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RESPIRATORY CARE

FIFTH EDITION



BRIAN K. WALSH

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NEONATAL and PEDIATRIC RESPIRATORY CARE FIFTH EDITION

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*To the students and future or current neonatal and pediatric
respiratory care providers, may this book add knowledge to your wisdom.
To the contributors and reviewers who continue to make this book
better than the last edition, I could not have done it without you.
Finally, to my children, Keagan and Trey, who continue to impress me
and challenge me to be a better father.*

Preface

Since the first edition was published in 1995, *Perinatal and Pediatric Respiratory Care* has been a foundational neonatal and pediatric respiratory care textbook. We are proud to continue that tradition with the fifth edition.

The fundamental role of the pediatric respiratory therapist (RT) continues to be redefined daily. RTs specializing in the care of children are an integral part of an autonomous health care team. As our health care system changes, these individuals will need to be highly professional, have critical thinking skills, and be more involved in critical roles as experts in critical and acute care, extracorporeal membrane oxygenation (ECMO), air and ground transport, discharge coordination, home care, education, health-care quality, and research. All roles that encompass the respiratory therapy of children require an individual who remains current with the changing face of this wonderful and exciting profession. The proliferation of new surgical interventions, discoveries in applied translational and clinical research, devices and mechanical ventilator technologies, and strategies that are currently being implemented into practice require dynamic, self-driven clinicians, and lifelong learners who are dedicated to providing the highest quality care possible. Increases in premature and multiple births, as well as paradigm shifts in strategies focused at reducing hospital costs and healthcare spending, have led to the growth and development of many neonatal special care or intensive care units across the world. RTs working outside of free-standing children's and university hospitals, many of whom have typically cared for adults, are now often called to support newborns at high-risk deliveries or to manage pediatric patients in respiratory distress. With advance practice roles becoming the norm, practitioners are faced with more challenging decisions that require collaboration, teamwork, and sharp critical thinking skills. These attributes, coupled with a better understanding of evidence-based practice and technologically advanced equipment, will positively affect patient outcomes and raise future ethical debates.

We believe that *Neonatal and Pediatric Respiratory Care*, fifth edition, will provide you with the tools and knowledge to improve the respiratory therapy of neonates, infants, and children regardless of your education, experience, or the environment in which you work.

AUDIENCE

Although principally designed as a textbook for the respiratory therapy student and practitioners new to the field, this book is also intended to be detailed enough to serve as a current desktop reference for the experienced practitioner engaged in mastering the practice of respiratory care in infants and children, regardless of professional discipline. This textbook may also serve as a study guide for the National Board for Respiratory Care's (NBRC) specialty examination concerning the respiratory care of neonatal and pediatric patients. For convenience, the Evolve Resources for this edition include a correlation guide for the NBRC's Neonatal/Pediatric Respiratory Care Specialty Examination.

NEW TO THIS EDITION

The publisher and editors of this textbook have taken a more focused approach to satisfying some of the essential features that are needed to help guide educators and students at the collegiate level. This fifth edition introduces the following:

- Revisions to all the chapters reflect the latest updates in scientific literature.
- Measurable learning objectives, key terms, and key points are included in each chapter. The objectives are designed to succinctly guide the student to key areas of importance and mastery of chapter content.
- Each chapter concludes with a series of multiple-choice assessment questions. Answers can be found on the Evolve website at <http://evolve.elsevier.com/Walsh/neonatal>.

LEARNING AIDS

EVOLVE RESOURCES—<http://evolve.elsevier.com/walsh/neonatal>

Evolve is an interactive learning environment designed to work in conjunction with this text. Instructors may use Evolve to provide an Internet-based course component that reinforces and expands the concepts presented in class. Evolve may be used to publish the class syllabus, outlines, and lecture notes; set up virtual office hours and e-mail communication; share important dates and information through the online class calendar; and encourage student participation through chat rooms and discussion boards.

Evolve allows instructors to post exams and manage their grade books online.

For the Instructor

For the instructor, Evolve offers valuable resources to help them prepare their courses, including the following:

- PowerPoint lecture for each chapter
- A test bank of approximately 800 questions in ExamView
- An image collection of the figures from the book available in PowerPoint presentations for each chapter
- National Board for Respiratory Care (NBRC) Neonatal/Pediatric Respiratory Care Specialty (NPS) examination correlation guide

For Students

For students, Evolve offers valuable resources to help them succeed in their courses, including the following:

- Answers to Assessment Questions and Case Studies
- Case Studies
- NBRC Neonatal/Pediatric Respiratory Care Specialty (NPS) examination correlation guide

For more information, visit <http://evolve.elsevier.com/Walsh/neonatal> or contact an Elsevier sales representative.

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Last, but by no means least, I especially thank my family and friends whom I largely ignored during the development of this edition.

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