

# Preface

The principal role of the respiratory system is to permit efficient exchange of respiratory gases ( $O_2$  and  $CO_2$ ) with the environment. The respiratory system is unique in that it is constantly exposed to a barrage of foreign substances from both the internal environment (at any one point in time, approximately one-half of the cardiac output is received by the lungs) and the external environment (with each breath, the respiratory tract is exposed to pollens, viruses, bacteria, smoke, etc). According to the Centers for Disease Control and Prevention, diseases of the respiratory system were the seventh and eighth leading causes of deaths in children aged 1 to 19 years in 2003 [1]. Dr. George A. Gregory, one of the founding fathers of pediatric critical care medicine, once estimated that acute respiratory failure accounts for nearly 50% of all admissions to the pediatric intensive care unit (PICU) [2]. Just as important are the many diseases that affect the respiratory system that are not associated with acute respiratory failure, but nevertheless constitute a major portion of the practice of pediatric critical care medicine, some of which account for significant morbidity and mortality [3]. Once again, we would like to dedicate this textbook to our families and to the physicians and nurses who provide steadfast care every day in pediatric intensive care units across the globe.

Derek S. Wheeler  
Hector R. Wong  
Thomas P. Shanley

## References

1. Martin JA, Kochanek KD, Strobino DM, Guyer B, MacDorman MF. Annual summary of vital statistics—2003. *Pediatrics* 2005;115:619–34.
2. Gregory GA. *Respiratory Failure in the Child*. New York: Churchill Livingstone, 1981.
3. Vidyasagar D. *Clinical Diagnosis of Respiratory Failure in Infants and Children*. New York: Churchill Livingstone, 1981.

The Respiratory Tract in Pediatric Critical Illness and Injury

Wheeler, D.S.; Wong, H.R.; Shanley, Th.P. (Eds.)

2009, XIV, 254 p. 112 illus., 5 illus. in color., Softcover

ISBN: 978-1-84800-924-0