



ERS | handbook

Paediatric
Respiratory
Medicine

Editors

Ernst Eber

Fabio Midulla





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Paediatric Respiratory Medicine

1st Edition

Editors

Ernst Eber

and Fabio Midulla



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Preface

“Tell me and I forget.
Teach me and I remember.
Involve me and I learn.”
Benjamin Franklin

The dissemination of knowledge, and medical and public education constitute a fundamental objective of the ERS mission; and the ERS School aims to provide excellence in respiratory medicine education. In 2005, the ERS School started the very ambitious HERMES (Harmonised Education in Respiratory Medicine for European Specialists) project. Since then, seven HERMES Task Forces have formed to standardise training and education within different specialties of respiratory medicine. To support the implementation of various educational activities, the ERS has produced a series of *Handbooks* as educational tools, with the *ERS Handbook of Respiratory Medicine* being the first textbook to be launched in 2010.

Starting in 2007, the Paediatric Respiratory Medicine Task Force, using a formal consensus process and working with numerous experts throughout Europe, developed a HERMES syllabus (description of the competencies required) and a HERMES curriculum (description of how competencies should be taught, learned and assessed), as well as a voluntary European examination in paediatric respiratory medicine. With the paediatric HERMES project now well underway, it is an opportune time to publish an *ERS Handbook of Paediatric Respiratory Medicine* to provide a comprehensive update for specialists within this field of respiratory medicine. The content of this *Handbook* follows the HERMES syllabus and curriculum to provide a compact, state-of-the-art textbook, with each of the sections prepared by senior specialists and clinical experts in the field.

We hope that this *Handbook* will not only inform our trainees but also provide an easily accessible and comprehensive update for colleagues at all levels of seniority across paediatric respiratory medicine. Thus, this educational tool is intended to make a significant contribution to increasing the standards of training in paediatric respiratory medicine throughout Europe and, ultimately, to improving the care of children with respiratory disease.

We are indebted to the ERS School Committee and to the ERS staff who so thoroughly and thoughtfully curated this *Handbook*, and last, but not least, to all the contributors who have shared their knowledge and experience with the readers.

Ernst Eber and Fabio Midulla
Chief Editors

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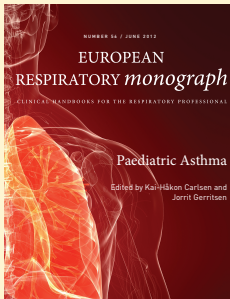
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European Respiratory Monograph 56: Paediatric Asthma covers all aspects of paediatric asthma from birth through to the start of adulthood. It considers diagnostic problems in relation to the many phenotypes of asthma, covers the treatment of both mild-to-moderate and severe asthma, and discusses asthma exacerbations as well as exercise-induced asthma. The issue provides an update on the pathophysiology of asthma, the role of bacterial and viral infections, and the impact of environmental factors, allergy, genetics and epigenetics.



European Respiratory Monograph 47: Paediatric Lung Function offers a comprehensive review of the lung function techniques that are currently available in paediatric pulmonology. This field is developing rapidly and equipment and software can tell us more than ever about respiratory physiology in health and disease in children with various lung disorders. The issue provides a state-of-the-art review of the techniques, with a special focus on the clinical applications and usefulness in diagnosing and treating children with chronic lung disease.

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List of abbreviations

(C)HF	(Congestive) heart failure
AHI	Apnoea–hypopnoea index
AIDS	Acquired immunodeficiency syndrome
BMI	Body mass index
CF	Cystic fibrosis
COPD	Chronic obstructive pulmonary disease
CPAP	Continuous positive airway pressure
CT	Computed tomography
ECG	Electrocardiogram
ENT	Ear, nose and throat
FEV₁	Forced expiratory volume in 1 s
FVC	Forced vital capacity
Hb	Haemoglobin
HIV	Human immunodeficiency virus
HRCT	High-resolution computed tomography
KCO	Transfer coefficient of the lung for carbon monoxide
MRI	Magnetic resonance imaging
NIV	Noninvasive ventilation
OSA(S)	Obstructive sleep apnoea (syndrome)
PaCO₂	Arterial carbon dioxide tension
PaO₂	Arterial oxygen tension
PCR	Polymerase chain reaction
PtCO₂	Transcutaneous carbon dioxide tension
SaO₂	Arterial oxygen saturation
SpO₂	Arterial oxygen saturation measured by pulse oximetry
TB	Tuberculosis
TLC	Total lung capacity
TLCO	Transfer factor for the lung for carbon monoxide
V_E	Minute ventilation