

Patient Safety and Quality Improvement in Anesthesiology and Perioperative Medicine

Medicine

Cambridge University Press & Assessment

Edited by Sally E. Ramey, Sally E. Ramey, Sally E. Ramey

Frontmatter

[More Information](#)

Patient Safety and Quality Improvement in Anesthesiology and Perioperative Medicine

Edited by

Sally E. Rampersad

University of Washington School of Medicine and Seattle Children's Hospital

Cindy B. Katz

Seattle Children's Hospital

CAMBRIDGE
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi – 110025, India

103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781316642306

DOI: 10.1017/9781108125758

© Cambridge University Press 2023

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2023

Printed in the United Kingdom by TJ Books Limited, Padstow Cornwall

A catalogue record for this publication is available from the British Library.

Library of Congress Cataloging-in-Publication Data

Names: Rampersad, Sally E., editor. | Katz, Cindy (Cindy B.), editor.

Title: Patient safety and quality improvement in anesthesiology and perioperative medicine / edited by Sally E. Rampersad, Cindy Katz.

Description: Cambridge, United Kingdom ; New York, NY : Cambridge University Press, 2022. | Includes bibliographical references and index.

Identifiers: LCCN 2022026022 | ISBN 9781316642306 (paperback) | ISBN 9781108125758 (ebook)

Subjects: MESH: Patient Safety | Perioperative Care | Anesthesia | Quality Improvement

Classification: LCC RD81 | NLM WX 185 | DDC 617.9/6–dc23/eng/20220801

LC record available at <https://lccn.loc.gov/2022026022>

ISBN 978-1-316-64230-6 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

Every effort has been made in preparing this book to provide accurate and up-to-date information that is in accord with accepted standards and practice at the time of publication. Although case histories are drawn from actual cases, every effort has been made to disguise the identities of the individuals involved. Nevertheless, the authors, editors, and publishers can make no warranties that the information contained herein is totally free from error, not least because clinical standards are constantly changing through research and regulation. The authors, editors, and publishers therefore disclaim all liability for direct or consequential damages resulting from the use of material contained in this book. Readers are strongly advised to pay careful attention to information provided by the manufacturer of any drugs or equipment that they plan to use.

Contents

List of Figures vii
List of Tables ix
List of Contributors xi
Acknowledgments xiii

-
- 1 **Introduction: Why Another Book about Patient Safety?** 1
 Sally E. Rampersad

Section 1—Design and Simulation

- 2 **Use of Simulation and Patient Safety** 3
 Douglas R. Thompson
- 3 **Using Human-Centered Design to Create a Safer Anesthesia Workspace** 10
 Eliot Grigg and Axel Roesler

Section 2—Quality Improvement Tools

- 4 **Preoccupation with Failure: Daily Management System** 26
 Aaron C. Dipzinski and Lynn D. Martin
- 5 **Lean versus Model for Improvement** 33
 Julianne Mendoza and David Buck
- 6 **Cause Analysis** 40
 Kristina A. Toncray

Section 3—Reporting and Databases

- 7 **Reporting Adverse Events** 50
 Rebecca Claire and Julianne Mendoza
- 8 **Learning from Adverse Events: Classification Systems** 64
 Imelda M. Tjia and Nathaniel Greene
- 9 **Databases and Surgical Quality Improvement: Pooling Our Data** 77
 Manon Haché and Cindy B. Katz

Section 4—Putting Tools into Practice

- 10 **Medication Safety at a Pediatric Hospital and Failure Modes Effects Analysis: A Series of Projects Undertaken to Address the Issue of Medication Errors in the Operating Room** 83
 Lizabeth D. Martin
- 11 **Reducing Preventable Clinical Deterioration through the Use of a Safety Surveillance Team** 93
 Joan S. Roberts and Wendy E. Murchie

**Section 5—People, Behavior,
and Communication**

- 12 **Nursing Perspective in Patient
Safety: Quality, Safety,
and Advocacy** 105

Cindy B. Katz

- 13 **Checklists and Transitions
of Care: A How-To Guide** 108

Daniel K. W. Low

- 14 **Communication Tools to Improve
Patient Safety** 114

Kristina A. Toncray

- 15 **Winning Hearts and Minds:
Leading Change** 123

Lynn D. Martin, Daniel K. W. Low,
and Sally E. Rampersad

Index 137

*A color plate section will be found
between pages 82 and 83.*

Figures

- | | | |
|------|---|-----|
| 2.1 | Birth training mannequins used for shoulder dystocia training | 6 |
| 3.1 | Original medication tray | 17 |
| 3.2 | Primary medication tray | 17 |
| 3.3 | Secondary medication tray | 18 |
| 3.4 | Anesthesia medication template | 20 |
| 3.5 | Color and background detail | 22 |
| 4.1 | Daily management system | 27 |
| 4.2 | Standard work validation | 31 |
| 5.1 | Model for Improvement | 34 |
| 5.2 | Plan-Do-Study-Act | 36 |
| 5.3 | Key driver diagram | 37 |
| 6.1 | Process Map | 44 |
| 6.2 | Fishbone | 45 |
| 7.1 | Reporting template | 51 |
| 7.2 | IHI Global Trigger Tool. Reproduced with permission from IHI | 54 |
| 8.1 | HPI Structural Approach to Safety Events Classification. Reproduced with <i>permission from Press Ganey</i> | 67 |
| 8.2 | HPI Taxonomy of Safety Events in Healthcare. Reproduced with <i>permission from Press Ganey</i> | 68 |
| 8.3 | The JC impact taxonomy. All Joint Commission taxonomies, reproduced with permission from Rights Link November 17, 2020 | 70 |
| 8.4 | The JC type taxonomy | 71 |
| 8.5 | The JC domain taxonomy | 72 |
| 8.6 | The JC cause taxonomy | 73 |
| 8.7 | The JC prevention and mitigation taxonomy | 74 |
| 10.1 | Medication trays | 85 |
| 10.2 | Cart top | 86 |
| 10.3 | Medication labels | 86 |
| 10.4 | Total medication error rates from 2010 to 2016, reported as medication errors per 1,000 anesthetics averaged over 12 prior months | 89 |
| 11.1 | RISK RN huddle process | 96 |
| 11.2 | RISK RN Evaluation | 98 |
| 11.3 | RISK RN Training | 99 |
| 11.4 | RISK RN surveillance form | 100 |
| 11.5 | RISK RN dashboard | 101 |
| 13.1 | Patient Flow Checklist schematic indicating times when checklists are used | 109 |
| 13.2 | Regional Timeout Checklist | 110 |
| 13.3 | Regional Anesthesia Reference Dosing Table | 111 |
| 13.4 | PACU Handoff Checklist | 112 |
| 13.5 | PACU Departure Checklist | 113 |
| 15.1 | Lewin's freeze/unfreeze Model. Reproduced with permission from Mind Tools | 124 |
| 15.2 | Problem-solving A3 | 128 |
| 15.3 | Checklist workflow | 133 |
| 15.4 | Anesthesia on-time starts | 135 |

Medicine

Cambridge University Press & Assessment

Edited by Sally E. Ramey, Sally E. Ramey, Cindy B. Katz

Frontmatter

[More Information](#)

Tables

- | | | |
|------|---|-----|
| 2.1 | Improvements made by the neonatal ICU (NICU) leadership as a result of threats identified in simulation | 4 |
| 6.1 | Action items from RCA | 43 |
| 6.2 | Factors that may lead to latent errors | 45 |
| 6.3 | Comparison of root cause analysis and common cause analysis | 48 |
| 14.1 | Situation, background, assessment, and recommendation | 119 |
| 14.2 | SBAR example | 119 |
| 14.3 | TeamSTEPPS Brief, Huddle, Debrief | 120 |
| 15.1 | Thurley's five strategies for change | 124 |
| 15.2 | Fisher's transition stages | 126 |
| 15.3 | Examples of nudge theory | 126 |
| 15.4 | Fifteen heuristics of nudge theory | 127 |

Medicine

Cambridge University Press & Assessment

Edited by Sally E. Ramey, Sally E. Ramey, Sally E. Ramey

Frontmatter

[More Information](#)

Contributors

David Buck

Associate Professor Clinical Anesthesia and Pediatrics, Cincinnati Children's Hospital

Rebecca Claure

Medical Director, Perioperative Services, Lucile Packard Children's Hospital; Clinical Professor of Anesthesia, Stanford University School of Medicine

Aaron C. Dipzinski

Director of Ambulatory Services, Ambulatory Growth, PeaceHealth

Nathaniel Greene

Congenital Cardiac and Pediatric Anesthesiologist, Randall Children's Hospital; Staff Anesthesiologist, Legacy Emanuel Hospital; Shareholder Physician, Oregon Anesthesiology Group

Eliot Grigg

Associate Professor, University of Washington Department of Anesthesiology and Pain Medicine, Division of Pediatric Anesthesiology, Seattle Children's Hospital

Manon Haché

Associate Professor of Anesthesiology at Columbia University Irving Medical Center, Division of Pediatric Anesthesia

Cindy B. Katz

Manager, Surgical Quality Programs, Seattle Children's Hospital

Daniel K. W. Low

Associate Professor, University of Washington, Department of Anesthesiology and Pain Medicine, Division of Pediatric Anesthesiology, Seattle Children's Hospital

Lizabeth D. Martin

Associate Professor, University of Washington Department of Anesthesiology and Pain Medicine, Division of Pediatric Anesthesiology, Seattle Children's Hospital

Lynn D. Martin

Medical Director, Bellevue Surgery Center, Seattle Children's Hospital; Professor of Anesthesiology and Pain Medicine, Adjunct Professor of Pediatrics, University of Washington School of Medicine

Julianne Mendoza

Clinical Associate Professor, Director, Pediatric Anesthesia for Liver Transplantation; Co-Chair, Pediatric Anesthesiology Professional Practice Evaluation Committee, Department of Anesthesiology, Stanford University School of Medicine

Wendy E. Murchie

Pediatric Nurse Practitioner, Blood and Marrow Transplant, Fred Hutchinson Cancer Research Center

Sally E. Rampersad

Professor, University of Washington Department of Anesthesiology and Pain Medicine, Division of Pediatric Anesthesiology, Seattle Children's Hospital

Joan S. Roberts

Professor, Division of Pediatric Critical Care Medicine, University of Washington, Seattle Children's Hospital

Axel Roesler

Professor, Interaction Design, Division of Design, School of Art + Art History + Design, University of Washington

Douglas R. Thompson

Associate Professor, Washington
University in St. Louis School of Medicine

Imelda M. Tjia

Anesthesiologist, Texas Children's
Hospital; Associate Professor of
Anesthesiology, Baylor College of
Medicine

Kristina A. Toncray

Medical Director, Patient Safety, Seattle
Children's Hospital; Clinical Associate
Professor of Pediatrics, Associate Vice
Chair for Quality and Safety, Department
of Pediatrics, University of Washington
School of Medicine

Acknowledgments

We would like to thank Amy Pottharst for her meticulous work editing and proofreading, and our families for their unwavering support.

Medicine

Cambridge University Press & Assessment

Edited by Sally E. Ramey, Sally E. Ramey, Sally E. Ramey

Frontmatter

[More Information](#)