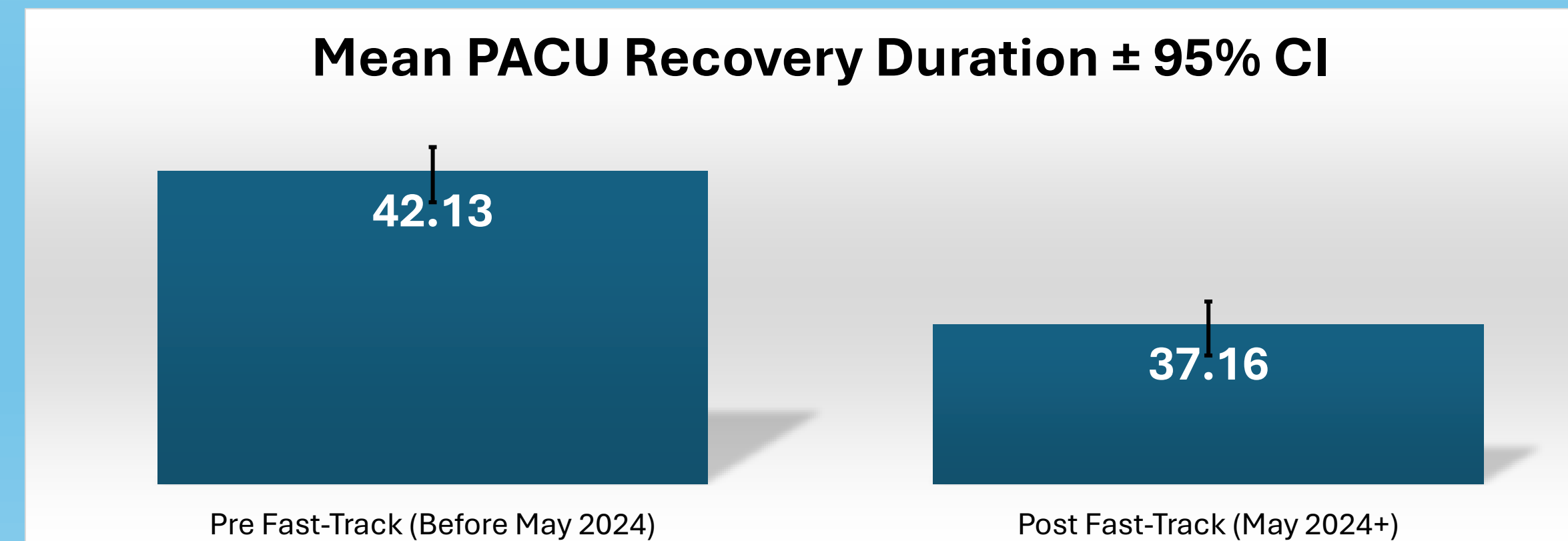
Standardized recovery criteria and **streamlined nursing workflows enabled earlier readiness for discharge** and more efficient utilization of PACU beds.

This quality improvement initiative demonstrates how **targeted nursing improvements can rapidly improve perioperative efficiency and patient flow in a blended PACU environment.**

### RESULTS

Group	N	Mean (min)	SD	95% CI (±)
Pre (Before May 2024)	471	42.13	8.77	0.79
Post (May 2024+)	651	37.16	9.79	0.75

Following implementation of the fast-track pathway in May 2024, mean PACU recovery time decreased by **4.97 minutes**, representing an **11.79% reduction** among eligible patients (Mallampati 1-2) after excluding recovery outliers greater than 60 minutes. This improvement was **statistically significant (p < 0.001)** and demonstrated a **moderate effect size (Cohen's d = 0.53)**, indicating a meaningful reduction in recovery duration associated with the nurse-led fast-track protocol.



**Figure 1. Mean PACU recovery duration before and after implementation of the fast-track ophthalmology pathway.** Among fast-track-eligible patients (Mallampati 1-2) with recovery durations ≤60 minutes, the mean recovery time **decreased from 42.13 minutes pre-implementation (n = 471) to 37.16 minutes post-implementation (n = 651)**. Error bars represent 95% confidence intervals. The reduction was statistically significant (p < 0.001, Cohen's d = 0.53), indicating a moderate effect size associated with the nurse-led fast-track protocol.

### DISCUSSIONS

#### Operational Impact

Using observed post-implementation case rate:

- **399** eligible ophthalmology cases per year
- **4.97 minutes saved per case**
- **1,980 nursing minutes saved annually**
- **33 nursing hours gained per year**
- Equivalent to **4 full PACU recovery shifts**

*This represents measurable PACU capacity creation without additional staffing and improved recovery throughput during ophthalmology case blocks.*

#### Safety Outcomes

- No increase in unplanned admissions
- No increase in postoperative complications
- No compromise in discharge readiness

*Operational efficiency was achieved while maintaining patient safety standards.*

#### Nursing Impact

This initiative demonstrates:

- ✓ Nurses as throughput architects
- ✓ Nurse-led discharge readiness optimization
- ✓ Risk-stratified recovery protocols
- ✓ Data-driven workflow redesign
- ✓ Scalable blended PACU fast-track model

*The success of this pathway was operationalized at the bedside through perianesthesia nurses, nursing leadership, and interdisciplinary collaboration.*



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