



NEWS RELEASE

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Surgical quality improvement initiative reduces postoperative pulmonary complications over decade

Study in May 2020 issue of The Joint Commission Journal on Quality and Patient Safety

(OAKBROOK TERRACE, Illinois, April 30, 2020) – A new study in the May issue of [The Joint Commission Journal on Quality and Patient Safety](#) details experience over a 10-year period with a surgical quality improvement initiative developed to reduce the likelihood of postoperative pulmonary complications and assesses the results.

In the before-and-after study “[The I COUGH Multidisciplinary Perioperative Pulmonary Care Program: One Decade of Experience](#),” a multidisciplinary team spearheaded by the Department of Surgery at Boston Medical Center developed tactics to reduce pulmonary complications, represented by the acronym *I COUGH*:

- Incenter spirometry (a breathing exercise device)
- Coughing/deep breathing
- Oral care
- Understanding (education)
- Getting out of bed
- Head of bed elevation

I COUGH is a standardized perioperative pulmonary care program that includes the formal education of patients and their families, nurses, and surgeons and their teams. The study authors created brochures, a video and posters in multiple languages with instructions that describe the techniques and value of postoperative pulmonary care and set expectations for postoperative recovery.

Researchers found that while *I COUGH* initially improved performance and reduced pulmonary complications, a loss of early program momentum corresponded with a return to baseline outcomes. However, an overall favorable trend resulted from a coordinated rededication to *I COUGH* through steadfast commitment and creative responses to cultural barriers.

For example, the absolute incidence of pneumonia fell from 3.0% pre-*I COUGH* to 1.8% post-*I COUGH*, before climbing again to 2.2% two years later. After rejuvenation efforts the rate dropped to 0.4%.

“Over the course of the 10-year period, we saw improvement from the last decile to the first for pneumonia among hospitals enrolled in the American College of Surgeons National Surgical Quality Improvement Program,” said first author Michael Cassidy, MD, a surgical oncologist at Boston Medical Center and assistant professor of Surgery at Boston University School of Medicine. “It became clear over time that sustaining outcomes requires constant assessment and dedication to care principles. We continue to look at ways to improve the program and have recently developed an application for mobile devices to help our patients comply with the *I COUGH* protocol.

“Not only did [the investigators] continue to monitor performance even as it drifted back to baseline performance, they remained committed to the compelling clinical benefits they had originally witnessed in the *I COUGH* program,” notes Kedar S. Mate, MD, in an [accompanying editorial](#). “There are important lessons to be learned from the investigators’ experience over the course of a decade. The authors wisely note the need for critical resources such as champions, audits, and staff and patient education in making improvements.”

Also featured in the May issue:

- [“Improving Smoking Cessation Outcomes Through Tailored-risk Patient Messages at a University Hospital Tobacco Cessation Services”](#) (Oregon Health & Sciences University Hospital, Portland)
- [“We Want to Know – A Mixed Methods Evaluation of a Comprehensive Program Designed to Detect and Address Patient-Reported Breakdowns in Care”](#) (University of Massachusetts Medical School, Worcester, Massachusetts)
- [“Exploring the Association Between Organizational Culture and Large-Scale Adverse Events: Evidence from the Veterans Health Administration”](#) (U.S. Department of Veterans Affairs Boston Healthcare System)
- [“Health Care Provider Factors Associated with Patient-Reported Adverse Events and Harm”](#) (A study based on a secondary analysis of a national online questionnaire)
- [“Misreading Injectable Medications – Causes and Solutions: An Integrative Literature Review”](#) (A study based on literature review of academic health databases)
- [“Improving Timely Recognition and Treatment of Sepsis in the Pediatric ICU”](#) (Cincinnati Children’s Hospital Medical Center)

For more information, visit [The Joint Commission Journal on Quality and Patient Safety website](#).

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Note for editors

The article is [“The *I COUGH* Multidisciplinary Perioperative Pulmonary Care Program: One Decade of Experience,”](#) by Michael R. Cassidy, MD; Pamela Rosenkranz, RN, BSN Med; Ryan D. Macht, MD; Stephanie Talutis, MD; and David McAneny, MD, FACS. The article appears in *The Joint Commission Journal on Quality and Patient Safety*, volume 46, number 5 (May 2020), published by Elsevier.

The Joint Commission Journal on Quality and Patient Safety

[The Joint Commission Journal on Quality and Patient Safety](#) (JQPS) is a peer-reviewed journal providing health care professionals with innovative thinking, strategies and practices in improving quality and safety in health care. JQPS is the official journal of [The Joint Commission](#) and [Joint Commission Resources, Inc.](#) Original case studies, program or project reports, reports of new methodologies or the new application of methodologies, research studies, and commentaries on issues and practices are all considered.