



# The Use of Preoperative Checklists in Reducing Surgical Cancellations

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## Introduction

Operating rooms play a significant role in hospital operations as a major source of resource utilization and financial payout. Published data OR costs range from \$10-60/min or up to \$600/hr. Surgeries are major contributors to hospital revenue, especially profitable specialties such as neurosurgery. Unanticipated surgical cancellations are costly and pose a significant threat to efficiency of the operating day. Underprepared patients account for 2.1-5.3% of surgical cancellations and are potentially avoidable. We present data on pre-formulated preoperative checklists on reducing surgical cancellations.

## Methods

We implemented a preoperative checklist in January 2013 for all inpatient procedures (Fig 1). Before that time period handwritten preoperative notes were typically written in charts. All inpatient and outpatient neurosurgical procedures were collected using our electronic medical system in 2012 and 2013 (Fig 2). Cancellations were identified and reasons for cancellations were tabulated with stratification into preventable, nonpreventable, and unknown causes in addition to outpatient vs. inpatient procedure.

## Results

A total of 3462 cases were collected; 1764 in 2012 and 1698 in 2013. The total cancellation rate in 2012 and 2013 was 3.12% and 2.71%, respectively. Total inpatient cancellations decreased from 4.47% to 3.72% with npatient preventative cancellations decreasing from 2.33% to 1.12% after implementation of the preoperative checklist. There were no statistically significant differences between the aforementioned percentages (Fig 3).

## Conclusions

A preoperative checklist did not demonstrate benefit in reducing inpatient preventable cancellations; however, absolute percentages did show a small trend in reducing these cancellations. Due to the low prevalence of cancellations more data may be needed to identify a benefit. Although the number of preventable cancellations may be small, when broadened to multiple subspecialties over many years, a substantial amount of lost income could be generated and operating room efficiency improved.

## Learning Objectives

By the conclusion of this session, participants should be able to: 1) describe the importance of surgical cancellations to a hospital's revenue and resources. 2) Implementation of preoperative checklists can be a simple yet effective method in reducing surgical cancellations.

## References

- Weinbroum, A.A., P. Ekstein, and T. Ezri, Efficiency of the operating room suite. Am J Surg, 2003. 185(3): p. 244-50.
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- Kumar, R. and R. Gandhi, Reasons for cancellation of operation on the day of intended surgery in a multidisciplinary 500 bedded hospital. J Anaesthesiol Clin Pharmacol, 2012. 28(1): p. 66-9.
- Schofield, W.N., et al., Cancellation of operations on the day of intended surgery at a major Australian referral hospital. Med J Aust, 2005. 182(12): p. 612-5.

### Preoperative Checklist

NEUROSURGERY PREOP NOTE

Procedure: \_\_\_\_\_

Surgeon: \_\_\_\_\_

Site: \_\_\_\_\_

Type & Screen: \_\_\_\_\_

US: \_\_\_\_\_ #AC: \_\_\_\_\_

ECG: \_\_\_\_\_

pO2: \_\_\_\_\_

Aspirin: \_\_\_\_\_ Aspirin Resistant: \_\_\_\_\_

Phone: \_\_\_\_\_ Phone Requester: \_\_\_\_\_

Medical Clearance: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ PROVIDER'S SIGNATURE: \_\_\_\_\_

PROVIDER'S NAME: \_\_\_\_\_ PHONE/FAX: \_\_\_\_\_

NEUROSURGERY RISK - BENEFIT ASSESSMENT

Risks and benefits of procedure discussed with:

☐ Patient ☐ Healthcare Proxy ☐ Family ☐ Other

Risks include:

☐ Death ☐ Difficulty with Surgery

☐ Infection ☐ Paralysis / Weakness

☐ Bleeding ☐ Postoperative / Anesthetic Sensation

☐ Stroke ☐ Postoperative of Stroke and/or Seiz

☐ Seizure ☐ COPD

☐ Heart Attack ☐ Failure of Procedure

☐ Difficulty with Speech ☐ Need for another Procedure

☐ Other: \_\_\_\_\_

Patient / Healthcare Proxy / Family states understanding of above mentioned risks, and elects to proceed with the surgery

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ PROVIDER'S SIGNATURE: \_\_\_\_\_

PROVIDER'S NAME: \_\_\_\_\_ PHONE/FAX: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ PATIENT'S SIGNATURE: \_\_\_\_\_

Fig 1. Preoperative checklist used for all inpatients in 2013.

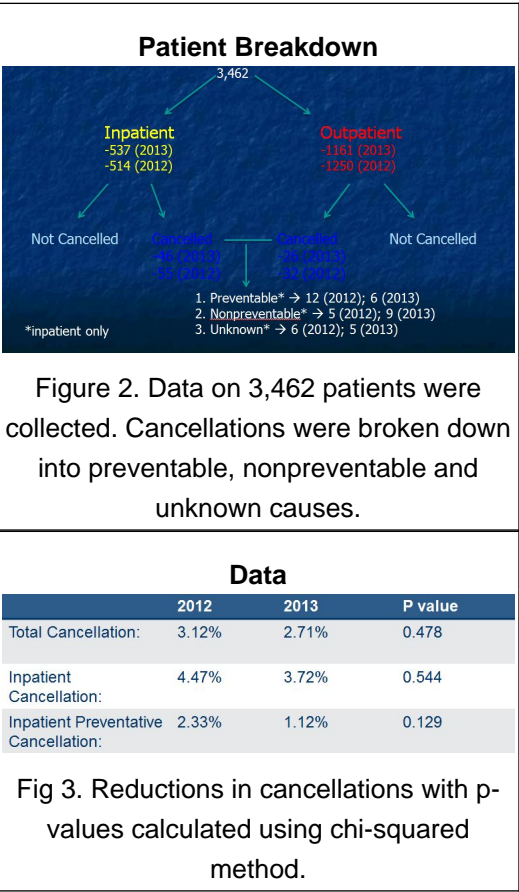


Fig 3. Reductions in cancellations with p-values calculated using chi-squared method.