



ERS | *practical*

Handbook

Noninvasive
Ventilation

Editor

Anita K. Simonds



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**PUBLISHED BY
THE EUROPEAN RESPIRATORY SOCIETY**

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Cover image: Juanmonino, iStockphoto

Design by Claire Turner, Lee Dodd, ERS
Typeset by Techset Composition Ltd
Printed by Latimer Trend
Indexed by Merrall-Ross International Limited

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ISBN 978-1-84984-075-0

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Preface

Bearing in mind the growing applications for noninvasive ventilation (NIV) and the success of the ERS NIV courses, we felt the time had come for an ERS Practical Handbook of Noninvasive Ventilation. Gaining knowledge in NIV is not difficult as there are many resources available - what makes the difference in clinical practice is expertise in applying the technique and acquiring skills in problem-solving. It is these practical issues this book attempts to address, together with providing an up-to-date guide to which patients to select for therapy, and the evidence on which this is based.

NIV is a rapidly changing field. In recent months we have had trial results on the use of adaptive servo ventilation, suggesting that this does not improve outcome in heart failure patients with central sleep apnoea; and indications for home NIV in chronic COPD have been informed by recent trial results.

One of the greatest values of ERS NIV courses is the chance to discuss challenges in patient care. Some of these are perennial - persuading a confused, hypercapnic patient or small child to cope with a mask, avoiding interface leaks, and balancing ventilatory needs with patient tolerance. In this book we have invited those in the front line of NIV to share their views and experiences. This means there will be a variety of approaches suggested in some cases, whereas in others there may be a greater degree of consensus, or even complete agreement. We very much hope this will help the reader not only to make the right decision for their patients but also to gain confidence from the very practical advice offered.

I am extremely grateful to all the contributors and reviewers, and to the ERS Publications Office team for their great support and enthusiasm.

Anita K. Simonds
Chief Editor

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You'll also be able to take the online CME test. This Practical Handbook has been accredited by the European Board for Accreditation in Pneumology (EBAP) for 12 CME credits.

Also available from the ERS

ERS Handbook: Self-Assessment in Respiratory Medicine

Edited by Konrad E. Bloch, Anita K. Simonds and Thomas Brack

The new and updated second edition of *Self-Assessment in Respiratory Medicine* is an invaluable tool for any practitioner of adult respiratory medicine. The 261 multiple-choice questions cover the full breadth of the specialty, using clinical vignettes that test not only readers' knowledge but their ability to apply it in daily practice.

List of abbreviations

AHI	Apnoea-hypopnoea index
AIDS	Acquired immunodeficiency syndrome
ALS	Amyotrophic lateral sclerosis
ARDS	Acute respiratory distress syndrome
ARF	Acute respiratory failure
ASB	Assisted spontaneous breathing
ASV	Adaptive servo ventilation
ASSPCV	Assisted pressure-controlled ventilation
AVAPS	Average volume-assured pressure support
BMI	Body mass index
CF	Cystic fibrosis
COPD	Chronic obstructive pulmonary disease
CPAP	Continuous positive airway pressure
ECG	Electrocardiogram
EPAP	Expiratory positive airway pressure
FEV₁	Forced expiratory volume in 1 s
F_{IO₂}	Inspiratory oxygen fraction
FVC	Forced vital capacity
HIV	Human immunodeficiency virus
ICU	Intensive care unit
IPAP	Inspiratory positive airway pressure
IPPV	Intermittent positive pressure ventilation
IVAPS	Intelligent volume-assured pressure support
NIV	Noninvasive ventilation
NPV	Negative pressure ventilation
OHS	Obesity hypoventilation syndrome
OSA(S)	Obstructive sleep apnoea (syndrome)
P_aCO₂	Arterial carbon dioxide tension
P_aO₂	Arterial oxygen tension
PAV	Proportional assist ventilation
PCV	Pressure-controlled ventilation
PEEP	Positive end-expiratory pressure
PSV	Pressure support ventilation
P_tcCO₂	Transcutaneous carbon dioxide tension
SaO₂	Arterial oxygen saturation
RCT	Randomised controlled trial
SpO₂	Arterial oxygen saturation measured by pulse oximetry
TB	Tuberculosis
TLC	Total lung capacity
V_CV	Volume-controlled ventilation
V_T	Tidal volume