CONTENTS

September 2015 / VOLUME 60 / NUMBER 9

FOR INFORMATION, CONTACT:

AARC Membership and 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

Credentialing Organization for RRT, CRT

National Board for Respiratory Care 18000 W 105th St Olathe KS 66061 (913) 895-4900 • Fax (913) 895-4650 http://www.nbrc.org

Accreditation of Education Programs

Commission 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
http://www.arcfoundation.org



A Monthly Science Journal Established in 1956

The Official Journal of the American Association for Respiratory Care



Editor's Commentary	
Commentary on the September 2015 Issue	j
Editor's Choice	
In Vitro Comparison of Aerosol Delivery Using Different Face Masks and Flow Rates With a High-Flow Humidity System by Hui-Ling Lin—Taiwan, Republic of China Robert J Harwood, Lynda T Goodfellow, Arzu Ari—Atlanta, Georgia and James B Fink—San Mateo, California	1215
Original Research	
Comparison of Aerosol Delivery by Face Mask and Tracheostomy Collar by Alaa A Bugis—Riyadh, Saudi Arabia Meryl M Sheard, Robert J Harwood, Arzu Ari—Atlanta, Georgia and James B Fink—San Mateo, California	1220
Performance and Acceptability of Two Self-Inflating Bag-Mask Neonatal Resuscitator Designs by Patricia S Coffey, Eugene A Saxon, Indira Narayanan, and Robert M DiBlasi—Seattle, Washington	1227
Radioaerosol Pulmonary Deposition Using Mesh and Jet Nebulizers During Noninvasive Ventilation in Healthy Subjects by Valdecir C Galindo-Filho, Maria Eveline Ramos, Catarina SF Rattes, Antônio K Barbosa, Daniella C Brandão, Simone Cristina S Brandão, Armèle Dornelas de Andrade—Pernambuco, Brazil and James B Fink—San Mateo, California	1238
Computerized Dead-Space Volume Measurement of Face Masks Applied to Simulated Faces by Israel Amirav, Anthony S Luder, Chatib Marzuk, Marcelo Daitzchman—Safed, Israel Asaf Halamish—Karkur, Israel and Michael T Newhouse—Ontario, Canada	1247
Computerized Assessment of Wheezing in Children With Respiratory Syncytial Virus Bronchiolitis Before and After Hypertonic Saline Nebulization by Tina E Faber, Arvid WA Kamps, Machtelt H Sjoerdsma, Stephanie Vermeulen, Nic JGM Veeger—Leeuwarden, The Netherlands and Louis J Bont—Utrecht, The Netherlands	1252
Decline in Lung Volume With Duchenne Muscular Dystrophy Is Associated With Ventilation Inhomogeneity by Florian Stehling, Christian Dohna-Schwake, Uwe Mellies, and Jörg Große-Onnebrink—Essen, Germany	1257
Computerized Respiratory Sounds Are a Reliable Marker in Subjects With COPD by Cristina Jácome and Alda Marques—Aveiro, Portugal	1264
Internet Use for Health-Care Information by Subjects With COPD by Cionéia K Delgado, Mariana R Gazzotti, Ilka L Santoro, Andrea K Carvalho, José R Jardim, and Oliver A Nascimento—São Paulo, Brazil	1276
Effects of Arm Bracing on Expiratory Flow Limitation and Lung Volume in Elderly COPD Subjects	

1282

1288

by Tomoyuki Ogino, Tomohiro Wada—Hyogo, Japan Kyoshi Mase, Masafumi Nozoe—Kobe, Japan

Ferran Barbé—Catalonia, Madrid, Spain

Yuki Uchiyama, Yoshihiro Fukuda, and Kazuhisa Domen—Nishinomiya, Japan
Predictive Model of Hospital Admission for COPD Exacerbation
by Josep Montserrat-Capdevila, Pere Godoy, Josep Ramon Marsal, and

CONTENTS

CONTINUED...

Electromyographic Manifestations of Fatigue Correlate With Pulmonary Function, 6-Minute	
Walk Test, and Time to Exhaustion in COPD by Gennaro Boccia, Davide Dardanello, Alberto Rainoldi—Torino, Italy Nicoletta Rinaldo, Giuseppe Coratella, Federico Schena—Verona, Italy	1295
Cognitive Behavioral Therapy for Management of Dyspnea: A Pilot Study by Marie T Williams, Catherine Paquet—Adelaide, South Australia, Australia Peter Frith and Paul Cafarella—Daw Park, South Australia, Australia	1303
Pulmonary-Specific Intermountain Risk Score Predicts All-Cause Mortality via Spirometry, the Red Cell Distribution Width, and Other Laboratory Parameters by Benjamin D Horne, Matthew Hegewald, Joseph B Muhlestein, Heidi T May, Elizabeth J Huggins, Tami L Bair, and Jeffrey L Anderson—Salt Lake City, Utah	1314
Noninvasive Ventilation in Mustard Airway Diseases by Rasoul Aliannejad, Mohammadreza Peyman, and Mostafa Ghanei—Tehran, Iran	1324
Review	
Use of Accelerometry to Monitor Physical Activity in Critically Ill Subjects: A Systematic Review by Avelino C Verceles and Erin R Hager—Baltimore, Maryland	1330
Special Article	
Michelle Chatwin—London, United Kingdom Oliver Contal—Geneva, Switzerland Eric Derom—Ghent, Belgium Jean-Paul Janssens—Geneva, Switzerland Mike J Kampelmacher—Utrecht, The Netherlands Jean-Francois Muir—Rouen, France Susana Pinto—Lisbon, Portugal Claudio Rabec—Dijon, France Michelle Ramsay—London, United Kingdom Winfried J Randerath—Solingen, Germany Jan H Storre—Cologne, Germany Peter J Wijkstra—Groningen, The Netherlands Wolfram Windisch—Cologne, Germany and Dries Testelmans—Leuven, Belgium EDITORIALS	1337
Aerosol Delivery With Different Interfaces: Redirecting Our Focus by Kathleen M Deakins—Cleveland, Ohio	1363
Comparison of Aerosol Delivery by Face Mask and Tracheostomy Collar by Thomas C Blakeman—Cincinnati, Ohio	1365
Innovating Neonatal Resuscitation Bags for Ease of Use in Diverse Locations by John S Emberger Jr—Newark, Delaware	1367
Published Online (www.rcjournal.com)	
Case Reports	
Takotsubo Cardiomyopathy and Subsequent Seizures Induced by Flexible Bronchoscopy by Shion Miyoshi, Yuichiro Takeda, Shoki Ro, Haruna Masaki, Masayuki Hojo, and Haruhito Sugiyama—Tokyo, Japan	e 151







CONTENT

CONTINUED...

Successful Treatment of Severe Carbon Monoxide Poisoning and Refractory Shock Using	gr S
Extracorporeal Membrane Oxygenation by Krittika Teerapuncharoen, Nirmal S Sharma, Andrew B Barker, Keith M Wille, and Enrique Diaz-Guzman—Birmingham, Alabama	e 1 5 5
High-Flow Nasal Cannula and Aerosolized β Agonists for Rescue Therapy in Children V Bronchiolitis: A Case Series by Sherwin E Morgan, Steve Mosakowski, Patti Solano, Jesse B Hall, and Avery Tung—Chicago, Illinois	Vith e 1 6 1
Correspondence	

Bicarbonate Level for Early Diagnosis of Obesity Hypoventilation Syndrome: Still Defining Boundaries

by Malcolm Lemyze-Lens, France and Antonio M Esquinas—Murcia, Spain author reply by Zuleyha Bingol and Esen Kıyan—Istanbul, Turkey

e 166





