Evaluating the Impact of Preanesthetic Clinics on Post-Bronchoscopy Complications and Patient Outcomes

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ABSTRACT

- Preanesthetic clinics (PACs) play a vital role in optimizing patient outcomes and safety, particularly for high-risk patients undergoing complex procedures like bronchoscopy.
- This audit evaluates the impact of PAC evaluations on bronchoscopy patient outcomes, focusing on adverse event rates among patients with higher American Society of Anesthesiologists (ASA) classifications. The findings reveal that PAC assessments are significantly associated with a reduction in complication rates, especially in ASA ≥ 3 patients, where unplanned ICU admissions, desaturation events, and new-onset atrial fibrillation were notably higher in those not assessed preoperatively.
- Despite the importance of PAC in comprehensive patient assessment, early detection of anesthesia-related risks, and procedural preparation, a gap in consistent referral for high-risk patients was identified, particularly among those from culturally and linguistically diverse (CALD) backgrounds. Post-intervention data, following the introduction of a standardized Request for Assessment (RFA) form, indicate improved referral rates and a 20% reduction in adverse events, underscoring the importance of structured, timely communication between departments. Future studies with larger sample sizes are recommended to solidify these findings and assess additional factors such as patient satisfaction and long-term outcomes. Expanding the PAC referral protocol, particularly for high-risk and CALD patients, can further enhance perioperative safety and care continuity.

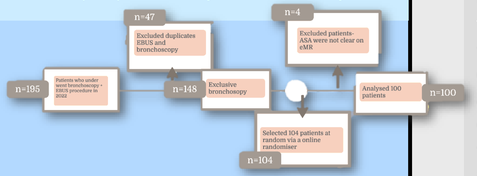


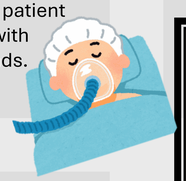
Figure 1. Patients data collection method

ABOUT THE AUTHOR

Dr. Shady Ekladious is an Australian Anaesthesiology registrar with training in NICU, ICU, and anaesthetics, having trained across various city and regional areas of Australia. He is committed to equitable healthcare access and serves as a Conjoint Associate Lecturer and Clinical Tutor at several universities. Passionate about advancing medical education, Dr. Ekladious has a special interest in difficult airways, research, and medical education.

INTRODUCTION

- Bronchoscopy, an endoscopic technique used for diagnostic and therapeutic interventions in patients with respiratory diseases, inherently involves significant risk due to the shared airway space between the anesthesiologist and the operator.
- This audit aims to evaluate the safety data regarding post-bronchoscopy complications and assess whether outcomes are improved by preanesthetic clinic (PAC) evaluations. Specifically, it investigates whether PACs effectively prevent complications and if patient care is compromised without them.
- Patients in ASA category 3 or above, including those with significant respiratory conditions or from culturally and linguistically diverse backgrounds, should be reviewed in the PAC to ensure optimal care.
- AIM Statement To evaluate if preanesthetic clinic evaluations reduce post-bronchoscopy complications and enhance patient outcomes for ASA category 3 or above, including those with significant respiratory conditions and diverse backgrounds.



METHODS AND MATERIALS

•A retrospective analysis was conducted on all patients who underwent bronchoscopy procedures at Bankstown Hospital within the specified timeframe.

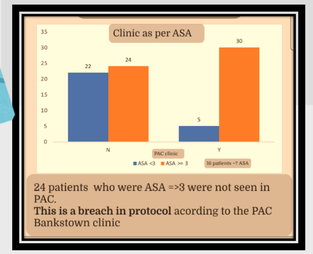
•From this cohort, a random sample of 100 patients was selected for detailed assessment to evaluate post-bronchoscopy complications and the impact of preanesthetic clinic (PAC) evaluations on patient outcomes.

•Data was analyzed to determine the correlation between PAC attendance and the incidence of complications, with a focus on patients classified as ASA category 3 or above.

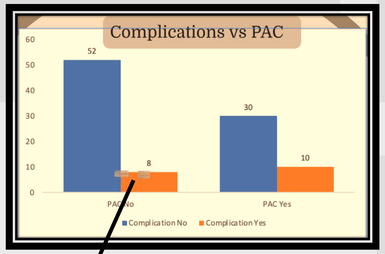
Inclusion Criteria	Exclusion Criteria
Patients who underwent elective or emergency bronchoscopy procedures at Bankstown Hospital between January and December 2022.	Patients with incomplete or missing data in their electronic medical records (eMR), making ASA classification unreliable.
Adult patients (aged 18 and above) with documented ASA classifications and comprehensive preoperative assessments.	Patients with documented contraindications for bronchoscopy or procedures performed as part of palliative care only.
Patients with full perioperative documentation, including records of any complications occurring within 48 hours post-bronchoscopy.	Patients whose procedure was cancelled or aborted due to reasons unrelated to clinical evaluation or PAC availability.

RESULTS

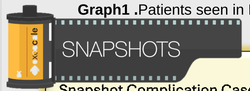
- **24%** of ASA ≥ 3 patients were not seen in the Preanesthetic Clinic (PAC).
- **3%** of patients developed new-onset atrial fibrillation (AF) post-bronchoscopy.
- **6%** of patients experienced desaturation events after the procedure.
- **5%** of patients required unplanned hospital admissions post-bronchoscopy.
- **1%** of patients required ICU admission due to severe complications.
- Referrals to PAC often lacked complete documentation, delaying comprehensive assessments.
- Patients from culturally and linguistically diverse (CALD) backgrounds faced barriers to timely and detailed PAC referrals.



Graph1 . Patients seen in PAC vs not seen .



Graph 2. Correlation of patients complication vs reviewed in PAC.



Snapshot Complication Case

Case Report: BC, 63 Male

Procedure: Elective Bronchoscopy

Preoperative Assessment: No preanesthetic clinic evaluation

ASA Status: 3

Clinical Findings: New cavitating lesion identified on CT

Complication:

Post-bronchoscopy, the patient experienced desaturation to 81%, a respiratory rate of 35, and increased work of breathing. He was admitted to the respiratory ward one hour later. Shortly after, a MET call was initiated, leading to his admission to ICU where he was intubated and admitted for 4 days, where he was treated for exacerbation of COPD and aspiration following the bronchoscopy. The patient was then stepped down 5 days later.

DISCUSSION

· **Impact of Preanesthetic Clinic (PAC) on Complications**

.The audit highlights that PAC evaluations are associated with reduced complication rates in high-risk patients undergoing bronchoscopy. Notably, patients classified as ASA ≥ 3 who were not seen in PAC experienced increased adverse events, including desaturations, new-onset atrial fibrillation, unplanned admissions, and ICU transfers.

· **Gaps in Protocol Adherence and Referral Issues**

.Findings reveal a gap in adherence to protocols for high-risk patients, with significant numbers of ASA ≥ 3 patients not referred to PAC. This lack of PAC involvement, particularly among patients with complex comorbidities or those from CALD backgrounds, may be due to communication barriers or insufficient referral details.

· **Effectiveness of Structured Referral System**

.Post-intervention reaudit must be completed to assess the implementation of a structured referral process, including a standardized Request for Assessment (RFA) form, enhanced communication and ensured timely assessments, contributing to patient safety.

· **Clinical Implications and Future Directions**

.This audit suggests that a proactive approach, especially for high-risk patients, improves patient outcomes. Future research could focus on patient satisfaction, quality of care, and extending the RFA system to other high-risk procedures. Tailored communication strategies, including translation services and cultural competency training for PAC staff, may further benefit CALD patients.

CONCLUSIONS

In conclusion, this audit reinforces the value of PAC in reducing complications associated with bronchoscopy in high-risk patients. The structured referral process, alongside PAC evaluations, appears integral to optimizing patient care, reducing post-procedural complications, and improving overall patient safety. Consistent PAC involvement, especially for patients with significant comorbidities, is essential to ensure positive outcomes and minimize the risks associated with bronchoscopy.

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