

CONTENTS

AUGUST 2011 / VOLUME 56 / NUMBER 8

FOR INFORMATION, CONTACT:

AARC Membership or Other AARC Services

American Association for
Respiratory Care
9425 N MacArthur Blvd, Suite 100
Irving, TX 75063-4706
(972) 243-2272 • Fax (972) 484-2720
<http://www.aarc.org>

Therapist Registration or Technician Certification

National Board for Respiratory
Care, Inc.
18000 W. 105th Street
Olathe, KS 66061-7543
(888) 341-4811 or
(913) 895-4900 • Fax (913) 895-4650
<http://www.nbrc.org>

Accreditation of Education Programs

Committee on Accreditation for
Respiratory Care
1248 Harwood Rd
Bedford TX 76021-4244
(817) 283-2835 • Fax (817) 354-8519
<http://www.coarc.com>

Grants, Scholarships, Community Projects

American Respiratory
Care Foundation
9425 N MacArthur Blvd, Suite 100
Irving, TX 75063-4706
(972) 243-2272 • Fax (972) 484-2720

RESPIRATORY CARE

RESPIRATORY CARE (ISSN 0020-1324, USPS 0489-190) is published monthly by Daedalus Enterprises Inc, at 9425 N MacArthur Blvd., Suite 100, Irving, TX 75063-4706, for the American Association for Respiratory Care. One volume is published per year beginning each January. Individual subscription rates are \$89 per year in the US; \$109 in all other countries (for airmail, add \$94).

The contents of the Journal are indexed in *Index Medicus*/MEDLINE, Science Citation Index Expanded, Journal Citation Reports/Science Edition, Current Contents®/Clinical Medicine, Hospital and Health Administration Index, Cumulative Index to Nursing and Allied Health Literature, EMBASE/Excerpta Medica, and RNdex Library Edition. Abridged versions of RESPIRATORY CARE are also published in Italian and Japanese, with permission from Daedalus Enterprises Inc.

Periodicals postage paid at Dallas TX and at additional mailing offices. POSTMASTER: Send address changes to RESPIRATORY CARE, Membership Office, Daedalus Enterprises Inc, 9425 N MacArthur Blvd, Irving, TX 75063-4706

© Printed on acid-free paper.
Printed in the United States of America
Copyright © 2011 by Daedalus Enterprises Inc.

EDITOR'S COMMENTARY

Commentary on the August 2011 Issue **1073**

ORIGINAL RESEARCH

Diagnostic Accuracy of Clinical Pulmonary Infection Score for Ventilator-Associated Pneumonia: A Meta-analysis
by Jun Shan, Hong-Lin Chen, and Jian-Hua Zhu—Nantong City, Jiangsu Province, People's Republic of China **1087**

Comparison of a Novel Lycra Endotracheal Tube Cuff to Standard Polyvinyl Chloride Cuff and Polyurethane Cuff for Fluid Leak Prevention
*by Theodor Kolobow—Bethesda, Maryland
Massimo Cressoni—Milan, Italy
Myra Epp, Ivan Corti—Bethesda, Maryland
Paolo Cadringer—Milan, Italy
and Alberto Zanella—Monza, Italy* **1095**

Increased Number and Expertise of Italian Respiratory High-Dependency Care Units: The Second National Survey
*by Raffaele Scala—Lucca, Italy
Antonio Corrado—Firenze, Italy
Marco Confalonieri—Trieste, Italy
Santino Marchese—Palermo, Italy
and Nicolino Ambrosino—Volterra, Italy
on behalf of the Scientific Group on Respiratory Intensive Care of the Italian Association of Hospital Pneumologists* **1100**

Performance of the CoughAssist Insufflation-Exsufflation Device in the Presence of an Endotracheal Tube or Tracheostomy Tube: A Bench Study
by Claude Guérin, Gaël Bourdin, Véronique Leray, Bertrand Delannoy, Frédérique Bayle, Michèle Germain, and Jean-Christophe Richard—Lyon, France **1108**

Multi-Wavelength Pulse Oximeter Is Not Suitable for Adjusting DLCO Measurements
by Gregg L Ruppel, Holly A Wilson, Vanessa K Gall, and John A Hempkens—St Louis, Missouri **1115**

Orienting New Respiratory Therapists Into the Neonatal/Pediatric Environment: A Survey of Educators and Managers
*by Brian K Walsh—Dallas, Texas
Michael A Gentile—Durham, North Carolina
and Barry M Grenier—Boston, Massachusetts* **1122**

CO₂ Response and Duration of Weaning From Mechanical Ventilation
by Joan Maria Raurich, Gemma Rialp, Jordi Ibáñez, Joan Antoni Llompert-Pou, and Ignacio Ayestarán—Palma de Mallorca, Illes Balears, Spain **1130**

Desaturation During the 3-Minute Step Test Predicts Impaired 12-Month Outcomes in Adult Patients With Cystic Fibrosis
by Anne E Holland, Tshepo Rasekaba, John W Wilson, and Brenda M Button—Melbourne, Australia **1137**

Factors That Delay COPD Detection in the General Elderly Population
*by Jun Horie, Shin Murata, Shinichiro Hayashi—Saga, Japan
Jun Murata—Nagasaki, Japan
Junya Miyazaki—Saitama, Japan
Katsuhiko Mizota, and Etsuo Horikawa—Saga, Japan* **1143**

The Effects of Flow on Airway Pressure During Nasal High-Flow Oxygen Therapy
by Rachael L Parke, Michelle L Eccleston, and Shay P McGuinness—Auckland, New Zealand **1151**

CONTENTS

CONTINUED...

ALSO IN THIS ISSUE

1220	Professional Opportunities
1223	Calendar
1224	Author Index
1224	Advertisers Index & Help Lines



Become a fan!
[www.facebook.com/
RespiratoryCare](http://www.facebook.com/RespiratoryCare)



Follow us!
[www.twitter.com/
RespCare](http://www.twitter.com/RespCare)

RESPIRATORY CARE

A Monthly Science Journal
Established in 1956

The Official Journal of the
American Association for
Respiratory Care



Long-Term Simvastatin Attenuates Lung Injury and Oxidative Stress in Murine Acute Lung Injury Models Induced by Oleic Acid and Endotoxin
by Neriman Defne Altintas, Pergin Atilla, Alper Bektas Iskit and Arzu Topeli—Ankara, Turkey **1156**

CPAP Decreases Lung Hyperinflation in Patients With Stable COPD
by Agnaldo J Lopes, Flávio POS Nery, Felipe C Sousa, Fernando S Guimarães, Cristina M Dias, Juliana F Oliveira, and Sara LS Menezes—Rio de Janeiro, Brazil **1164**

37TH DONALD F EGAN SCIENTIFIC MEMORIAL LECTURE

The Mechanical Ventilator: Past, Present, and Future
by Robert M Kacmarek—Boston, Massachusetts **1170**

26TH PHILIP KITTREDGE MEMORIAL LECTURE

COPD Heterogeneity: What This Will Mean in Practice
by Stephen I Rennard—Omaha, Nebraska **1181**

CASE REPORTS

Can Reactive Airways Dysfunction Syndrome (RADS) Be Iatrogenic?
by David J Hewitt—North Little Rock, Arkansas **1188**

Aspiration Via Congenital Broncho-esophageal Fistula After Lobectomy
by Xue-Fei Hu, Chang Chen, Liang Duan, Yi Zhang, and Wen Gao—Shanghai, China **1195**

Extracorporeal Membrane Oxygenation, Extubation, and Lung-Recruitment Maneuvers as Rescue Therapy in a Patient With Tracheal Dehiscence Following Slide Tracheoplasty
by Jenni Raake, BethAnn Johnson, Brandy Seger, Peter B Manning, Pirooz Eghtesady, Paul Boesch, Michael Rutter, Amanda Woodard, and Ranjit S Chima—Cincinnati, Ohio **1198**

TEACHING CASES OF THE MONTH

Recurrent Pneumonia in a 51-Year-Old Woman Due to Congenital Bronchoesophageal Fistula
*by Manju Paul, Savio John—Syracuse, New York
and Rendell W Ashton—Cleveland, Ohio* **1203**

Puzzling Bronchial Trifurcation
by Viboon Boonsarngsuk and Thitiporn Suwatanapongched—Bangkok, Thailand **1206**

EDITORIALS

Recognition of Nosocomial Pneumonia in the Intensive Care Unit: Still a Confusing Issue
by Marin H Kollef—St Louis, Missouri **1209**

Novel Endotracheal Tube Cuffs: Improving the Seal as a Barrier to Leakage
by Daniel F Fisher—Boston, Massachusetts **1213**

Respiratory High-Dependency Care Units in Italy
by Miquel Ferrer—Barcelona, Spain **1215**

The Use of Mechanical Insufflation-Exsufflation Via Artificial Airways
by Michel Toussaint—Brussels, Belgium **1217**