Interventional Pulmonary Quality Improvement Project Proposal

Date: February 12, 2026

1. Project Title

Reducing Procedure-Related Complications and Improving Standardization in Interventional Pulmonary Procedures

2. Background and Rationale

Interventional pulmonary (IP) procedures such as bronchoscopy, endobronchial ultrasound (EBUS), thoracentesis, tunneled pleural catheter placement, and airway stenting are essential in the diagnosis and management of complex pulmonary diseases. While generally safe, these procedures carry risks including pneumothorax, bleeding, infection, hypoxia, and unplanned hospital admissions. Variability in pre-procedure assessment, intra-procedure practices, and post-procedure monitoring can impact patient outcomes. A structured quality improvement initiative aims to standardize care, reduce complications, and enhance patient safety.

3. Problem Statement

There is variability in documentation, pre-procedure risk assessment, and post-procedure monitoring for IP procedures, potentially contributing to preventable complications and inconsistent outcomes.

4. Aim Statement

To reduce procedure-related complications (pneumothorax, bleeding, unplanned admissions) by 25% within 12 months by implementing standardized pre-, intra-, and post-procedure protocols.

5. Objectives

- Standardize pre-procedure checklist and risk stratification.
- Improve documentation compliance to >95%.
- Implement ultrasound guidance for all pleural procedures unless contraindicated.
- Establish post-procedure monitoring protocol.
- Track and review complications monthly.

6. Methods

This project will utilize the Plan-Do-Study-Act (PDSA) framework.

Plan: Develop standardized checklists and documentation templates.
Do: Implement protocols in the IP suite.
Study: Collect and analyze complication and compliance data monthly.
Act: Modify protocols based on findings and feedback.

7. Interventions

- Pre-procedure timeout and standardized checklist.
- Mandatory ultrasound documentation for pleural procedures.
- Standard sedation and airway management protocol.
- Structured post-procedure observation checklist.
- Monthly multidisciplinary QA review meetings.

8. Outcome Measures

Primary Outcomes:

- Rate of pneumothorax requiring intervention.
- Clinically significant bleeding events.
- Unplanned admissions within 24–48 hours.

Secondary Outcomes:

- Documentation compliance rate.
- Patient satisfaction scores.
- Procedure turnaround time.

9. Data Collection and Analysis

Data will be collected from the electronic medical record (EMR) and procedural logs. Baseline data from the prior 12 months will be compared to post-implementation outcomes. Statistical analysis will include descriptive statistics and run charts to monitor trends over time.

10. Timeline

Month 1–2: Baseline data collection and protocol development.
Month 3–4: Implementation and staff education.

Month 5–12: Ongoing monitoring and monthly QA review.
Month 12: Final analysis and report.

11. Stakeholders

Interventional Pulmonologists
Pulmonary Fellows
Nursing Staff
Anesthesia Team
Quality & Patient Safety Department
Hospital Administration

12. Expected Impact

This project aims to enhance patient safety, reduce preventable complications, standardize care delivery, and improve overall quality metrics within the Interventional Pulmonary program. Successful implementation may serve as a model for other procedural specialties.

13. Sustainability Plan

Protocols will be embedded into the EMR. Ongoing quarterly audits and annual review of complication rates will ensure long-term sustainability.