

Χαρακτηριστικά:

- Provides a unique, one-stop guide to **all aspects of respiratory physiology** in health, disease, and in the many physiologically challenging situations and environments into which humans take themselves
- Explains complex concepts clearly and offers **easy-to-understand explanations of basic science**, assisted by the extensive use of diagrams
- Features a **new chapter** covering all aspects of lung immunology, including non-immune pulmonary defences against inhaled pathogens, and both innate and adaptive immunity
- Contains **new topics throughout**: including genetic treatments for sickle cell disease, physiological effects of e-cigarettes, recent breakthroughs in the drug treatment of cystic fibrosis, pathophysiology of SARS-CoV-2 infection, principles and delivery of high flow nasal therapy, clinical effects of hyperoxia in acute medical conditions, updates on peri-operative respiratory management, and more
- Includes **content that is difficult to find in general physiology texts**, such as respiratory function in pregnancy, neonates, and children; the impact of the obesity epidemic on respiratory physiology; the evolving understanding of the harms caused by hyperoxia; basic science and the clinical problems of respiratory critical care; peri-operative lung management and pulmonary complications; and ventilation and pulmonary care advances accelerated by the SARS-CoV-2 pandemic
- Covers **additional related topics** such as solutions to the challenges of respiratory gas exchange across the animal kingdom, space and diving physiology, and more
- Provides **robust online features**, including two bonus chapters; presentations by Dr. Lumb on key topics from the book, and more than 100 self-assessment questions linked to each chapter with answers and explanations
- **An eBook version is included with purchase.** The eBook allows you to access all of the text, figures, and references, with the ability to search, make notes and highlights, and have content read aloud

Περιεχόμενα:

Part I: Basic Principles

1. Functional Anatomy of the Respiratory Tract
2. Elastic Forces and Lung Volumes
3. Respiratory System Resistance
4. Control of Breathing
5. Pulmonary Ventilation
6. The Pulmonary Circulation
7. Distribution of Pulmonary Ventilation and Perfusion
8. Diffusion of Respiratory Gases
9. Carbon Dioxide

- 10. Oxygen
- 11. Lung Immunology

Part II: Applied Physiology

- 12. Pregnancy, Neonates, and Children
- 13. Exercise
- 14. Sleep
- 15. Obesity
- 16. High Altitude and Flying
- 17. High Pressure and Diving
- 18. Respiration in Closed Environments and Space
- 19. Drowning
- 20. Smoking and Air Pollution
- 21. Anaesthesia
- 22. Changes in the Carbon Dioxide Partial Pressure
- 23. Hypoxia
- 24. Anaemia
- 25. Oxygen Toxicity and Hyperoxia
- 26. Comparative Respiratory Physiology

Part III: Physiology of Pulmonary Disease

- 27. Ventilatory Failure
- 28. Airways Disease
- 29. Pulmonary Vascular Disease
- 30. Diseases of the Lung Parenchyma and Pleura
- 31. Acute Lung Injury
- 32. Respiratory Support and Artificial Ventilation
- 33. Pulmonary Surgery
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- 35. The History of Respiratory Physiology

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