

Failure to Rescue in the Surgical Oncology Population: Implications for Nursing and Quality Improvement

Christopher R. Friese, RN, PhD, AOCN®, and Linda H. Aiken, RN, PhD, FAAN, FRCN

Purpose/Objectives: To analyze the frequency, type, and correlates of postoperative complications for surgical patients with cancer to illustrate practical application of the failure to rescue concept in oncology nursing practice.

Design: Secondary analysis of inpatient claims.

Setting: Data obtained from the Pennsylvania Health Care Cost Containment Council were linked with data from the Pennsylvania Cancer Registry.

Sample: 24,618 patients with solid tumors hospitalized for tumor-directed surgery in 164 acute care hospitals from 1998–1999.

Methods: Frequency distributions examined the incidence of each complication, the proportion of patients who died with the complication, and complication frequency by tumor type. Chi-square tests compared the frequency of complications for patients who were admitted routinely or via the emergency department.

Main Research Variables: 30-day mortality, postoperative complications, and tumor type.

Findings: The most frequent complication in the sample was gastrointestinal bleeding (13.2%); however, 37.1% of patients who died had respiratory compromise as a complication. Admission through the emergency department was significantly associated with experiencing a complication (71.9% versus 43.9%).

Conclusions: Treatable but serious postoperative complications are frequent and can be fatal in the surgical oncology population. Complication frequency and fatality vary significantly by cancer type.

Implications for Nursing: The complications studied are detectable by nurses and can be managed successfully with timely intervention. Recognition of complications at an early stage and evidence-based management may assist nurses in patient rescue and, ultimately, improve quality of care.

Increasing interest in healthcare quality improvement has focused on the prevention or management of complications for patients undergoing surgery (Berwick, Calkins, McCannon, & Hackbarth, 2006; Leape et al., 1991). Failure to rescue, defined as a death among surgical inpatients with treatable serious complications, is one outcome measure frequently studied to examine quality of care in hospitalized patients (National Quality Forum, 2004; Silber, Williams, Krakauer, & Schwartz, 1992). Failure to rescue is strongly linked to nursing care; when nurses identify abnormal findings signifying a complication during patient assessment, they often are the first line of intervention to rescue the

Key Points . . .

- ▶ Failure to rescue—defined as death following a postoperative complication—is increasingly studied as a quality-of-care measure.
- ▶ Because understanding and application of failure to rescue currently are limited in oncology settings, examination of the frequency and fatality of complications can aid nurses in detection and management.
- ▶ Serious postoperative complications, including gastrointestinal bleeding, fluid and electrolyte disturbances, and respiratory compromise, occurred in about 50% of the studied population and were associated with high mortality rates. Patients admitted via the emergency department had higher rates of studied complications.

Christopher R. Friese, RN, PhD, AOCN®, is an assistant research scientist in the School of Nursing at the University of Michigan in Ann Arbor; and Linda H. Aiken, RN, PhD, FAAN, FRCN, is the Claire M. Fagin Leadership Professor of Nursing and director in the Center for Health Outcomes and Policy Research at the University of Pennsylvania in Philadelphia. While completing this research, Friese was a research fellow at the Dana-Farber Cancer Institute Center for Outcomes and Policy Research/Harvard School of Public Health, Department of Society, Human Development, and Health in Boston, MA. Original data collection was supported by a grant from the National Institute of Nursing Research R01-NR04513 (principal investigator [PI]: Linda H. Aiken). Analyses were supported by the American Cancer Society, DSCN-03-202-01-SCN (PI: Christopher R. Friese), the Oncology Nursing Society via the Pennsylvania Tobacco Settlement Funds (PIs: Julie A. Sochalski and Deborah B. McGuire), and a predoctoral training grant from the National Institute of Nursing Research, T32-NR07104 (PI: Linda H. Aiken). The funders had no role in the study design, data analysis, or manuscript preparation. Mention of specific products and opinions related to those products do not indicate or imply endorsement by the Oncology Nursing Forum or the Oncology Nursing Society. (Submitted October 2007. Accepted for publication April 3, 2008.)

Digital Object Identifier: 10.1188/08.ONF.779-785