Problem Definition

- Postoperative pneumonia increases morbidity, mortality, length of stay, and hospital costs up to $12,000-$40,000 per patient.
- TJUH Center City ranked in the top 3rd-4th quartile of pulmonary complications on the 2020 National Surgical Quality Improvement Program perioperative review.
- ICOUGH protocol: widely accepted, standardized set of post-operative interventions to reduce pneumonia incidence.
  - Incentive spirometry (IS)
  - Coughing and deep breathing
  - Oral care (twice daily)
  - Understanding (patient and family education)
  - Getting out of bed frequently (at least 3x daily)
  - Head-of-bed elevation
- Survey design: measure ICOUGH compliance before and after implementation of resident note checklist in EPIC.
  - Patients on the general surgery service were surveyed on post-op days 1-2 at TJUH.

Aims For Improvement

- To increase ICOUGH compliance metrics by 10-20%.

Intervention

- Standardized resident physician checklist implemented in EPIC.
- Scan QR code on bottom right for checklist templates implemented.

Results

- Baseline data (n=61) and post intervention data (n=22) show an improvement in many ICOUGH metrics.
  - High compliance baseline metrics were defined as baseline compliance level > 70%; low compliance were <70%.

Lessons Learned

- Improvements were made, but we hope to continue the mission with implementation of the following additional interventions:
  - EMR generated high-risk pneumonia scores
  - Bedside swallow evaluations
  - Bed signage for high-risk patients
  - Monitored feeding for high-risk patients.
- Limitations:
  - Small sample size
  - Differences in post-op day 1 and 2
  - Effects of COVID-19 on baseline compliance
  - Possible effect of active monitoring: future studies should determine the duration that outcomes remain changed from baseline.

Figures

- Fig 1: Baseline and post-intervention high compliance metrics.
- Fig 2: Baseline and post-intervention low compliance metrics.

References: