

Ralf Kuhlen | Rui Moreno
Marco Ranieri | Andrew Rhodes
(Eds.)

25 Years of Progress and Innovation in Intensive Care Medicine

with contributions from:

S Adam | K Alagappan | PJD Andrews | DC Angus | D Annane | M Antonelli | E Azoulay
D De Backer | N Bele | A Ben Ali | J Besso | J Bion | A Bouglé | A Bullock | M De Cal | PC Campos
M Capuzzo | J Carlet | A Chalfine | G Conti | R Costa | D Cruz | JR Curtis | Y Donchin | Y Einav
EW Ely | LL Emler | A Esteban | T Fassier | ND Ferguson | H Flaatten | F Frutos-Vivar | DF Gaieski
M Garrouste-Orgeas | H Gerlach | DR Goldhill | CD Gomersall | M Goyal | RM Grounds
KJ Gunnerson | ML Gunther | CP Heidegger | K Hillman | CJ Holliman | CV Holthaus | DT Huang
JC Jackson | AL Jardim | M Joannidis | M Katz | E Knobel | F Lemaire | M Leone | T Lisboa | L Longhi
SM Maggiore | JC Marshall | C Martin | L Mascia | RG de Matos | A Mebazaa | PGH Metnitz
B Misset | I Morag | RP Moreno | F Nalesso | B Nguyen | TM Osborn | R Otero | A Perel | AE Pesaro
F Philippart | MR Pinsky | R Pirracchio | J Poelaert | KH Polderman | H Prigent | C Putensen
VM Ranieri | H Reay | J Rello | M Reng | A Rhodes | EP Rivers | J-A Romand | C Ronco | C Roosens
F Santoli | B Schlemmer | K Sethuraman | R Sherwin | E Silva | RTC da Silva | N Stocchetti
PM Suter | A Tabah | J Takala | M Tavares | CVM Teles | G Thiery | S Trzeciak | J Valles | RM Venn
A Verbine | H Vesely | J-L Vincent | J Wernerman | V Willems | M Zanierato and JL Zimmerman

Preface by R Kuhlen



Medizinisch Wissenschaftliche Verlagsgesellschaft

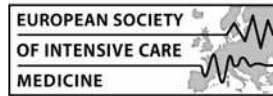
Editors

Ralf Kuhlen, MD, PhD, Prof.
Klinik für Intensivmedizin
Helios Klinikum Berlin Buch
Hobrechtsfelder Chaussee 100
13125 Berlin, Germany

Rui P. Moreno, MD, PhD
Unidade de Cuidados Intensivos Polivalente
Hospital de Santo António dos Capuchos
Centro Hospitalar de Lisboa Central E.P.E.
1150-069 Lisbon, Portugal

V. Marco Ranieri, MD, Prof.
Università di Torino
Dipartimento di Anestesia
Azienda Ospedaliera S. Giovanni Battista-Molinette
Corso Dogliotti 14
10126 Torino, Italy

Andrew Rhodes, FRCA, FRCP
St George's Hospital
Department of Intensive Care Medicine
Blackshaw Road
London SW17 0QT, UK



European Society of Intensive Care Medicine
40 Avenue Joseph Wybran
1070 Bruxelles, Belgium
Tel: 32 2 559 03 50 – Fax: 32 2 527 00 62
e-mail: public@esicm.org
www.esicm.org

MWV Medizinisch Wissenschaftliche Verlagsgesellschaft OHG
Zimmerstraße 11
D – 10969 Berlin
www.mwv-berlin.de

ISBN 978-3-939069-47-8

These publications are listed in: Deutsche Nationalbibliothek
Detailed bibliographical information is available via internet <http://dnb.d-nb.de>.

© MWV Medizinisch Wissenschaftliche Verlagsgesellschaft Berlin, 2007

All rights are reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of MWV Medizinisch Wissenschaftliche Verlagsgesellschaft Berlin.

Medicine is an ever-changing science. As new research and clinical experience broaden our knowledge, changes in treatment and drug therapy are required. The editors and the publisher of this work have checked with sources believed to be reliable in their efforts to provide information that is complete and generally in accordance with the standards accepted at the time of publication. However, in view of the possibility of human error or changes in medical sciences, neither the editors nor the publisher nor any other party who has been involved in the preparation or publication of this work warrants, that the information contained herein is in every respect accurate or complete, and they disclaim all responsibility for any errors or omissions or for the results obtained from use of the information contained in this work. Readers are encouraged to confirm the information contained herein with other sources. For example and in particular, readers are advised to check the product information sheet included in the package of each drug they plan to administer to be certain that the information contained in this work is accurate and that changes have not been made in the recommended dose or in the contraindications for administration. This recommendation is of particular importance in connection with new or infrequently used drugs.

Any necessary errata are published at the publisher's website www.mwv-berlin.de.

Product management/Copy editing: Carola Schwartz, Berlin
Project management: Claudia Leonhardt, Berlin
Copy editing: Monika Laut, Berlin | M. May-Lee Sia, Berlin | Charles Stewart, Berlin
Layout and typesetting: Elena Frecot | Silvio Patzner, eScriptum – Publishing Services, Berlin
Printing: druckhaus köthen GmbH, Köthen

Reply and complaints to:
MWV Medizinisch Wissenschaftliche Verlagsgesellschaft OHG, Zimmerstraße 11, D – 10969 Berlin, lektorat@mwv-berlin.de

Preface

Over 25 years ago, a group of intensive care physicians felt that a European Society of Intensive Care Medicine (ESICM) would be helpful as a framework to facilitate research, training and teaching throughout the different countries of Europe and also from further afield. Accordingly, they founded our Society on 13 May 1982 in the headquarters of the World Health Organization in Geneva, Switzerland.

Based on their enormous enthusiasm for intensive care medicine, a strong commitment to generate and share new data about the mechanisms underlying critical illness and their effects on patients, their wonderful personalities as teachers and leaders and their unambiguously clear and open-minded neutrality in all political discussions between the different competing specialities in intensive care medicine the story became a tremendous success. Most of the visions of this group came true in the subsequent development of the ESICM during the next 25 years and today we are proud to be members of such an active and lively scientific society. The Journal *Intensive Care Medicine* became the official publication organ of ESICM and one of the leading journals in the field, the European Diploma of Intensive Care Medicine enabled mutual recognition across different countries and is even used for accreditation on a national basis in some European countries, and training and research are being facilitated by the Society in many successful ways. Today we have a large society of active members from all the continents in the world and are looking forward to our 20th Annual Congress to be held in Berlin, Germany in October 2007. Thousands of intensive care providers, many of whom are our members, will meet under the motto “25 years of progress and innovation”.

On the occasion of these anniversaries it is an honour and a genuine pleasure for us to present this book under the same title: 25 Years of Progress and Innovation in Intensive Care Medicine.

The idea for this publication was born less than a year ago at one of the meetings of the ESICM Executive Committee in Brussels. The aim of the exercise was to collect “state of the art reviews” of the most important aspects of intensive care medicine

highlighting the past achievements, the present status and the future challenges, respectively. It soon became abundantly clear that a year of preparation would be a very ambitious framework for all the necessary work to be done. So many important steps have been gone in medicine in general and especially intensive care during the past 25 years and many innovations have drastically changed our Units that virtually all aspects of intensive care medicine needed to be addressed under the motto of our book. On the other hand it was clear that we wanted to provide the book to all our members and attendees on site at the Berlin annual conference early in October 2007. Because of this, the latest date for the book to be physically finished was mid-September, when all conference bags are packed for distribution to the attendees on site. The first step was finding a publisher who was willing to stay within such a strict timeframe without lowering our standards concerning quality and professionalism. Our friend Thomas Hopfe from Medizinisch Wissenschaftliche Verlagsgesellschaft (MWV, Berlin, Germany) was immediately in favour of the project partly because he himself was an engaged intensive care physician prior to becoming a publisher. He and his wonderful team, namely Carola Schwartz, Claudia Leonhardt, and Nina Heinlein, have given all the support an editor or author could expect from a publishing house. We are most grateful for their assistance and their patience when one or two gentle reminders were necessary to stay within our tight schedules. We must also mention the members of the ESICM office who assisted in every means possible.

Of course, the most important part of any book is the content, and for that we would like to make a special mention of thanks to our authors, without whom the project would have certainly foundered. They are all well-known and internationally recognised experts in their respective fields and we are most grateful for their time and effort providing us with such excellent chapters about their fields of research. This tremendous body of knowledge we have had the privilege to collect here represents the state of the art: based on our history, absolutely up-front current science of to-

day and thought-provoking stimulus for future directions in intensive care. After the first invitation to contribute to this book, practically all authors answered immediately and, even more importantly, kept within their deadlines ensuring that it was a real pleasure to serve as editors to this book.

We have tried to cover almost all relevant aspects of current intensive care medicine and have chosen to present them in seven thematic sections on General problems in intensive care, Acute respiratory failure and mechanical ventilation, Sepsis and infection, Cardiac problems, Circulation,

Neurointensive care and Health services research and outcomes. We hope that this book serves you, the reader, as an interesting source of information which will accompany you for many years (certainly longer than the average PDF on our notebooks, PDAs or cell phones).

Ralf Kuhlen (Chair of the Editorial and Publishing Committee)

Rui P. Moreno (President Elect of the ESICM)

V. Marco Ranieri (President of the ESICM)

Andy Rhodes (Chair of the Division of Scientific Affairs)