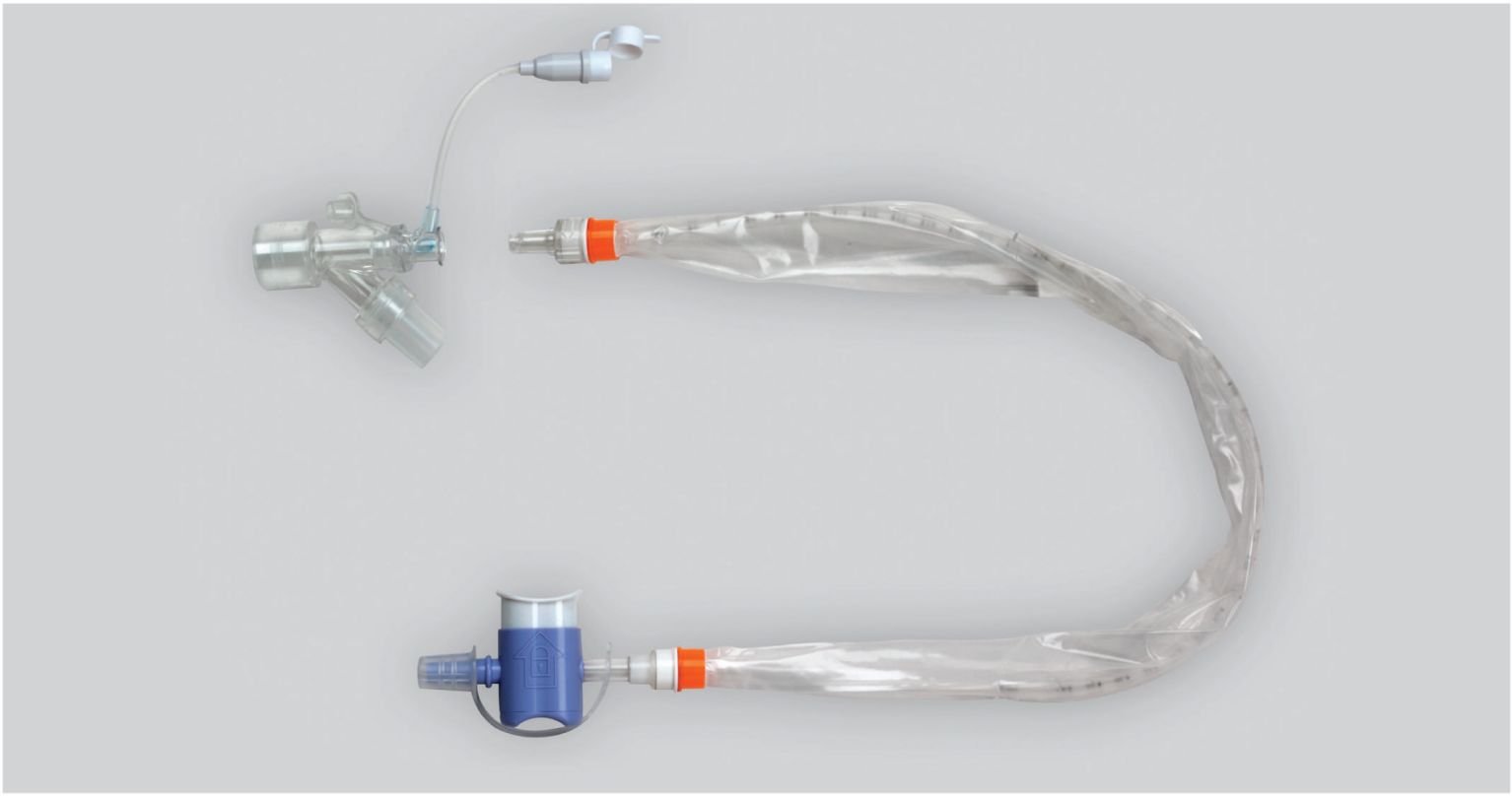
AARC Times
The Official Publication of the American Association for Respiratory Care
February 2010 Vol. 34, Issue 2 www.aarc.org $10.00

AARC Leadership Institute To Offer New Tools for Success

President Timothy Myers ANNOUNCES AARC GOALS FOR 2010

Tribute to "Dr. Tom," Tom Petty, MD, FAARC 1932-2009

AARC President Timothy Myers, BS, RRT-NPS, addressed the membership at the 2009 AARC Congress (full coverage and photos enclosed).



A single Verso™ adapter provides the versatility to perform:

- Open suction
- Closed suction
- Bronchoscopic procedures
- Mini-BAL
- Instilled drug delivery

...without ever breaking the circuit.

More than closed suction. Better patient care.

Now, you can get versatility and improve patient safety with one closed loop system. The Air*Life*™ Closed Suction System with its Verso™ Airway Access adapter helps maintain safe, continuous ventilation while you change suction catheters and perform various other airway access procedures. This innovative device is more than just a closed suction catheter. It's a multi-functional system that helps prevent unnecessary disconnection of the circuit, so you get the versatility you deserve with the safety your ventilated patients need.

carefusion.com

Air*Life*™ AVEA® LTV® Verso™

CareFusion

Circle 11 on product information card

Table of Contents

February 2010
Volume 34, Issue 2

Cover photo by Lennie Sirmopoulos, Convention Photography, Tustin, CA

AARC Strategic Plan

AARC Vision/Mission Statement: The American Association for Respiratory Care (AARC) will continue to be the leading national and international professional association for respiratory care. The AARC will encourage and promote professional excellence, advance the science and practice of respiratory care, and serve as an advocate for patients, their families, the public, the profession, and the respiratory therapist.

AARC Strategic Objectives

• Validate the science of respiratory care and the value of the respiratory therapist (RT) in providing respiratory care by supporting, conducting, and publishing research information.

• Promote respiratory therapists as the best providers of respiratory care by assuring that the science that clarifies the value and role of the RT is provided to those stakeholders whose decisions and actions need to be guided by that information.

• Promote respiratory therapists and the American Association for Respiratory Care by developing and implementing promotion and marketing campaigns targeted to unique audiences.

• Assure the Association has the resources to meet the needs of its members and that the AARC has the needed financial, volunteer, and staff resources needed to accomplish the implementation of the strategic plan of the Association.

The complete version of the Association's Strategic Plan is available to Association members online at www.aarc.org/members_area/resources/strategic.asp.

Editor
Marsha Cathcart

Managing Editor
Thomas Kallstrom, BS, RRT, AE-C, FAARC

Assistant Editor
Karen Singleterry

Contributors
Debbie Bunch
Sheila Henegar

Art Director
Donna Knauf

Consultant
Sherry Milligan

Graphic Designers
Jeanette Chawdhury
Lisa Dudley
Kelly Piotrowski

Director, Advertising Sales
Tim Goldsbury
Goldsbury@aarc.org

Advertising Account Manager
Anna Blydenstein
anna@aarc.org

Advertising Rates and Media Information
Contact: Goldsbury@aarc.org
Tim Goldsbury, 725 N. Highway A1A, Ste. C-106, Jupiter, FL 33477
Voice (561) 745-6793
Fax (561) 745-6795

Advertising Materials
Send production materials for AARC publications to Binkley@aarc.org or AARC 9425 N. MacArthur Blvd., Ste. 100 Irving TX 75063 c/o Beth Binkley
Voice (972) 243-2272
Fax (972) 484-2720

AARC Times and Respiratory Care — the only official publications of the AARC

Daedalus Enterprises, Inc.
9425 N. MacArthur Blvd., Ste. 100
Irving, TX 75063
(972) 243-2272
Fax (972) 484-2720

Director of Business Development
Dale L. Griffiths

Publisher
Sam P. Giordano

BPA INTERNATIONAL®

Printed in USA

Meet the AARC Staff

Debbie Bunch
Writer
AARC Times
debbunch@aol.com

Cheryl West
Director of Government Affairs
west@aarc.org

Dale Griffiths
Director of Business Development
griffiths@aarc.org

Kris Kuykendall
Administrative Assistant/ International Coordinator
kuykendall@aarc.org

- 9.5 lbs. of intensive care anywhere, any time
- Pediatric/Adult Invasive/NIV ventilator
- Automated weaning tool for ventilation liberation
- ActivCore™ internal compressor delivers 180LPM at 100 cmH2O
- Hot-swappable four hour battery for uninterrupted ventilation

At 9.5 pounds, it helps patients **breathe easier**. And caregivers too.

The compact EnVe™ ventilator from CareFusion creates a new standard for ICU ventilators. It delivers power and dependability—invasively and noninvasively—in a very small package. It's one more way CareFusion is combining data and technology to help improve patient care.

carefusion.com

CareFusion

Circle 7 on product information card

AARConnection . . .
maximizing your membership

NEWS AND INFORMATION
Stay Connected to the Profession
The AARC keeps you connected with the profession with: *AARC Times* magazine, RESPIRATORY CARE journal, AARC.org, Facebook, Twitter, Specialty Sections, E-Newsletters, and the Executive Office. Start at http://www.AARC.org

ASSOCIATION ACTIVITIES
AARC Goals for 2010
AARC President Timothy Myers, RRT-NPS, spoke at the AARC Annual Business Meeting at the December International Respiratory Congress, where he presented the AARC's top priorities in 2010. Watch the video at http://www.aarc.org/education/meetings/congress_09/gazette/monday.cfm#02

RESOURCES
A Guide to Aerosol Delivery Devices for Respiratory Therapists
This web-based continuing education course keeps you up-to-date and earns six hours of CRCE credit. Free for AARC members. Find it at http://www.aarc.org/education/aerosol_devices/index.asp

PERSONAL BENEFITS
Catastrophe Major Medical Insurance Plan
A $2,000,000 supplemental policy is available that is designed to pick up where a basic medical insurance plan leaves off. Learn more at http://www.aarc.org/member_services/benefits/marsh.asp

COMMUNITY RELATIONS
Peak Performance USA
Use this community outreach program to help your local schools implement an asthma management program. Sign up at http://www.PeakPerformanceUSA.INFO

Follow Us on Twitter and Facebook.

Visit www.AARC.org

Information Contacts:

AARC Membership or Other AARC Services:
American Association for Respiratory Care • 9425 N. MacArthur Blvd., Ste. 100, Irving, TX 75063 • (972) 243-2272 • Fax (972) 484-2720 • www.aarc.org

Respiratory Therapist Certification & Registration:
National Board for Respiratory Care • 18000 W. 105th St., Olathe, KS 66061-7543 • (913) 895-4900 • Fax (913) 895-4650 • 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 • www.coarc.com

Grants, Scholarships, Community Projects:
American Respiratory Care Foundation • 9425 N. MacArthur Blvd., Ste. 100, Irving, TX 75063 • (972) 243-2272 • Fax (972) 484-2720 • www.arcfoundation.org

AARC Times **(USPS 491-930)** (ISSN 0893-8520) is a monthly publication of Daedalus Enterprises, Inc., for the American Association for Respiratory Care.

Periodicals Postage: Paid at Irving, TX, and at additional mailing offices. POSTMASTER: Send form 3579 to *AARC Times*, Daedalus Enterprises, Inc., 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706.

Change of Address: Six weeks' notice is required. AARC members should include their membership number when submitting an address change. Nonmember subscribers should provide old mailing label and new address. Send changes to *AARC Times*, Daedalus Enterprises, Inc., 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706. Periodicals postage paid at Irving, TX.

Article and Feature Contribution: *AARC Times* welcomes the contribution of feature articles and information for the regular departments. All materials should be submitted via e-mail to Editor Marsha Cathcart at cathcart@aarc.org. Letters from readers will be considered for publication if they relate to specific articles appearing in *AARC Times* within the last three months. Editorials may be published if they are of interest to the AARC membership. The editor reserves the right to edit letters and articles without changing their meaning in order to suit legal and space requirements.

Subscriptions: Annual subscriptions are offered to members of associations according to their membership enrollment as follows: 100–500 members/$80; 501–5,000/$71; 5,001–20,000/$33.40; over 20,000/$11.50. Individual subscriptions are available at the following rates: $89.95 per year (12 issues) in the United States or Puerto Rico; $109 per year in all other countries. Airmail postage is an additional $94 per year. Single copies, current and back issues, if available, are $10. Write *AARC Times*, Daedalus Enterprises, Inc., 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706. Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by Daedalus Enterprises, Inc., for libraries and other uses registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of $1 is paid directly to CCC, 21 Congress St., Salem, MA 01970.

CALL FOR ABSTRACTS

Call for Abstracts for the

2010 Open Forum in Las Vegas.

All abstracts *must* be submitted online at RCJournal.com

Visit the Journal website today for all the information on the new, easy way to submit your ideas.

Visit RCJournal.com for more details!

FOCUS ON

Allergies & Asthma

Patient Education on Maximizing Utility of Aerosol Devices

by Ashley Dulle, BS, RRT, AE-C

The majority of chronic disease patients that respiratory therapists treat have a diagnosis of asthma or COPD. According to the Centers for Disease Control and Prevention, these two diseases account for 30 million adults in the United States. In addition to that number, 7 million children in America also suffer from asthma.[1] New guidelines for the diagnosis, management, and treatment of both diseases have given the health care community a type of "road map" to follow in the management of these patients.

A brief overview of the National Asthma Education and Prevention Program's guidelines for asthma, Global Initiative for Asthma's guidelines for asthma, and the Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines for COPD reveals that the two priorities for health care professionals in managing these diseases are patient education and aerosol therapy. Because of the importance of aerosol therapy, many guidelines and review articles have been published on the topic of aerosol delivery, including the AARC's recently published second edition of "A Guide to Aerosol Delivery Devices for Respiratory Therapists." The AARC Guide is an excellent source of information on the different types of aerosol devices, steps of use for each, importance of proper device delivery, and the value of patient education.

about the author...

Ashley Dulle, BS, RRT, AE-C, is the respiratory therapy program director at Bossier Parish Community College and a cardiopulmonary science instructor at Louisiana State University Health Sciences Center School of Allied Health Professions in Shreveport, LA.

Complicated treatment options

Aerosol therapy is a longstanding method of drug delivery for respiratory diseases. The ability for patients to receive the local effect of the drug without systemic side effects has made these devices invaluable tools for respiratory therapists. However, current developments have overwhelmed what was initially a very simple treatment option. Instead of having only metered-dose inhalers (MDIs) and hand-held nebulizers (HHNs), therapists now have spacers, holding chambers, dry-powder inhalers (DPIs), spin-halers, turbohalers, rotohalers, blister packs, etc., as viable treatment options. The large variety of aerosol devices available and the various techniques required with each confuses many health care providers and patients. A recent article published by James Fink and Dr. Bruce Rubin stated that of the approximate $25 billion per year spent on inhalers, $7–$15.7 billion is wasted due to misuse.[2]

Aerosol therapy continues to be the gold standard for care of patients with pulmonary disease; however, respiratory therapists must understand the importance of proper and effective verbal and written patient education on all of the inhaler devices the patient uses. Adequate time should be given for patient education and should cover the patient's understanding of the indication for medication, the steps required to properly take the medication using the specific delivery device, and patient rehearsal of self-medication.

Patient misunderstanding of indications for aerosol therapy causes them to be non-adherent to their medication regimen. Patients should understand the pathophysiology of their disease, the roles of their various medications, dosages, and the necessary frequency of their medications. Special attention should be given to differentiating controller and reliever medication; the patient also needs to understand what medication dosages should be increased during an exacerbation. This information is best provided through instruction and a writ-

DocMonaghan™

KEEP YOUR ASTHMA IN THE ZONE!

DOC MONAGHAN

MONAGHAN MEDICAL CORPORATION PRESENTS A BALLISTIC PIXEL LAB PRODUCTION AN ASTHMA EDUCATION FILM FEATURING DOC MONAGHAN
CHRIS RITCHE ENGLISH VICTOR MORTORELLA SPANISH DANIEL PESANTE HOPE WORLEY ENGLISH LEIDY PESANTE SPANISH
EXECUTIVE PRODUCER DOM COPPOLO PRODUCER/DIRECTOR DONNIE WORLEY ADVISORS CELESTE BELYEA SARA BARTH

G GENERAL AUDIENCES
All Ages Admitted

NOW PLAYING

monaghan™

Circle 12 on product information card

MONAGHAN MEDICAL CORPORATION 5 LATOUR AVENUE, SUITE 1600, PLATTSBURGH, NY 12901 1-800-833-9653 WWW.MONAGHANMED.COM

ten medication plan. Without appropriate education, patients often base the decision of what medication to take on cost, presence of adverse effects, and how rapidly the beneficial effect is evident.

Accurate knowledge of the steps required for each device is another major issue in aerosol therapy, especially considering the reality that some patients take treatments via HHNs, MDIs, and DPIs all in the same day. It is easy to see how a patient could get confused on when to inhale rapidly versus slowly. Ideally, the patient's medications would all be from the same type of device. Patient education sessions with instruction, verbalization, and demonstration should occur at every opportunity — including physicians' offices, emergency departments, and inpatient acute care settings. These education sessions should include the patient demonstrating proper use of the inhaler in order to ensure the patient understood the instructions. Prior to educating the patient, the health care provider should have a good knowledge of the use of the device. On average, a pressurized MDI has seven to eight steps, and a multiple unit-dose DPI has approximately nine steps. RTs should also be aware of the common patient errors in using the different types of aerosol devices in order to target education to avoid the most common mistakes. A list of common patient errors can be found in the AARC Guide.

Patient education crucial

In the majority of health care environments, finding adequate time to educate the patient is difficult, but it is also extremely beneficial. A 2006 article from the *Journal of Aerosol Medicine* studied the effect of time for education on patients' inhaler technique. The study found that an education session longer than 10 minutes resulted in dramatically fewer patient mistakes in inhaler technique.[3] Respiratory therapists receive more information on aerosol delivery techniques than any other health care professional. Normally, education of respiratory therapists includes approximately a three-hour lecture on aerosol delivery and three hours of lab practice. Unfortunately, normal time for patient education and aerosol delivery in the hospital setting is approximately five minutes.

Aerosol medications are excellent for managing and treating patients with pulmonary diseases and disorders. Proper education on the different types of delivery devices is best given by respiratory therapists — partially because of their ability to properly use the device compared to other health care professionals.[4] Patient education should include written and verbal education on the medication, delivery device technique, and patient demonstration and feedback on device use. Written instructions in the form of educational handouts can be acquired through numerous sources including the AARC, Association of Asthma Educators, American College of Chest Physicians, and the American Lung Association. Education should take adequate time and be given at every opportunity. Proper education can help ensure that the majority of the $25 billion spent on inhaler medication every year is not wasted, resulting in improved patient outcomes. Respiratory therapists must remember that every patient with chronic pulmonary disease being treated with aerosol delivery should be educated on the medication and proper delivery device use. Plus, they should be demonstrating proper use of the aerosol delivery at every patient encounter. On average in an acute care setting, a patient with a pulmonary disease will be seen by a respiratory therapist two to three times per shift. Education should occur at each of these interactions, not just the initial treatment the patient is given in the hospital. ■

REFERENCES

1. Centers for Disease Control. Vital and health statistics. Series 10, No. 242, 2008.
2. Fink JB, Rubin BK. Problems with inhaler use: a call for improved clinician and patient education. Respir Care 2005; 50(10):1360-1375.
3. Sestini P, Cappiello V, Aliana M, et al. Prescription bias and factors associated with improper use of inhalers. J Aerosol Med 2006; 19(2):127-136.
4. Hanania NA, Wittman R, Kesten S, Chapman KR. Medical personnel's knowledge of and ability to use inhaling devices. Metered-dose inhalers, spacing chambers, and breath-actuated dry powder inhalers. Chest 1994; 105(1): 111-116.

ADDITIONAL READING

Ari A, Hess D, Myers T, and Rau JL. A guide to aerosol delivery devices for respiratory therapists, 2nd edition. Irving, TX: American Association for Respiratory Care; 2009.

Global Initiative for Asthma (GINA) web site. Available at: www.ginasthma.com *Accessed Aug. 30, 2009*

National Asthma Education and Prevention Program. Expert Panel Report III: guidelines for the diagnosis and management of asthma. Bethesda MD: National Institutes of Health; 2007.

PLAN NOW TO ATTEND THE LARGEST RC MEETING IN THE WORLD

On behalf of AARC President Timothy Myers, BS, RRT-NPS, and the Board of Directors, we would like to invite you to the next AARC International Respiratory Congress — **RESPIRATORY CARE 2010** — the **"gold standard"** of all respiratory care meetings, in exciting **Las Vegas, NV, Dec. 6–9, 2010** (*which is Monday through Thursday this time*).

The AARC Specialty Sections and the Program Committee are proud to present a program with everything currently influencing patient care under respiratory therapists' responsibility. You may attend other educational meetings, *but nowhere else will you:*

- ☑ Receive *all* the CRCE credit you need to maintain your state license.
- ☑ Obtain the latest information on health care reforms and policies with insights on how they may affect what you do for your patients and your employer.
- ☑ Learn and experience first-hand the latest advancements in patient care and technology than at the AARC Exhibit Hall, with all the manufacturers in the industry showing their unique products.
- ☑ Experience research presented by your peers in numerous Respiratory Care Open Forums throughout the four-day Congress.
- ☑ Participate in educational programs in all areas of respiratory care practice.

Michael A. Gentile, RRT, FAARC, Program Committee Chair

MARK YOUR CALENDAR NOW TO JOIN US IN LAS VEGAS DEC. 6–9 — *WE'LL SEE YOU THERE!*

www.AARC.org

Complex Sleep-disordered Breathing

by Sheri Tooley-Peters, BS, RRT-NPS, CPFT, AE-C

Those who have worked in the field of sleep medicine have had patients who may have initially improved when their CPAP titration was performed, then on follow-up complained of worsening symptoms or continued hypersomnolence. Recent studies suggest that complex sleep apnea syndrome (CompSAS) may be the cause and that traditional continuous positive airway pressure (CPAP) or bi-level positive airway pressure (PAP) might not be the answer. Controversy still exists regarding diagnosis and treatment and whether these symptoms qualify as a disease.[1,2]

Definition

Complex sleep-disordered breathing is a distinct form of sleep apnea. The primary hypothesis of CompSAS is thought to be a dysregulation of carbon dioxide homeostasis. It is thought that patients become hypocapnic during sleep, and this leads to central apnea. The hypocapnia is caused either by recovery breaths after an apneic episode or induced by the application of positive pressure to the airway.[3] The term "complex" establishes that the probability that both obstructive and central factors exist in this disease pattern. Gilmartin et al describe three physiologic abnormalities seen in sleep-disordered breathing:[3]

- Airflow obstruction
- Dysregulation of respiratory control
- Hypoventilation.

These events, alone or in combination, will then determine the three polysomnographic features, which they describe as:[3]

- Primarily obstructive disease: Apneas and hypopneas last longer than 10 seconds, resulting in desaturations and normal or slightly elevated carbon dioxide levels resolving with PAP.
- Primarily control dysfunction (central disease): Central apneas and Cheyne-Stokes respiration (CSR) are easily seen. There is mild hypocapnia, and desaturations are less severe than in obstructive disease. Additionally, response to PAP does not completely resolve periodic breathing and sleep fragmentation.
- Complex sleep-disordered breathing: Mixed obstructive and central events are seen. Typically obstructions are seen first and near resolution with PAP then evolve into central events as the night progresses.

about the author...

Sheri Tooley-Peters, BSRT, RRT-NPS, CPFT, AE-C, is a clinical educator for Masimo Inc. in Irvine, CA, and lives in Adams Center, NY. She also served the AARC as interim chair of the Sleep Specialty Section.

Medicare recognizes complex sleep apnea as a distinct form of sleep apnea with the following criteria:

Central sleep apnea or complex sleep apnea: Prior to initiating therapy, a complete facility-based polysomnography must be performed documenting the following:

- Diagnosis of central sleep apnea (CSA) or complex sleep apnea (CompSA),
- Rule out CPAP as an effective therapy if either CSA or obstructive sleep apnea is a component of initially observed sleep-associated hypoventilation, and
- Significant improvement of the sleep-associated hypoventilation with the use of a E0470 (bi-level or respiratory assist device) or E0471 (bi-level/respiratory assist device with back-up rate) device on settings planned for initial use at home, while breathing the patient's usual FIO_2.

Central sleep apnea is defined as:

- An apnea-hypopnea index >5,
- Central apneas/hypopneas >50% total apneas/hypopneas,
- Central apneas or hypopneas >5 times per hour, and
- Symptoms of either excessive sleepiness or disrupted sleep.

Medicare defines CompSA as a form of central apnea specifically identified by the persistence or emergence of central apneas or hypopneas when the patient is exposed to CPAP or bi-level therapy.[4]

Characteristics

Characteristics of CompSAS are central sleep apnea and periodic breathing, including CSR, or hypopneas that emerge and often worsen on CPAP. The majority of patients seen with CompSAS are male with a lower body mass index than seen in the obstructive sleep apnea group. Patients at follow-up continue to complain of excessive fatigue, depression, and intolerance to therapy.[5] Several polysomnographic features occur:

- Arousals cannot be eliminated.

- More apnea-hypopnea events occur in non-rapid eye movement (non-REM) sleep.
- Periodic breathing increases.
- Central apneas are more frequent in non-REM sleep.
- Response to supplemental oxygen is limited, if any.

Treatment

Treatment of CompSAS is not universally agreed upon at this time. Several studies have been conducted using adaptive servoventilation (ASV). ASV uses an automatic, minute ventilation targeted device that performs breath-to-breath analysis and adjusts airflow based on breathing effort. Controlling hypocapnea in these patients subsequently controls further central apneic events.[6]

A prospective randomized crossover clinical trial was conducted by Morgenthaler et al to compare noninvasive positive pressure ventilation to ASV in patients with

(continued on page 93)

Ventilation for Life

Effective Approaches to Therapy for Inhalation Injury

by Ruben D. Restrepo, MD, RRT, FAARC

In the United States, of the estimated 2 million burns per year, 100,000 require hospitalization and 5,000 result in death.[1] Inhalation injury accounts for nearly 80% of non-fire-related deaths and affects nearly 25% of all patients hospitalized with thermal injury.[2] Catastrophic events such as the use of poisonous gases during World War I and the serious smoke exposure during the World Trade Center disaster in 2001 contributed to our improved knowledge of inhalation injury. The initial observation that most victims were not dead on arrival but developed respiratory distress only 24 hours after the main event has motivated most of the research on the topic over the last few decades.[3] Inhalation injury is the result of thermal or chemical injury to the airways and alveoli from exposure to superheated gases, steam, hot liquids, or toxic products of incomplete combustion. Use of a wide variety of synthetic materials in buildings worsens the potential for severe airway and lung injury from inhaling combustible products during fires.[4]

Over the last two decades the focus of research has shifted to determining the role of inflammatory mediators and free oxygen radicals in inhalation injury. The diagnosis of inhalation injury is typically based on the following clinical criteria: injury in a closed space, carbonaceous sputum, and/or positive bronchoscopy (presence of carbonaceous deposits, erythema, or ulceration).[2] Securing airway patency and prevention of the respiratory insufficiency not only are the cornerstones of the management of the inhalation injury but also are critical markers for patient outcomes.

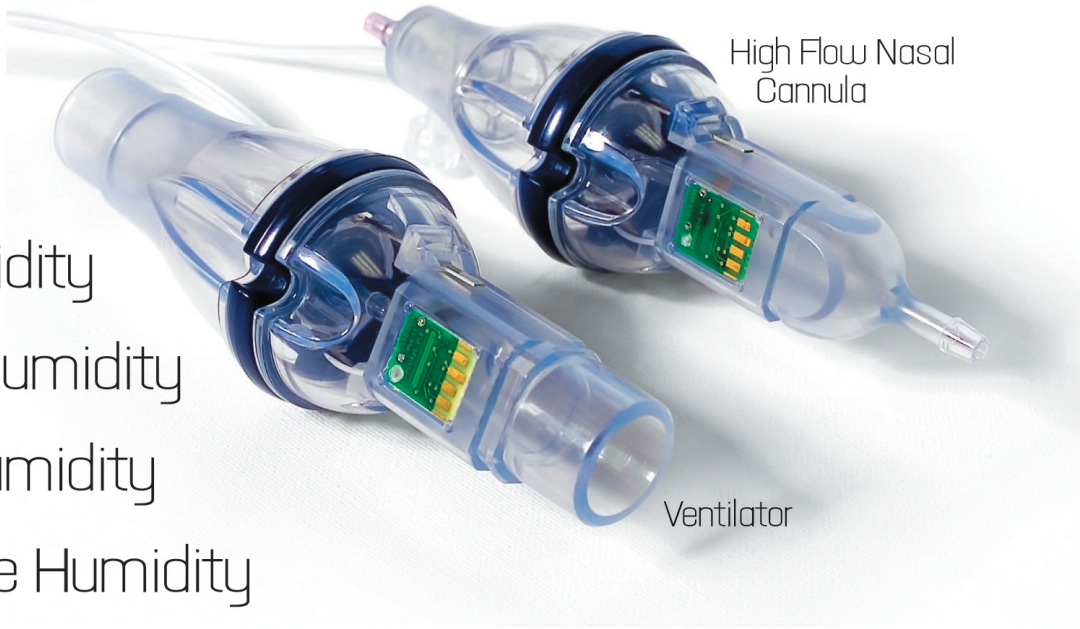
about the author...

Ruben D. Restrepo, MD, RRT, FAARC, is an associate professor in the department of respiratory care at the University of Texas Health Science Center at San Antonio, TX.

Inhalation airway injury

Since the upper respiratory tract possesses a tremendous ability to cool inhaled gases due to the high heat-exchanging efficiency before gas reaches the lower respiratory tract, heat injury (≥150°C) typically results in burns limited to the face and the airway above the vocal cords.[5] The presence of volatile water-soluble compounds in smoke (e.g., acrolein, carbon monoxide, chlorine, cyanide gas, hydrochloric acid, and sulfur compounds) can injure the proximal airway.[6] Insult to the airway mucosa does not have a clinical impact until enough edema (typically 12–18 hours post exposure) compromises airway patency. Anatomic distortion caused by burning of the face or neck may compress the upper airway. The vapors in smoke cause bronchorrhea, bronchoconstriction, and airway edema that typically resolve in less than a week.[6] The effects of local edema and damaged ciliary function can seriously compromise mucociliary clearance and may result in bacterial colonization. The ischemic mucosa becomes necrotic and sloughs into the lower airway. Furthermore, the copious secretions will cause airway obstruction, atelectasis, and increased risk for pneumonia. Massive fluid replacement, often necessary in severely burned patients, may increase airway mucosal edema and cause a clinical scenario of acute lung injury (ALI) or acute respiratory distress syndrome (ARDS).

Although direct visualization of the airway via bronchoscopy has been considered the gold standard for inhalation injury diagnosis, only a relatively small number of centers perform the procedure.[7] A thorough history of



- ☑ Known Humidity
- ☑ Adjustable Humidity
- ☑ Displayed Humidity
- ☑ Customizable Humidity

Do you see where we're going here?

Like no other humidifier.

The Hydrate® OMNI
HUMIDIFICATION SYSTEM

Welcome to the Future.

"I'm astonished at the efficiency of this unit's ability to heat and humidify. . . This device may be one of the most significant developments to come along in Respiratory Care." - Joe Sorbello, RRT.*

Winner of R&D 100 Award for Global Innovation

Hydrate

1-877-C-FORCE-9
(1-877-236-7239)
www.HYDRATEinc.com

*Quote From Focus Journal Sep/Oct 2008

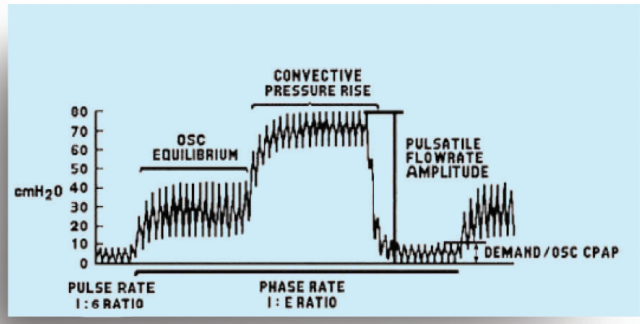
AD-33-007 Rev A 9/09

Circle 6 on product information card

the exposure and the initial neurologic assessment of the victim are more critical to determine the course of action. Absence of airway edema or erythema does not rule out the possibility of intubation since clinical progression of the injury often occurs soon after insult.

The most critical decision that needs to be made is whether or not the airway can be adequately maintained without an endotracheal tube (ETT). Patients who invariably require intubation are those with heat and smoke injury plus extensive face and neck burns. If there is no smoke injury but rather oral burns, the clinician needs to remember that these patients have difficulty managing secretions and may benefit from early (rather than late) intubation to protect the airway.

Figure 1. High-frequency Percussive Ventilator Waveform



OSC = oscillation, CPAP = continuous positive airway pressure
REPRINTED WITH PERMISSION: Hall JJ, Hunt JL, Arnoldo BD, Purdue GF. Use of high-frequency percussive ventilation in inhalation injuries. J Burn Care Res 2007; 28(3):396-400.

Inhalation lung injury

Although lung injury may be considered a mere extension of the upper airway injury, it represents a more serious threat to the patient's life. The majority of the lung injury associated with acute inhalation is caused by particles <0.3 µm in diameter.[8] During nasal breathing, particles >5 µm are typically trapped in the nasopharynx. However, the inability to breathe exclusively through the nose, which is extremely common in conscious or unconscious smoke-inhalation patients, may result in higher deposition of smaller particles in the distal airways. Cellular injury may take up to several days to occur after gas particles adhere to lung tissue. The extension of the injury depends on the solubility of the particles, the duration of exposure, and the size of the tidal volume. The most common breathing pattern of a victim attempting to escape from smoke exposure is that of a deeper than normal breath that accentuates the distal lung injury. Dyspnea, tachypnea, and the presence of coarse crackles and wheezing are frequent findings with the development of airway inflammation. Increased work of breathing may lead to ventilatory fatigue and hypoventilation.

The chest radiograph typically underestimates the severity of the inhalation lung injury (ILI) since in most cases the injury is confined to the airways. Parenchymal injury is usually associated with severe cases and appears as atelectasis, pulmonary edema, or pneumonia. More than 50% of burn patients with ILI and a major body burn develop pneumonia since mucociliary clearance and the immune response are frequently compromised.

Airway management and mechanical ventilation

In addition to early intubation for upper-airway protection, subsequent critical care of patients who have this injury should be directed at maintaining distal airway patency.[9] The ETT must be circumferentially secured around the head and neck of the patient who has significant injury, using alternative methods since conventional tape will not adhere to a burned face and special care is needed to protect the corner of the mouth.[10] Close monitoring to maintain airway patency is critical for a good ventilatory outcome for these patients since ETTs have a tendency to be blocked by mucus and carbonaceous sputum, in which case extubation and reintubation may be required. The presence of deep circumferential burns of the chest and abdomen usually impair chest excursion, and emergency chest escharotomies may be necessary to restore normal compliance and effective mechanical ventilation.[11]

Careful selection of a ventilatory strategy seems the next logical approach to minimize lung injury.[12–14] After all, severe ILI fits the generic clinical description of ALI/ARDS and thus could benefit from a lung-protective strategy that includes careful control of the tidal volume and plateau pressures. Measurement of the PaO_2/FiO_2 during conventional mechanical ventilation (CMV) to confirm the presence of ALI/ARDS has been suggested by Endorf et al as a good predictor of fluid requirements during fluid resuscitation.[15]

High-frequency percussive ventilation (HFPV) is a ventilatory modality that combines low-frequency tidal breaths with high-frequency subtidal breaths (see Figure 1). The percussive action of the high-frequency breaths improves gas exchange, recruits collapsed alveoli, and affects pulmonary toilet.[10] Its use has been associated with improving the survival of patients with ILI by decreasing both the incidence of lung injury and pneumonia as well as promoting removal of airway secretions.[10] When compared to CMV, HFPV may improve gas exchange at lower

peak inspiratory pressures and without hemodynamic compromise.[16,17] The BEST (Burn Center Evaluation of Standard Therapies) Ventilator Mode Study: A Prospective Randomized Controlled Trial, which compares HFPV to CMV, is underway and completion is expected by June 2011.

Inhaled pharmacotherapy

Nebulized racemic epinephrine may help in decreasing facial and airway edema.[18] Some clinical evidence suggests that continuous nebulization of beta-2 agonists[19,20] and use of inhaled corticosteroids[21] may attenuate the inflammatory response associated with ILI. Use of inhaled heparin alone or in combination with N-acetylysteine appears to decrease tracheobronchial cast formation, improve oxygenation, and reduce pulmonary edema.[22] The use of nitric oxide after ILI is recommended when traditional ventilator strategies have failed.[23] Nebulized tocopherol may impact the production of reactive oxygen species after ILI.[24]

Novel therapies

Manipulation of the inflammatory response following inhalation has been tried with a number of aerosolized antioxidants and anti-inflammatory blockers that decrease mucosal and alveolar edema and atelectasis but has been limited by the lack of commercial availability.[25]

Cornerstone of therapy

Airway management and supportive care remains the cornerstone of therapy on these patients. A thorough history and detailed physical exam may alert the health care team to the possibilities of clinical deterioration. While use of inhaled therapies seems to be promising, cellular injury and repair as well as the systemic inflammatory process appear to be attractive therapeutic targets in the near future. ■

REFERENCES

1. Herndon DN, Spies M. Modern burn care. Semin Pediatr Surg 2001; 10(1):28-31.

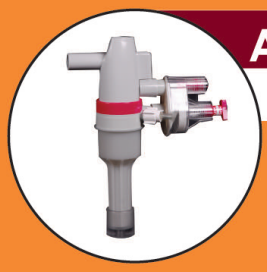
2. Hall JJ, Hunt JL, Arnoldo BD, Purdue GF. Use of high-frequency percussive ventilation in inhalation injuries. J Burn Care Res 2007; 28(3):396-400.
3. Harkins HN. The treatment of burns. Springfield Ill: Thomas Publisher; 1942.
4. Stefanidou M, Athanaselis S, Spiliopoulou C. Health impacts of fire smoke inhalation. Inhal Toxicol 2008; 20(8):761-766.
5. Moylan JA, Alexander LG. Diagnosis and treatment of inhalation injury. World J Surg 1978; 2(2):185-191.
6. Kinsella J, Carter R, Reid WH, et al. Increased airways reactivity after smoke inhalation. Lancet 1991; 337(8741):595-597.
7. Holt J, Saffle JR, Morris SE, Cochran A. Use of inhaled heparin/N-acetylcystine in inhalation injury: does it help? J Burn Care Res 2008; 29(1):192-195.
8. Haponik EF, Summer WR. Respiratory complications in burned patients: pathogenesis and spectrum of inhalation injury. J Crit Care 1987; 2:49-53.
9. Fidkowski CW, Fuzaylov G, Sheridan RL, Cote CJ. Inhalation burn injury in children. Paediatr Anaesth 2009; 19(Suppl 1):147-154.
10. Cancio LC. Airway management and smoke inhalation injury in the burn patient. Clin Plast Surg 2009; 36(4):555-567.
11. Bargues L, Vaylet F, Le Bever H, et al. Respiratory dysfunction in burned patients [Article in French]. Rev Mal Respir 2005; 22(3):449-460.
12. Traber D, Pollard V. Pathophysiology of inhalation injury. In: Herndon D, editor. Total burn care. Philadelphia PA: Saunders; 2002:175.
13. Sochor FM, Mallory GK. Lung lesions in patients dying of burns. Arch Pathol 1963; 75:303-308.
14. Thompson PB, Herndon DN, Traber DL, Abston S. Effect on mortality of inhalation injury. J Trauma 1986; 26(2):163-165.
15. Endorf FW, Gamelli RL. Inhalation injury, pulmonary perturbations, and fluid resuscitation. J Burn Care Res 2007; 28(1):80-83.
16. Reper P, Van Bos R, Van Loey K, et al. High frequency percussive ventilation in burn patients: hemodynamics and gas exchange. Burns 2003; 29(6):603-608.
17. Reper P, Wibaux O, Van Laeke P, et al. High frequency percussive ventilation and conventional ventilation after smoke inhalation: a randomised study. Burns 2002; 28(5):503-508.
18. Ziegler D, Bent G. Caustic-induced upper airway obstruction responsiveness to nebulized adrenaline. Pediatrics 2001; 107(4):807.
19. Palmieri TL, Enkhbaatar P, Bayliss R, et al. Continuous nebulized albuterol attenuates acute lung injury in an ovine model of combined burn and smoke inhalation. Crit Care Med 2006; 34(6):1719-1724.
20. Palmieri TL. Use of beta-agonists in inhalation injury. J Burn Care Res 2009; 30(1):156-159.
21. Greenhalgh DG. Steroids in the treatment of smoke inhalation injury. J Burn Care Res 2009; 30(1):165-169.
22. Enkhbaatar P, Herndon DN, Traber DL. Use of nebulized heparin in the treatment of smoke inhalation injury. J Burn Care Res 2009; 30(1):159-162.
23. Sheridan RL, Hess D. Inhaled nitric oxide in inhalation injury. J Burn Care Res 2009; 30(1):162-164.
24. Traber DL, Traber MG, Enkhbaatar P, Herndon DN. Tocopherol as treatment for lung injury associated with burn and smoke inhalation. J Burn Care Res 2009; 30(1):164-165.
25. Bartley AC, Edgar DW, Wood FM. Pharmaco-management of inhalation injuries for burn survivors. Drug Des Devel Ther 2009; 2:9-16.

VORTRAN®
MEDICAL TECHNOLOGY 1, INC.

21 Goldenland Court, #100 • Sacramento, CA 95834 • ph (800) 434-4034 • fx (916) 648-9751 • info@vortran.com

Critical Care
VAR®

- For patients 10 kg and above
- Automatic pressure cycled ventilation
- For breathing or non-breathing patients
- Delivers FiO_2 at 50% or 100%
- Safe for MRI and CT scan

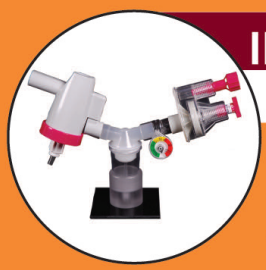


Airway Clearance
PercussiveNEB®

- High frequency oscillation
- Mucus clearance (i.e. cystic fibrosis, COPD and post-op atelectasis)
- High aerosol output with Automatic PEP
- Adjustable pressure dial
- Home or hospital use

Non-Cycling Alarm
VAR-Monitor

- Continuous monitoring of VAR unit for any non-cycling condition
- Works with current VAR models
- Audible and visible alarms
- Operates with a 9 VDC battery
- Cost effective for emergency preparedness



IPPB Delivery
VORTRAN-IPPB

- No cross contamination
- High aerosol output
- No capital equipment cost
- Home, transport ,or hospital use

Ventilator Emergency
E-Vent Case

- Use a single gas source for multiple ventilators in MCIs
- Includes a 7-port manifold and a 20' oxygen hose
- Organized for rapid deployment

Home-Use Compressor
Hi-Flow 70

- Designed for high flow applications
- Compact and easy to store
- Ideal for home, clinic and hospital use
- Standard 120 VAC
- Operates VORTRAN's PercussiveNEB and VORTRAN-IPPB effectively

Circle 22 on product information card

For more information please visit us at www.vortran.com

Coping with Cognitive Impairment in the Care of the Geriatric Patient

by George Gaebler, MSEd, RRT, FAARC

The reality of patient care is that many of our patients may have some level of cognitive impairment. All respiratory therapists must consider this when assessing a patient and making decisions about changes in care plans such as in the use of protocols. Further, any education, of the patient for self care at home must consider potential cognitive impairment to assure that the patient understands the information. If we think that they may not, we must assure that the patient's family is taught to comply with the care plan.

Causes

Cognitive function in patients involves processes by which individuals perceive, register, store, and use information.[1] The cognitive function of geriatric patients in general may be impacted by many causes, like dementias (e.g., Alzheimer's disease, depression) and delirium in many of our acute patients. Delirium, especially in our acute exacerbation patients, can be a large obstacle to normal cognition in geriatric patients. In any of these situations, mental capacity and memory are going to be negatively impacted.

The cognitive function of COPD patients is often impaired due to chronic hypoxemia. An evaluation of cognitive function should be included as part of a psychosocial assessment to measure the patient's cognitive ability. "It has been shown that many COPD patients have emotional consequences such as depression or anxiety, which can cause social isolation and inactivity."[2] A low level of vitamin D in older patients is associated with a higher risk of cognitive impairment, researchers in Cambridge, England, have said.[3] Because many of these patients are housebound, it may stand to reason that this deficiency could also contribute to cognitive issues. Depression can itself cause mild cognitive impairment, which is frequently seen in our geriatric patients.[4] Finally, stroke or other common causes of impairment such as dementia must also be considered.

Screening

It becomes obvious that the treatment provided to patients must consider cognitive impairment. If the patient cannot understand the education being provided by the respiratory therapist for their self care, the probability of compliance to the care plans decreases significantly.

The following are examples of cognitive impairment assessment tools that have been appropriately normalized and validated: Clinical Dementia Rating Scale, Mini Mental Status Examination (MMSE), Global Deterioration Scale, Short Portable Mental Status Questionnaire, Clock Drawing Test, Modified MMSE, Mini-Cog, Hopkins Verbal Learning Test, and 7-Minute Screen.[5] In most cases, one of these tools would be adopted to ensure a valid assessment would be performed so that care can be appropriately altered if necessary, considering the patient's own cognitive situation. As respiratory therapists we need not reinvent the wheel when it comes to assessment since this is commonly done by others in our care setting (such as the social services department). However, pulmonary rehabilitation programs may need to adopt one of these types of screening tools to provide a validated cognitive assessment for their patients.

One must look at what the field of geriatrics has to offer us. Consider the following information from the

about the author...

George W. Gaebler, MSEd, RRT, FAARC, is the respiratory care administrative director at Upstate Medical University in Syracuse, NY. He also serves as the vice president for internal affairs and on the Ad Hoc Committee on Geriatrics.

Global Initiative for Chronic Obstructive Lung Disease (GOLD), initiated in 2001 with updates in 2003 and 2004. Matthew McNabney, MD, of the American Geriatrics Society, states: "Even our own cherished instrument, the geriatric functional assessment, has yet to be utilized by all but a few academic pulmonologists. Many clinical scoring systems heavily weight age, irrespective of functional status, in determining prognosis. It has been recently demonstrated that functional state is an independent predictor for short- and long-term mortality in hospitalized patients older than 65 admitted with community-acquired pneumonia. It is likely that the same or even greater predictive value will be found in patients with acute exacerbations of COPD. The widespread use of noninvasive positive pressure ventilation in treatment of acute respiratory failure is anything but noninvasive to an 80-year-old. The key studies to determine its appropriate use have yet to be done."[6] Many hospital clinicians have the tendency to measure the status of their COPD patients only in pulmonary terms using spirometry and other tests. We must think beyond that perspective and see our patients from their functioning status cognitively. Only then can we really provide the care plan that will keep them out of the hospital and in a better state of wellness respective of their specific condition.

Room for improvement

We must rethink our assessment models to assure that functional and cognitive abilities are measured in patients using standardized tools that are readily available. Several texts for the profession of respiratory care have no reference or mention of these issues related to assessment, treatment, or education of our patients. It seems obvious that this is shortsighted and must be changed if we are to provide the best care to the patients we serve. ■

REFERENCES

1. Consult GeriRN.org. Braes T, Milisen K, Foreman MD. Assessing cognitive function. Available at: consultgerirn.org/topics/assessing_cognitive_function/want_to_know_more *Accessed Jan. 5, 2010*
2. Hess D, MacIntyre NR, Mishoe SC, et al. Respiratory care principles and practice. Philadelphia PA: WB Saunders; 2002:752.
3. Llewellyn DJ, Langa KM, Lang IA. Serum 25-hydroxyvitamin D concentration and cognitive impairment. J Geriatr Psychiatry Neurol 2009; 22(3):188-195.
4. Lee JS, Potter GG, Wagner HR, et al. Persistent mild cognitive impairment in geriatric depression. Int Psychogeriatr 2007; 19(1):125-135.
5. American Academy of Neurology web site. Geriatric care screening for cognitive impairment (coding specifications of the CPT American Medical Association). Available at: www.aan.com/globals/axon/assets/3428.pdf *Accessed Jan. 5, 2010*
6. The American Geriatrics Society. McNabney M. Guidelines abstracted from the Global Initiative for Chronic Obstructive Lung Disease (GOLD) initial publication. Available at: www.americangeriatrics.org/products/positionpapers/copd_update.pdf *Accessed Jan. 5, 2010*

Advocacy in the Keystone State: Thinking Globally, Acting Locally

by Garry W. Kauffman, MPA, FACHE, RRT, FAARC

For those of you around at the birth of Earth Day, you'll recognize the subtitle. While the phrase is borrowed, it represents what the Pennsylvania Society for Respiratory Care (PSRC) has adopted as our approach to getting our voices heard in Washington, DC, Harrisburg, PA, and with other audiences.

Like many other organizations, the PSRC Governmental Affairs committee was in need of some reinvigoration a few years ago. I was called into action to assist with our state efforts to clarify our continuing education (or CEU) legislation that had hit a bump in the road — as well as several other issues. What I discovered was that former state leaders had moved on to other endeavors (as many of us have), and we hadn't adequately prepared a new group of leaders to take their place. It's a lesson we learned and won't repeat.

Starting over

We started over by first celebrating and communicating the historical successes, and then we quickly began forming a team of energetic and passionate respiratory therapists. The first order of business was to create both a traditional governmental affairs committee as well as a network of RTs from across the state who would be willing to go into action when legislation and/or regulations needed their support. Working with the AARC, we solicited volunteers for our AARC 435 Plan — which aims to place one RT volunteer for each of the 435 congressional districts. In Pennsylvania's case, that was 19 congressional seats, and we worked overtime to accomplish that goal. For those of you who don't know Pennsylvania, the vast majority of the population lives in Philadelphia and Pittsburgh, which leaves a lot of acreage for the rest of us to cover. Not only did we achieve our goal of recruiting an RT from each congressional district, but we also introduced a whole new group of RTs (many of them early careerists) to our state society and the AARC. I can't give you the exact numbers, but we know that we picked up new AARC members by engaging them in our work, thanking them for their efforts, and using this network as another means to communicate the value of AARC membership. Whenever AARC's Federal Government Affairs Committee Chair Frank Salvatore, MBA, RRT, FAARC, gives us the green light to contact our federal officials, the PSRC network jumps into action to send e-mails, make phone calls, and visit their officials at their local offices.

Quite honestly, when we started our efforts a few years ago, most of the elected officials thought that we were either physical therapists or unlicensed/untrained assistants. Thanks to hundreds of RTs in our 435 Plan network and the thousands of RTs whom they communicate with, not only do they now know we're respiratory therapists, they know what we do and what value we bring to health care.

Having solidified our network to assist the AARC at the federal level, we began addressing our state issues, which included serious reworking of our CEU language and creating a plan to change our title from "certified" to "licensed." My personal mantra was: "If my mom's hairdresser is licensed, why not respiratory therapists?" What many of us have discovered is that most RTs really want to get involved but they don't know where to start, whom to talk to, or don't have the time to

about the author...

Garry W. Kauffman, MPA, FACHE, RRT, FAARC, is the director of strategic implementation at Lancaster General Health in Lancaster, PA. He serves as the PSRC Governmental Affairs committee chair, PSRC representative to the AARC 435 Plan, and as the AARC consultant to our state societies. He serves as adjunct faculty at the Harrisburg Area Community College and is a frequent speaker at the state and national level on a variety of clinical, administrative, and leadership topics.

The Next Generation *of* Capnography

Microstream® …non-intubated capnography that works!

MOLECULAR CORRELATION SPECTROSCOPY™

- clear crisp waveforms and accurate respiratory rates
- one technology for all patient populations in all clinical settings: intubated, non-intubated, adult, pediatric, neonatal

SPECIALIZED PATIENT INTERFACES with the patented Uni-junction™ design for effective oral and nasal sampling

SMART CAPNOGRAPHY™ family of superior algorithms simplifies the use of CO_2 monitoring

- Integrated Pulmonary Index™ (IPI)
- SARA™ alarm management
- Smart Breath Detection™

Microstream®
CAPNOGRAPHY SOLUTIONS

Oridion®

For more information visit: www.oridion.com

Circle 10 on product information card

160 Gould Street, Suite 205, Needham MA 02494, USA • Toll Free: (888) ORIDION (674-3466) • Tel: (781) 453-0500 • Fax: (781) 453-2722
Hamarpe 7, Jerusalem 97774 Israel • Tel: +972 2 589-9111 • Fax: +972 2 586-6680

PSRC's annual Legislative Day in Harrisburg begins on the steps of the Pennsylvania capitol. Shown are Bradley Leidich, MSEd, RRT, and Curtis Aumiller, MS, RRT-NPS, RPFT, with their respiratory therapy students.

serve as an officer or committee chair. To address this at the state level, we decided to "chunk out" the work to create a variety of roles for volunteer RTs to assist our PSRC Governmental Affairs team. When I speak to someone, I ask them "Do you have one minute? If so, here's how you can help." "If you have one hour, here's something else you can do to help the cause." In short, we've found that this has been one of the most effective strategies of getting people involved. We've been successful with this approach in that we've discovered hundreds of RTs who will take a minute to e-mail, make a phone call, or on some occasions will take a vacation day to volunteer during our annual PSRC Legislative Day in our state capitol. In fact, you'll find some of them represented in the pictures in this article.

After nearly four years with this new approach, what have we been able to accomplish? Our list of achievements includes the passing of a "Clean Indoor Air Act," which had been introduced at least a decade ago in the state legislature but hadn't even gotten out of committee. While we can't provide a direct Pennsylvania RT link to the passing of the bills, we can state that when we got engaged, the bills came out of committee, were passed by both houses, and were signed into law by the governor. Other legislation that we promoted and saw passed into law was the "truck idling" legislation (focus on clean air) and legislation that would allow school children to possess their inhalers. Again, we weren't alone in this quest, but it's notable that when hundreds of RTs got involved, good things happened. Most notable of our achievements — and this is solely the result of RTs — is the change from being certified to licensed respiratory therapists. The story is way too long for this article, but this change would not have occurred without a tremendous and consistent effort by RTs across the state.

What's next on our agenda?

In addition to continuing our support of the AARC and our active participation in the 435 Plan, we are continuing our vigil to ensure the health and welfare of the citizens of our state. At the state level, we understand that size matters and are planning to expand our network of organizations and individuals with whom we collaborate to include other health professions and advocacy groups. We joined the Alliance of Health Care Providers, consisting of 20 professional organizations. This endeavor has allowed us to join in the chorus of voices of advocacy for a variety of health issues — and at the same time provide another opportunity for RTs to be recognized. As a group, we meet with all of the new legislators shortly

State Senator Lloyd Smucker with RTs.

Attending the 2009 AARC PACT Hill Day were Steve Mosakowski, RRT, CPFT; Jay Salyers, RRT; Garry Kauffman; Congressman Joe Pitts; Thomas Kallstrom, BS, RRT, AE-C, FAARC; and Donovan Quill.

By "chunking out" the work, we've discovered hundreds of RTs who will take a minute to e-mail, make a phone call, or volunteer during our annual PSRC Legislative Day in our state capitol.

after they take office and collaborate on advocacy efforts on a variety of health issues. As part of the PSRC's strategic planning process, we are beginning a restructuring effort to expand our voice so that we will have an RT representative for each of Pennsylvania's state legislative districts. This means that we will be recruiting at least 256 respiratory therapists to join our team for what we'll call the "PSRC 256 Team." (Those "Keystoners" who are reading this article and who are interested, should give me a call.) Finally, we have been fortunate to have the support of RT faculty who have allowed numerous RT students to join the team over the past few years, many of whom have continued to assist in our 435 Plan and state advocacy efforts after graduation. I am contacting each of the RT program directors to begin discussions on how we might integrate an advocacy educational session within their curriculum.

Extra effort

In summary, the successes that we have achieved have come with a simple formula: Get up earlier and go to bed later. It's that simple. We've discovered that there's no magic in getting our voices heard — just extra effort from passionate respiratory therapists. ■

Pennsylvania RTs partnered and advocated for their patients/families and communities on PSRC Legislative Day.

Home Discharge of the Chronically Ill Patient

by Timothy W. Buckley, RRT, FAARC

Many of the patients discharged from the hospital have a primary or secondary diagnosis of a chronic disease, including respiratory, cardiac, neuromuscular, or endocrine disorders. In general, the older the patient, the more likely it is that they will have a chronic condition affecting their ability to remain safely in their home. Notwithstanding, pediatric patients may have a chronic disease as well. Their numbers may be a smaller percentage of the population, but the risk of adverse outcomes is just as real.

The goal of any hospital discharge is to have the patient return to their home in either the same or better condition than they were when admitted. Individuals with chronic diseases may be admitted for care related to their chronic disease or for something that is totally unrelated. With this in mind, discharge planning must always consider the impact that their chronic condition has on their overall care and safety.

Medicare and other payers have begun to recognize the need for effective discharge planning. To ensure effective planning and post-hospital care, they will not pay for the care if the patient is readmitted to the hospital within the first 30 days. According to Jencks et al, 19.6% of more than 11 million patients who had been discharged were rehospitalized within 30 days.[1] Others have shown that chronic diseases are a significant portion of these readmissions. According to Griffin, of those discharged with heart failure, 19.1% were readmitted, pneumonia readmissions were 13.3%, and COPD represented 16.5% of the readmissions.[2]

One strategy to prevent readmissions is to increase the effectiveness of discharge planning, especially for those with a high risk for readmission. Care planning for those with a high risk for readmission needs focus and multidisciplinary input in order to be effective.

Care planning

Care planning is a process in which a plan is created for the unique needs of the individual. This is largely a nurse-driven process but is something with which respiratory therapists should be very familiar. While there are a variety of care planning tools available, one that is commonly used is based on the problems or needs that are specific to the patient.

Medicare requires that every patient discharged from the hospital to home health services should have a written care plan that is approved by the patient's physician. This care plan details how the patient will be treated during the course of home care.

Most care plans are problem- or need-based. This means that the first step is to create a list of problems or needs that exist for the patient, which should include any related to their chronic conditions as well as to their acute disease. The assessment includes not only physical findings but also emotional and environmental findings.

Development of the problems/needs list is just the first step in the process. Once this list is developed, the goals or objectives are developed to deal with all of these problems/needs. Goals and objectives need to be realistic, achievable, and measurable; and the goals should address all of the identified problems.

The last step in the development of a comprehensive care plan is to develop a plan to achieve the goals and objectives. This is simply how we are going to get from where we are today to where we want to be at the end of the process. A care plan can be for a set period of time, or it can be ongoing.

about the author...

Timothy W. Buckley, RRT, FAARC, is the president of Respiratory Logistics Group in Lake Forest, IL.

Invacare is oxygen therapy...

Invacare® Perfecto$_2$™
Oxygen Concentrator

Invacare® HomeFill®
Oxygen System

Invacare® SOLO$_2$™
Transportable Oxygen Concentrator

Invacare® XPO$_2$™
6 lb. Portable
Oxygen Concentrator

Invacare® Pneumatic
Oxygen Conserver

From market-leading oxygen concentrators to the paradigm-shifting Invacare® HomeFill® Oxygen System to the Invacare® SOLO$_2$™ Continuous Flow Transportable Oxygen Concentrator, Invacare has an oxygen system that is right for your patients. Clinically sound and economically responsible.

For more information, visit **www.invacare.com** or **call 1.800.333.6900.**

Circle 8 on product information card

INVACARE®
Yes, you can.®

Table 1. Care Plan

Problems/Needs	Goals/Objectives	Plan
COPD Chronic hypoxemia	Maintain oxygen saturation at > 90%	Use oxygen at 2 Lpm continuous via oxygen concentrator
COPD Poor exercise tolerance	–Maintain O_2 saturation >90% while exercising –Be able to walk from house to mail box without complaint of shortness of breath –Use portable oxygen for ambulation outside the home	–Enroll in Pulmonary Rehab Program at St. Elsewhere Hospital –Teach use of personal pulse oximeter –May adjust liter flow up to 3 Lpm on portable oxygen to maintain oxygen saturation > 90% when ambulating
COPD Increased shortness of breath at rest	Prevent exacerbation and shortness of breath at rest	–Combivent as prescribed 2 puffs, 4 times each day –Albuterol as needed between Combivent doses –Teach use of holding chamber
COPD Nutrition	Stop weight loss and keep weight above 160 pounds	–Consult with COPD dietitian as part of Pulmonary Rehab Program –Design diet to maintain lean body weight –Identify supplements to maintain lean body weight
Mobility Fell 2 times prior to admission	Prevent falls in home	–Teach effective use of mobility aids –Install tub/shower bars in both bathrooms
Mobility Meal preparation	Stop weight loss and keep weight above 160 pounds	–Enroll in Meals on Wheels program –Coordinate grocery shopping with daughter who lives nearby –Dietitian will review grocery shopping strategy

Often it includes both immediate and ongoing objectives. The plan should be specific and multidisciplinary. While this is usually a nurse-driven process, respiratory therapists should be familiar with this process and contribute to it — particularly for those patients with chronic lung diseases.

Most RTs are taught a planning process, but it may not always be problem based. For illustration we have developed a simple care plan for a patient with chronic lung disease who is discharged to home after a hospital stay for an acute exacerbation of COPD (see Table 1). While this care plan has been simplified for the purpose of this article, it touches on some key points to be considered in the management of chronic respiratory diseases in the home. One is a very specific prescription for the use of home oxygen, as well as oximeters to monitor satura-

tions. Another is the referral to a pulmonary rehabilitation program for exercise and strategies for living with COPD.

A key element missing in the care of many patients with chronic lung disease is the referral to a dietitian. Weight loss is a marker of the progress of many diseases, and effective nutritional support is critical to the long-term management and prevention of exacerbation. Dealing with issues as simple as having nutritious groceries in the home are important. If someone lives alone, they are at risk of poor nutrition simply because it is more difficult to shop; and mealtime may not be as enjoyable, leading to snacking and eating of "empty" calories and convenience foods.

Mobility is an issue that generally gets missed as well. If the patient does not feel safe and comfortable while ambulating, they will become increasingly sedentary and not exercise. Avoiding falls and increasing exercise tolerance should be part of every care plan for individuals with chronic lung diseases.

Recognition

In addition to care planning, the respiratory therapist must recognize which patients are at high risk and ensure that they are identified and managed appropriately. Individuals who have frequent exacerbations, have been mechanically ventilated, or are cognitively impaired are at the highest risk. Patients who live alone or have poor family support are also at a higher risk and need special attention.

Monitoring outcomes

Once goals and objectives are developed, outcome monitoring is simplified. An objective comparison of the achievement of goals and objectives is the best determination of positive outcomes. It is apparent that through effective outcome monitoring a disease management approach can be established. Especially in the case of chronic diseases, the problems and needs may be similar; and the plan for dealing with these problems may be similar as well. It also allows caregivers to determine which outcomes are critical to prevent readmission or other negative outcomes.

It is important to realize that this connection to the home care patient must be initiated by the hospital RT. Care planning starts early in the process of care and is never left to the last minutes before discharge. If you are a hospital RT, you should be familiar with your hospital's process and offer to help the nurse with this pre-discharge planning. Having a strong connection with a home care RT will help you to better understand what is available in your community. ■

REFERENCES

1. Jencks SF, Williams MV, Coleman EA. Rehospitalizations among patients in the Medicare fee-for-service program. N Engl J Med 2009; 360(14):1418-1428.
2. Griffin KM. Medicare payment bundling and hospitals. Health Dimensions Group, Minneapolis, MN, Aug 6, 2009.

Preventing Unnecessary Deaths with Capnography

by Greg Spratt, BS, RRT, CPFT

The HealthGrades "Patient Safety in American Hospitals Study" is an annual report that identifies the patient safety incident rates for nearly every hospital in the country. In addition to this analysis, HealthGrades creates a composite score of the results of the patient safety indicators and identifies the best-performing hospitals to establish a best-practice benchmark against which other hospitals can be evaluated. Their results are routinely published in national media such as *Forbes* and *Woman's Day*. This data provides health care consumers with an important measure of quality in making health care choices (www.healthgrades.com).

In its fifth annual report, HealthGrades estimated that 1.12 million total patient safety incidents occurred during almost 41 million hospitalizations in the Medicare population, a nearly 3% incident rate.[1] These incidents were associated with almost $8.8 billion of excess cost during 2004 through 2006. There were 270,491 actual in-hospital deaths that occurred among patients who developed one or more of the 16 patient safety incidents. Using previous research, they calculated that 238,337 were attributable to patient safety incidents and potentially preventable.

HealthGrades' data also reveals that large disparities in risk of preventable death due to safety incidents exist between the "best" (5-star) and "worst" (1-star) rated hospitals.[2] Across all procedures and diagnoses studied, there was an approximate 70% lower chance of dying in a 5-star rated hospital compared to a 1-star rated hospital and approximately a 50% lower chance of dying in a 5-star rated hospital compared to the U.S. hospital average.

HealthGrades notes that while improvements were seen across the majority of patient safety indicators compared to previous years, four post-operative indicators (including post-operative respiratory failure) showed worsening with increased incidence rates when compared to 2004. This worsening was associated with higher attributable mortality rates and accounted for approximately 72% of all the potentially preventable deaths.

Preventing respiratory failure

Today it is the standard of care for hospitals to use capnography in the operating room. The American Society of Anesthesiologists' (ASA) "Standards for Basic Anesthetic Monitoring" state that end tidal carbon dioxide ($EtCO_2$) monitoring should be employed to confirm endotracheal tube placement and throughout the procedure with initiation audible alarms until patient transfer to post-operative care.[3]

The ASA also recognized the value of $EtCO_2$ during sedation and analgesia administered by non-anesthesiologists for procedures outside the operating room.[4] The ASA Task Force states, "the primary causes of morbidity associated with sedation/analgesia are drug-induced respiratory depression and airway obstruction" and agreed that $EtCO_2$ with audible alarms may reduce risk during moderate and deep sedation or whenever the patient is separated from caregivers, while cautioning practitioners that impedance plethysmography may fail to detect airway obstruction. The Task Force emphasizes that, "because ventilation and oxygenation are separate though related physiologic processes, monitoring oxygenation by pulse oximetry is

about the author...

Greg Spratt, BS, RRT, CPFT, is the owner of Spratt Healthcare Consulting, as well as an employee of Oridion Capnography, Inc. He is also chair-elect of the AARC Home Care Specialty Section.

EAGLE II™

From Impact®

The next generation of portable, critical care ventilators is here!

- Intuitive User Interface
- Volume & Pressure-Targeted Ventilation Modes
- Pressure Support and CPAP
- Battery run time of 10+ hours between recharges
- Unique Smart Help™ tutorial and back-up ventilation
- Continuous Heart Rate and Saturation Monitoring
- Self-contained with Compressor and PEEP

Impact Instrumentation Inc.

...Care Anywhere™

www.impactii.com

Circle 4 on product information card

not a substitute for monitoring ventilatory function" (bold added for emphasis).

Procedural adverse events often involve respiratory depression and hypoxemia, which may lead to permanent neurologic impairment and death, even in children.[5,6] Patients often are monitored visually and with pulse oximetry to alert clinicians to respiratory depression. However, evidence suggests this method may not be sensitive enough to prevent significant hypoxemia and hypercarbia prior to being alerted, especially with supplemental oxygen, which can mask hypoventilation in oximetry readings.[7,8]

Lightdale et al found that endoscopy staff documented poor ventilation in only 3% of children during all procedures and no apnea using oximetry and visual monitoring.[9] In reality, monitoring using capnography indicated alveolar hypoventilation was occurring during 56% of procedures and apnea during 24%.

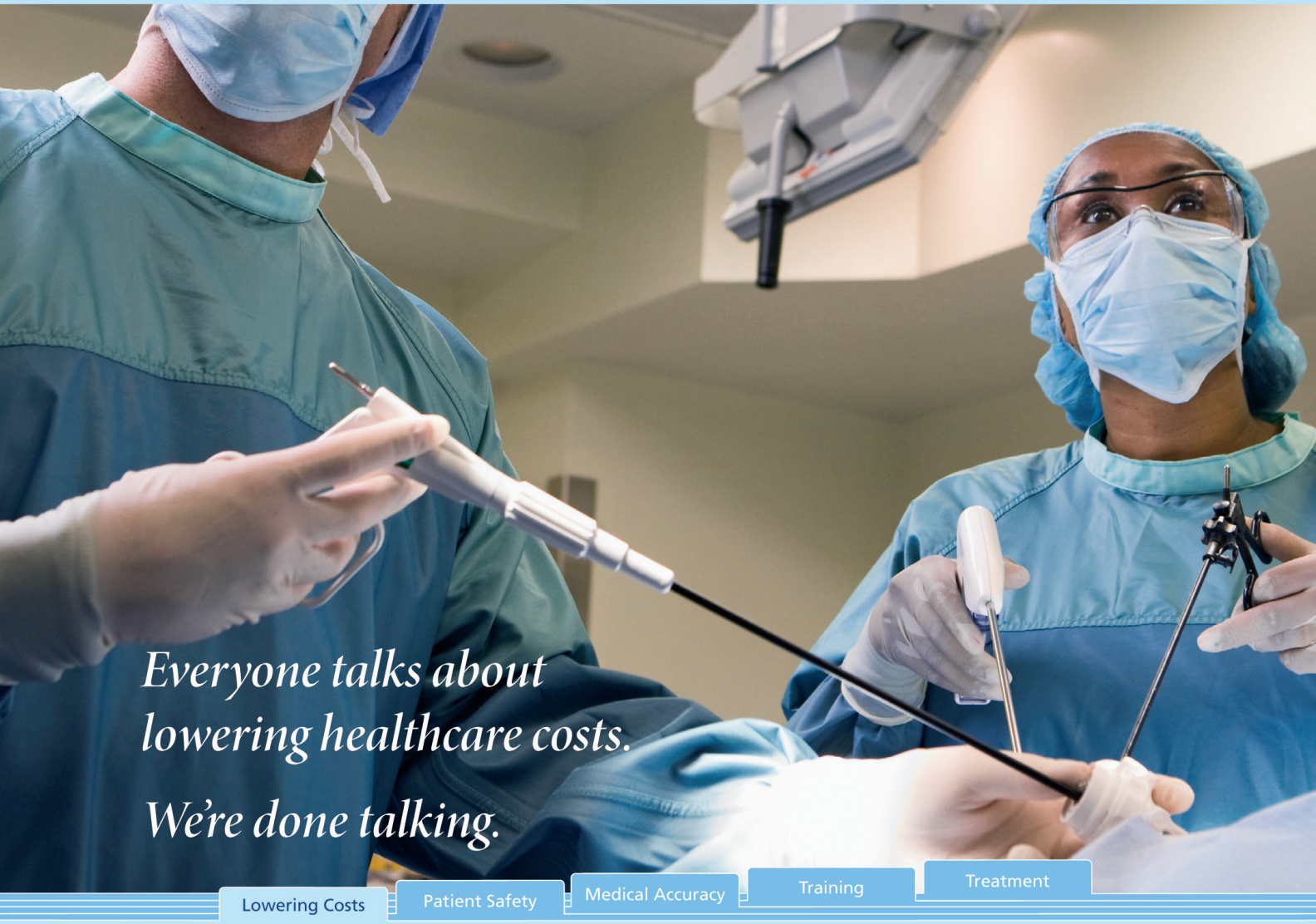
Finally, capnography is useful in preventing adverse events post-operatively in patients receiving patient-controlled analgesia for pain management.[10] McCarter et al found that capnography was more effective than pulse oximetry in providing early warning of respiratory depression in patients receiving supplemental oxygen.[11] In all cases of respiratory depression with bradypnea (<6 breaths per minute), capnography, but not pulse oximetry, alerted the nurse to impending respiratory depression. The researchers state, "Capnography monitoring and automatic pausing of patient-controlled analgesia improved postoperative outcomes in situations that could have otherwise been **fatal**" (bold added for emphasis).

Patients at risk = a hospital at risk

The risk of postoperative respiratory failure puts hospital patients, and the hospital, at increasing risk. Respiratory depression from the administration of pain medication is a leading cause of preventable death in hospitals. In fact, postoperative respiratory failure is the third most common patient safety incident in hospitals each year, affecting an estimated 600,000 patients at a cost of $1.5 billion.[1]

Capnography completes picture of ventilation

The ASA has established new guidelines recommending that all patients sedated with neuraxial opioids be monitored for depth of respiration, not only pulse oximetry and respiratory rate.[12] Other researchers state:



At Covidien, we know one of the most complex procedures in modern healthcare is managing its financial impact. That's why all of our technologies and initiatives are geared toward heightening safety measures, reducing complications and even shortening hospital stays in order to improve patient outcomes and reduce costs. To learn more about how we're improving the health of patients and bottom lines alike, visit us at covidien.com/successstories.

COVIDIEN
positive results for life™

Circle 15 on product information card

> "We calculated that 238,337 [deaths] were attributable to patient safety incidents and potentially preventable."
>
> –Patient Safety in American Hospitals Study

- Relying on pulse oximetry alone is potentially dangerous as it reflects oxygenation status of the patient rather than effective ventilation.[11]
- Because respiratory rate indicates only the number of breaths, and not whether enough oxygen is being taken in and enough CO_2 is being released, a patient can have a normal respiratory rate but could be on the verge of respiratory failure.[13]

Preventing unnecessary deaths and adverse events requires a concerted effort of clinicians and administrators. Capnography is an excellent tool during anesthesia, sedation, and post-operative management for monitoring for early signs of progressive respiratory failure. The lives of hospital patients and the reputation of health care facilities rely on the decisions made about patient safety. ■

REFERENCES

1. HealthGrades web site. The fifth annual HealthGrades Patient Safety in American Hospitals study. Available at: www.HealthGrades.com *Accessed May 1, 2009*
2. HealthGrades web site. The eleventh annual HealthGrades Hospital Quality in America study, Oct. 2008. www.HealthGrades.com *Accessed May 1, 2009*
3. American Society of Anesthesiologists web site. Standards for basic anesthetic monitoring (last amended Oct. 25, 2005). www.asahq.org/publicationsAndServices/standards/02.pdf *Accessed May 1, 2009*
4. American Society of Anesthesiologists Task Force on Sedation and Analgesia by Non-Anesthesiologists. Practice guidelines for sedation and analgesia by non-anesthesiologists. Anesthesiology 2002; 96(4):1004-1017.
5. Cote CJ, Karl HW, Notterman DA, et al. Adverse sedation events in pediatrics: analysis of medications used for sedation. Pediatrics 2000; 106(4):633-644.
6. Malviya S, Voepel-Lewis T, Tait AR. Adverse events and risk factors associated with the sedation of children by nonanesthesiologists. Anesth Analg 1997; 85(6):1207-1213.
7. Burton JH, Harrah JD, Germann CA, Dillon DC. Does end-tidal carbon dioxide monitoring detect respiratory events prior to current sedation monitoring practices? Acad Emerg Med 2006; 13(5):500-504.
8. Miner JR, Heegaard W, Plummer D. End-tidal carbon dioxide monitoring during procedural sedation. Acad Emerg Med 2002; 9(4):275-280.
9. Lightdale JR, Goldmann DA, Feldman HA, et al. Microstream capnography improves patient monitoring during moderate sedation: a randomized, controlled trial. Pediatrics 2006; 117(6):e1170-e1178.
10. Maddox RR, Williams CK, Oglesby H, et al. Clinical experience with patient-controlled analgesia using continuous respiratory monitoring and a smart infusion system. Am J Health Syst Pharm 2006; 63(2):157-164.
11. McCarter T, Shaik Z, Scarfo K, Thompson LJ. Capnography monitoring enhances safety of postoperative patient-controlled analgesia. American Health and Drug Benefits 2008; 1(5):28-35.
12. American Society of Anesthesiologists web site. Practice guidelines for the prevention, detection, and management of respiratory depression associated with neuraxial opioid administration, 2007. Available at: www.asahq.org/ *Accessed May 1, 2009*
13. APSF (Anesthesia Patient Safety Foundation) web site. Dangers of postoperative opioids. Available at: www.apsf.org/assets/Documents/winter2007.pdf *Accessed May 1, 2009*

EDITOR'S NOTE

Author Greg Spratt has provided consulting services, research, or educational programs for manufacturers of the products mentioned in this article. The author has disclosed no conflicts of interest.

The Wright Face & Tracheostomy Nebulizing Mask

Convenience, Comfort, Compliance, Quality of Life
Adult/Ped, Adjustable, Disposable

www.wrighttrachsolutions.com

Wright Solutions LLC
305-289-7369 or info@wrighttrachsolutions.com
US Patent No. 6,698,426; FDA REG; ODS State of Florida Cert; Canadian, Australian & European Patents Pending

President Timothy R. Myers Announces

2010 AARC Goals

President Timothy R. Myers, BS, RRT-NPS, addressed the membership at the Association's annual business meeting on Dec. 6 during the 55th International Respiratory Congress in San Antonio, TX.

He noted that while the AARC had several large challenges in 2009, it continues to be strong and in good financial position. "Since December of 2008, our membership has climbed 7% and now stands at 49,500 strong throughout the world. That membership rate is an all-time high and continues to increase gradually despite the difficult economy. I believe this is, in fact, a testament to the value of AARC membership to the respiratory therapist."

He also pointed out that the Association's international influence continues to grow through increasing international membership, translations of AARC educational resources and podcasts in foreign languages, a larger number of foreign submissions to Respiratory Care, and re-publication of Journal articles in foreign publications.

President Myers announced the AARC will pursue the following major goals in 2010.

1. **Develop and execute strategies that will increase membership and participation in the AARC throughout the world.**

"We will work to continue our membership growth to reach 52,000 within the next year," President Myers emphasized.

2. **Promote patient access to respiratory therapists as medically necessary in all care settings through appropriate vehicles at local, regional, and national venues.**

"Introduction of the Medicare Respiratory Therapy Initiative (H.R. 1077 and S. 343) by Congressman Mike Ross and Senators Mike Crapo and Blanche Lincoln would revise Medicare to permit qualified respiratory therapists to provide a variety of respiratory therapy services to Medicare patients without the physician having to physically be in the office. When this legislation is enacted, a new day will dawn on patient access to respiratory therapists."

3. **Continue to advance our international presence through activities designed to address issues affecting educational, medical, and professional trends in the global respiratory care community.**

"This December, the AARC and the American Respiratory Care Foundation celebrate the 25th year of our International Fellowship Program, which has welcomed the participation of more than 120 international fellows from more than 50 different countries. This confirms the AARC's continual commitment and focus on the globalization of our profession," he said.

4. **Identify the clinical and non-clinical skills, attributes, and characteristics of the "Respiratory Therapist for 2015 and Beyond" based on the expected needs of respiratory care patients, the profession, and the evolving health care system to improve access to respiratory therapists' skills and talents.**

"The goal is to identify the potential new roles and responsibilities of respiratory therapists in the year 2015 and into the future, as well as to suggest the necessary education, training, and competency documentation to ensure safe and effective executions of those roles and responsibilities," he said.

5. **Execute the full development of a leadership and mentoring institute to promote the advancement and growth of respiratory research, management skill sets, and education curricula and practices to meet the future demands of the profession.**

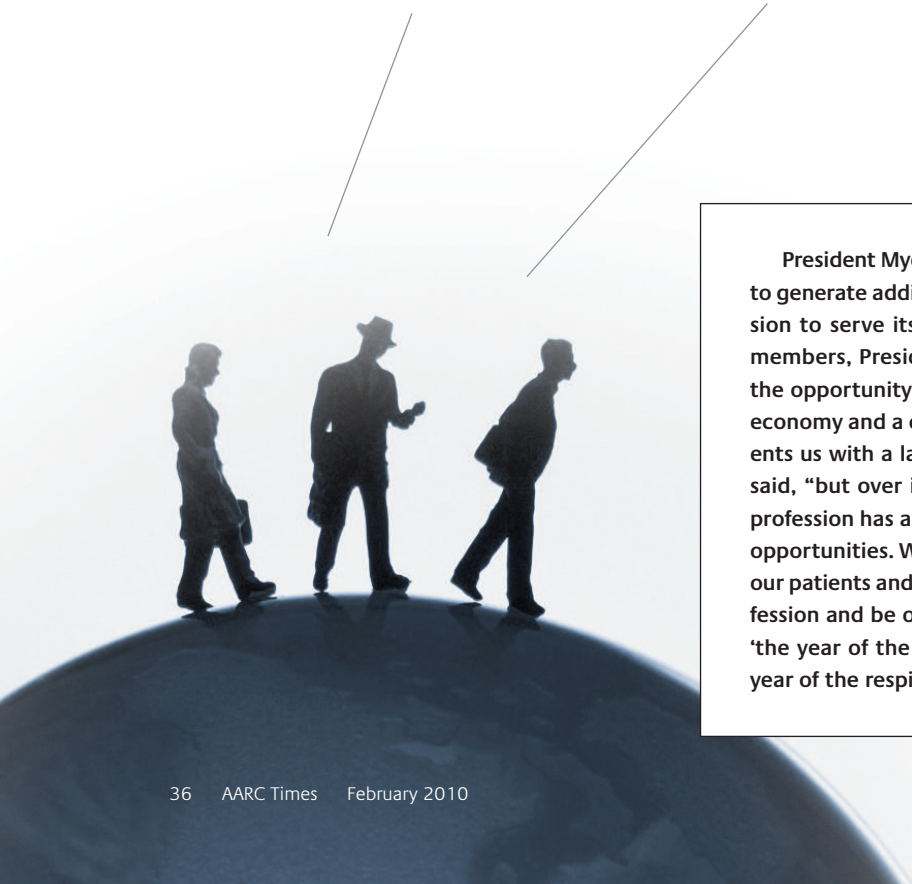
"The Leadership Institute will be the first AARC-sanctioned program designed to provide advanced training to our members to ensure the future continuity of leadership, discovery, and education within the profession of respiratory care," he said. (Additional information about the Leadership Institute is featured in this issue of *AARC Times*.)

6. **Promote the access of quality continuing education to develop and enhance the skill base of current respiratory therapists to meet the future needs of our profession.**

"AARC's major emphasis has been and will always remain the same — helping you grow as a respiratory care professional through a multitude of educational programs and projects from traditional formats like our International Respiratory Congress to Web-based versions of specialty education like the Asthma Prep Course and the COPD Educators Program," explained President Myers.

7. **Nurture and expand relevant communication and alliances with key allies and organizations within our communities of interest.**

"We are working with vested parties, affiliated organizations, patient advocacy groups and local, state, and federal governments to ensure and maintain the integrity and the scope of practice of respiratory therapists across the continuum of care," he emphasized.



President Myers explained that the AARC is also looking at ways to generate additional revenue streams to support the AARC's mission to serve its members. In concluding his annual address to members, President Myers thanked members for providing him the opportunity to serve as 2009 AARC president. "A languishing economy and a changing landscape with health care reform presents us with a large unknown and many challenges in 2010," he said, "but over its six decades of existence, the respiratory care profession has always accepted today's challenges as tomorrow's opportunities. With your help, we can accomplish great things for our patients and set the tone for those who will enter into the profession and be our future. Some organizations have named 2010 'the year of the lung.' It is only fitting to also declare 2010 'the year of the respiratory therapist.'" ■

A Salute to our 2010 Corporate Partners

AMERICAN ASSOCIATION FOR RESPIRATORY CARE
AARC
CORPORATE PARTNER

CareFusion

Masimo

COVIDIEN

monaghan

PHILIPS
RESPIRONICS

Dräger

imagination at work

Since 1947, the AARC has been leading the effort to advance the respiratory care profession and promote quality respiratory health care. Working with our 50 state organizations, we have successfully advocated for the profession at the federal, state and local level.

The link between the respiratory profession and manufacturers is clear. If respiratory practice expands, so too does the economy for our industry partners.

As health care budgets shrink and patient care becomes increasingly complex, our mutual challenges become greater. The synergy of the corporate partner concept is an effective way to address those needs utilizing our combined skills and resources.

The AARC Leader

by Debbie Bunch

Great clinical skills and a good personality might have paved the way to a leadership position in management, education, or research back in the day. But the 21st century is demanding more, and the AARC is providing it.

ship Institute

Education with real-world relevance, coming soon to a computer near you

Most of the leaders in respiratory care today grew up in a very different profession — one where a young person with a good clinical education and background could get into a leadership position and then grow right along with a department or program that was, in many cases, just as young as its new director. Those days are long gone. Respiratory therapy is now a solid part of hospitals and colleges across the nation, and administrators expect new leaders to jump in head first. In other words, it's sink or swim time — and to stay afloat, therapists need to get into the pool with the skills they'll need to succeed.

The AARC has a groundbreaking Leadership Institute in the works that is designed to equip the next generation of leaders with those skills and more.

Critical foundations

"Success and promotion of respiratory therapists within their work environment depends highly on leadership ability," says Toni Rodriguez, EdD, RRT, chair of the Leadership Institute Steering Committee and the AARC's past president. "Leaders bring more inno- vation, employee engagement, and winning performance to their organization and their profession."

Dr. Rodriguez says the AARC leadership believes strongly that nearly every clinician has the potential to lead, but realizing that potential depends on getting the right education and mentoring on the attitudes, behaviors, characteristics, and values that successful leaders often exhibit. That's where the new Leadership Institute can help. "This interactive online education program is

The Institute will kick off with a Fellowship for Advanced Skills Training ("FAST Track") program including communication, leadership, finance, and computer skills.

going to be designed for all busy respiratory professionals interested in career-focused education to facilitate career advancement through intentional leadership development."

Here's how it will work: Early next year, the Institute will kick off with a Fellowship for Advanced Skills Training program — called the "FAST Track" for short. This program is aimed at providing a core curriculum of topics related to a basic leadership skill set, including communication, leadership, finance, and computer skills. RTs who complete the core curriculum will then be able to engage in one or more of three specialty tracks in management, education, and research. A certificate of completion will be issued upon completion of the core curriculum and at least one of the specialty tracks. Ultimately, the Association would like to tie completion of the program to credits at degree-granting institutions.

Toni Rodriguez, EdD, RRT

"The AARC has embarked upon a mission to develop a formalized curriculum and mentoring process to advance the disciplines of management, education, and research as they relate to the profession of respiratory care," says AARC President Timothy Myers, BS, RRT-NPS. Once we have been successful in accomplishing our goals that have been set forth for this project, we will have developed a dynamic process to formally educate and mentor tomorrow's leaders in the critical foundations of our profession.

Go to the head of the class

Richard M. Ford, BS, RRT, FAARC, is heading up the Management Track and believes it will help new managers close the gap between what they learned in respiratory therapy school and at the bedside and what they need to know to succeed as managers.

"Today's health care environment places more demands than ever on those who manage respiratory care departments," he says. "A common profile of a respiratory care supervisor/manager/director is an individual who earned a promotion by being an outstanding clinician. While the characteristics of outstanding clinicians are equally important in leadership, many learn about staffing, productivity, benchmarking, budgeting, information systems, human resource management, leading teams, and organizational management the hard way — by learning from mistakes and on-the-job training." The Management Track will offer aspiring leaders — or even existing managers who want to hone their skills — the opportunity to acquire a skill set that will set them apart from the crowd.

Timothy Myers, BS, RRT-NPS

Linda Van Scoder, EdD, RRT, FAARC, chair of the Education Track, says educators are faced with much the same situation, and the Leadership Institute will also be a great way for them to bypass on-the-job training and proceed to the head of the class. "So many times people are promoted to an educator position, either in a program or a department, because they are excellent clinicians. Unfortunately, they may not have the skills to translate their clinical knowledge into an educational experience for their students or staff. The Education Track will be de-

"To remain dynamic, a profession must update its practitioners to meet the needs of patients, the health care environment, and the profession itself."
–Toni Rodriguez, EdD, RRT

Richard M. Ford, BS, RRT, FAARC

signed to give them those skills."

The Management and Education Tracks are expected to be online by mid-to-late 2011, and the Research Track, being headed up by Robert Chatburn, BS, RRT-NPS, FAARC, will complete the trifecta sometime in 2012. Like his colleagues, Chatburn cites the need for post-graduate education in respiratory research, and he particularly highlights the mentoring that will be incorporated into the curriculum. "Today's health care environment isn't conducive to mentoring because the focus on the bottom line has eliminated many of the job positions that traditionally provided mentors, while at the same time increasing the workload on everyone else," Chatburn says.

Linda Van Scoder, EdD, RRT, FAARC

With fewer and fewer mentors available to take newcomers under their wings, the next generation of leaders will require a more formalized process. "Today, the average department cannot even afford an educator position, let alone a research position," notes Chatburn. "As people of this generation retire, there will be nobody left to be mentors and nobody with the time to be mentored. The respiratory care profession needs to do more to ensure that doesn't happen. We need a formal academic succession plan."

Lifelong learning

Dr. Rodriguez believes the AARC Leadership Institute will fill the void. "To remain dynamic, a profession must update its practitioners to meet the needs of patients, the health care environment, and the profession itself," she says. "The responsibility for formal education has always been the role of institutions of higher learning, but entities closer to the work environment, such as professional associations, employers, and providers, traditionally assume a major role in providing professional continuing education. The AARC is no different. We view our membership as consumers of professional education, and their status as lifelong learners as essential to the continued growth of the profession."

Robert Chatburn, BS, RRT-NPS, FAARC

It's a classic win-win situation, and Dr. Rodriguez and her colleagues on the Steering Committee urge everyone in the profession to stay tuned for more information as the Institute takes shape over the coming year. "Therapists who take advantage of the Leadership Institute will improve their chances for promotion and salary increases, they'll become more marketable in the field, they'll find greater job satisfaction, and they'll increase their knowledge in subject areas they're interested in," says Dr. Rodriguez. "Best of all, they'll be able to access this convenient, flexible education with real-world relevance right at their own desktops — and they'll earn AARC continuing education credit at the same time." ■

Improve Processes That Impact Patient Care with PROFESSOR'S ROUNDS 2010

2010 PROGRAMS

More than 90,000 clinicians have learned the latest in respiratory care from Professor's Rounds. Here is what you'll learn in 2010:

- **Identifying the Right Device for Inhaled Medication Delivery**
  Timothy R. Myers, BS RRT-NPS
  - **ITEM PR20101**
- **Taking Care of Our Kids in a Disaster: What Respiratory Therapists Need to Know***
  Michael R Anderson, MD FAAP
  - **ITEM PR20102**
- **A Fresh Look at Technology and Application – Part I: Gas Exchange Monitoring****
  Richard Branson, MSc RRT FAARC FCCM
  - **ITEM PR20103**
- **A Fresh Look at Technology and Application – Part II: Lung Mechanics Monitoring****
  Dean Hess, PhD RRT FAARC
  - **ITEM PR20104**
- **Pediatric Respiratory Care: Is There More Than One Right Answer?***
  Ira M Cheifetz, MD FAARC and Michael R Anderson, MD FAAP
  - **ITEM PR20105**
- **Computer Control of Mechanical Ventilation**
  Robert L. Chatburn, RRT-NPS FAARC
  - **ITEM PR20106**
- **Management of the Difficult Airway: Current Practice and Future Directions**
  William E Hurford, MD FCCM
  - **ITEM PR20107**
- **The Role of the Respiratory Therapist in Preventing Hospital Readmissions**
  Douglas S. Laher, RRT MBA
  - **ITEM PR20108**

BONUS PROGRAM

ONLY AVAILABLE WITH PURCHASE OF ENTIRE SERIES

- **Evidence Is Not Enough: Achieving Best Practices to Improve Patient Outcomes**
  David Pierson, MD FAARC

PROFESSOR'S ROUNDS HELP YOU…

- Build professional development
- Enhance knowledge
- Maintain competence
- Learn new technologies and new procedures
- Improve patient care
- Earn one hour of CRCE credit for each participant

Professor's Rounds can also be used in the classroom for respiratory therapy students.

The world-renowned Professor's Rounds programs make medical education from leading experts accessible to respiratory therapists with no travel and little time away from patient care. These hour-long DVD programs bring a medical conference to your facility. With Professor's Rounds, respiratory therapists learn at their own pace in the comfort of your facility and get the detailed knowledge RTs need to maintain competence and meet licensure and regulatory requirements. **Each program earns one hour of CRCE® credit for each participant.**

You'll find Professor's Rounds medical education multimedia programs to be the authoritative, indispensable educational tool that thousands have relied upon. And, you get to keep the DVD to use as a reference source that you will consult again and again.

ORDER THE SERIES AND GET A 9TH BONUS PROGRAM FOR THE PRICE OF 8!

2010 PROFESSOR'S ROUND PRICES

SINGLE PROGRAMS

- **ORDER BY INDIVIDUAL ITEM NUMBER**
  $265 for Members
  $295 for Nonmembers
  MEMBERS SAVE $30

COMPLETE SERIES OF 8 *(plus 9th Bonus Program)*

- **ITEM PR2010S**
  $1,420 for Members
  $1,605 for Nonmembers
  MEMBERS SAVE $185

*PEDIATRIC SET *(2 programs)*

- **ITEM PR2010P**
  $440 for Members
  $495 for Nonmembers
  MEMBERS SAVE $55

**FRESH LOOK SET *(2 programs)*

- **ITEM PR2010F**
  $440 for Members
  $495 for Nonmembers
  MEMBERS SAVE $55

ORDER AT WWW.AARC.ORG/GO/PR1 OR SEE PAGE 92 FOR 4 WAYS TO ORDER.

PROFESSOR'S ROUNDS 2010 PROGRAM DESCRIPTIONS

▶ Identifying the Right Device for Inhaled Medication Delivery

Professor: Timothy R. Myers, BS RRT-NPS
Moderator: Sam Giordano, MBA RRT FAARC

■ **ITEM PR20101**

For aerosol delivery to be effective, the delivery system for the medication must be matched to the patient's ability to use it correctly. Mr. Myers reviews the current technology to aerosolize medication, their indications and contraindications, and coaching techniques that help patients achieve maximum medication benefit.

▶ Taking Care of Our Kids in a Disaster: What Respiratory Therapists Need to Know*

Professor: Michael R Anderson, MD FAAP
Moderator: Sam Giordano, MBA RRT FAARC

■ **ITEM PR20102**

Preparation for natural disasters and terrorist attacks has focused on the adult population. Now, Dr. Anderson discusses how to prepare our healthcare system to care for infants and children in a disaster, including: ventilator selection, pediatric training for primary responders, pediatric dosing for antivirals and antidotes and other emergency preparedness issues.

▶ A Fresh Look at Technology and Application – Part I: Gas Exchange Monitoring**

Professor: Richard Branson, MSc RRT FAARC FCCM
Moderator: Dean Hess, PhD RRT FAARC

■ **ITEM PR20103**

Gas exchange monitoring such as pulse oximetry, capnography, and transcutaneous monitoring has been available for many years. Branson examines these monitors in light of newer technologies and current applications.

▶ A Fresh Look at Technology and Application – Part II: Lung Mechanics Monitoring**

Professor: Dean Hess, PhD RRT FAARC
Moderator: Richard Branson, MSc RRT FAARC FCCM

■ **ITEM PR20104**

Modern ventilators and related equipment allow sophisticated monitoring of lung mechanics. In this program, Dean Hess explores the use of lung mechanics in the care of mechanically ventilated patients, particularly within the context of lung-protective ventilation strategies.

▶ Pediatric Respiratory Care: Is There More Than One Right Answer?*

Professors: Ira M Cheifetz, MD FAARC; Michael R Anderson, MD FAAP
Moderator: Thomas Kallstrom, BS RRT AE-C FAARC

■ **ITEM PR20105**

Drs. Cheifetz and Anderson discuss the different approaches to management of the pediatric patient with severe acute lung injury, including the determination of optimal PEEP, using ECMO for ARDS as a sequelae of H1N1, and applying other adjunct therapies.

American Association for Respiratory Care
9425 North MacArthur Blvd. Suite 100, Irving, TX 75063
info@aarc.org – **www.AARC.org**

▶ Computer Control of Mechanical Ventilation

Professor: Robert L. Chatburn, RRT-NPS FAARC
Moderator: Dean Hess, PhD RRT FAARC

■ **ITEM PR20106**

This presentation reviews the basic concepts of computer control such as flow and pressure to complex functions like tidal volume, frequency, end tidal carbon dioxide tension, and work of breathing. Chatburn discusses the evolution of computer control algorithms and examines the literature for evidence of benefit of new computer controlled modes. Where evidence is lacking he presents theoretical benefits. Finally, he explores visions of future possibilities.

▶ Management of the Difficult Airway: Current Practice and Future Directions

Professor: William E Hurford, MD FCCM
Moderator: Dean Hess, PhD RRT FAARC

■ **ITEM PR20107**

Airway management traditionally has relied on direct laryngoscopy and intubation of the trachea. New paradigms and technologies offer new techniques that either avoid laryngoscopy or improve visualization to provide a promising armamentarium to improve patient safety and outcome.

▶ The Role of the Respiratory Therapist in Preventing Hospital Readmissions

Professor: Douglas S. Laher, RRT MBA
Moderator: Thomas Kallstrom, BS RRT AE-C FAARC

■ **ITEM PR20108**

Douglas Laher talks about how respiratory therapists can reduce unnecessary hospital readmissions on cost and patient safety by committing to evidence-based practice. He also talks about how respiratory therapists, working outside their traditional roles, can impact patient care, reduce hospital readmissions and increase patient compliance. Laher reviews efforts by hospitals, payors and regulators to reduce readmissions, and provide examples of successful strategies.

BONUS PROGRAM

ONLY AVAILABLE WITH PURCHASE OF ENTIRE SERIES

▶ Evidence Is Not Enough: Achieving Best Practices to Improve Patient Outcomes

Professor: David Pierson, MD FAARC

Patients often do not benefit as much as they should from research findings and evidence-based practice guidelines. Efforts to implement best practices are confronted by numerous barriers at all levels of the system. Dr. Pierson identifies and describes these barriers along with examples. He discusses the challenges faced by knowledge translation, the process of integrating the different components of the healthcare system to overcome these barriers, with the goals of maximum patient benefit, efficiency, and cost-effectiveness.

Are You up to Speed on the **New Pulmonary Rehabilitation Benefit?**

How the changes might impact you and your patients

by Anne Marie Hummel

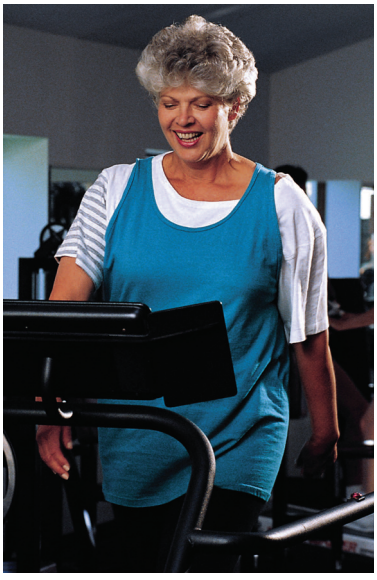
The new Medicare benefit took effect Jan. 1. Now it's time for programs to delve into the nitty-gritty details and make sure they are following the new federal requirements.

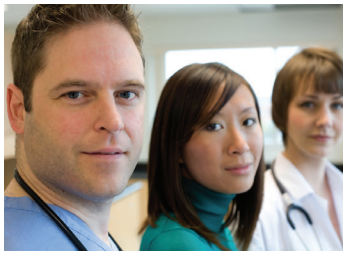
In last month's *AARC Times*, we gave you a brief overview of some of the changes the Centers for Medicare and Medicaid Services (CMS) made in the final rule governing the new Medicare benefit for pulmonary rehabilitation. Now the new rules are in effect, and pulmonary rehabilitation programs across the nation are in the process of reviewing the changes and implementing them in their programs. This month, we present the key points you need to know to keep your pulmonary rehabilitation (PR) program compliant and running smoothly.

Components of a pulmonary rehabilitation program under Medicare

For a pulmonary rehabilitation program to qualify under the new Medicare benefit, it must be a "physician-supervised program" that furnishes *all* of the following components.

- **Physician-prescribed exercise**
  - Each session must include some physician-prescribed and supervised physical activity, including aerobic exercise. There is no minimum standard. Exercise can include use of treadmills, bicycles, or other equipment and should provide increased pulmonary function, strength, endurance, and flexibility.
  - Both low- and high-intensity exercise is recommended to produce clinical benefits, and a combination of endurance and strength training at least twice a week is suggested to achieve physiological benefits.
- **Education or training**
  - Activity must address the particular needs of the individual. It should be designed to assist the individual in furthering his/her independence in activities of daily living (ADLs) and self-management of the disease.
  - Education or training sessions can include respiratory techniques for physical energy conservation, work simplification, relaxation techniques, and brief smoking-cessation counseling as appropriate
  - A respiratory therapist may also instruct an individual on the proper use of, and compliance with, a physician's prescription, along with the proper use, care, and cleaning of home respiratory equipment (e.g., nebulizers/compressors, transtracheal oxygen, peak flow meters, and oxygen-conserving devices).
- **Psychosocial assessment**
  - This is a written evaluation of the individual's needs, as appropriate, for depression management, stress reduction, relaxation techniques, and strategies for coping with lung disease. Screening and evaluation of the individual's lifestyle and other behaviors should also be evaluated, and periodic re-evaluations should be conducted to ensure that psychosocial needs are being met.
  - The initial assessment by PR staff, including respiratory therapists, should take into account aspects of the individual's family and home situation that could impact treatment and consider at the outset if referrals to support groups or other community/home care services are necessary.
  - Psychosocial intervention can also help facilitate behavioral changes as well as assist with managing symptoms such as shortness of breath.
  - Prior to each 30-day review of the individualized treatment plan, PR staff should evaluate the individual's response and rate of progress on the plan and make recommendations to the physician accordingly.
- **Outcomes assessment**
  - This is an objective clinical measure of effectiveness to determine how the PR program is helping the individual. It includes a six-minute walk, weight, exercise performance, self-reported measures of shortness of breath, behavioral measures (supplemental oxygen use, smoking status), and quality-of-life assessment. Common outcome measures are functional exercise capacity, survival, and ADLs.





  - Patient-centered outcomes require the physician's written evaluation and should be measured at the start of the program, prior to each 30-day review of the individualized treatment plan, and no later than the end of the program.

- **An individualized treatment plan**
  - This plan must be in writing and must be established, reviewed, and signed every 30 days by a physician who is involved in the individual's care and has knowledge of his or her condition.
  - Input can be provided by the PR staff, which can include, but is not limited to physicians, nurses, respiratory therapists, social workers, and dieticians. PR staff can also recommend modifications to the plan, but the physician still has to modify the plan as needed and review and sign it every 30 days.
  - The plan may initially be developed by either the referring physician or the PR physician. If the referring physician develops the plan, the PR physician must also review and sign the plan prior to initiation of the pulmonary rehabilitation.
  - A set of parameters must be included and defined in the plan. These include diagnosis, type, amount, frequency, and duration of the services and goals for the program that include the four basic components noted above.

Settings and conditions for coverage

- Pulmonary rehabilitation programs under Medicare are *only* covered in a physician's office or hospital outpatient setting. Services furnished in the Comprehensive Outpatient Rehabilitation Facility (CORF) setting are not subject to these rules.
- Safety and emergency standards in these settings must be met.
  - The physician must be immediately available and accessible for medical consultations and medical emergencies during the PR program.
  - Emergency equipment (e.g., oxygen, defibrillators, and cardiopulmonary resuscitation equipment) must be available in both settings. The physician and staff must know how to use the equipment.
- Only patients with moderate, severe, and very severe COPD as defined by the 2008 GOLD guidelines II, III, and IV are covered under the PR benefit (www.goldcopd.com).
  - Respiratory services previously allowed by local contractors for other medical conditions under other Part B benefit categories remain in effect.

Sessions

- The PR benefit covers up to 36 sessions, with no more than two sessions permitted per day. There is no duration by which sessions must be completed.

- Up to an additional 36 sessions may also be covered if the Medicare contractor approves the sessions as medically necessary. This could increase the total allowable sessions to up to 72.
- While the rules are silent with respect to the ratio of staff to individuals, it is expected that nationally recognized guidelines, such as those established by the American Association for Cardiovascular and Pulmonary Rehabilitation (AACVPR), will be followed.

Physician requirements/supervision

- The PR program must be supervised by a physician (i.e., medical director) who has expertise in the management of individuals with respiratory pathophysiology, along with cardiopulmonary training and/or certification, including basic life support, and is licensed in the state in which the PR program is offered.
  - Such physician: 1) is responsible for overseeing or supervising the PR program in its entirety, including providing oversight of the PR staff; and 2) is involved substantially in consultation with PR staff, in directing the progress of the individual patient, including direct patient contact related to the periodic review of the individual's treatment plan.
  - The physician may be the same physician who is providing and billing for the PR services.
- Direct physician supervision requires a physician to be immediately available and accessible for medical consultations and medical emergencies at all times that items and services are being furnished under the PR program.
  - In the physician office setting, the physicians must be in the office suite and immediately available, but they do not have to be in the room where the services are being furnished.
  - For PR services in the hospital or in the on-campus provider-based department (PBD) of the hospital, the physician must be present on the same campus and immediately available (the physician does not have to be in the actual room).
  - For off-campus PR services, the physician must be on site in the off-campus PBD and immediately available (the physician does not have to be in the actual room).
- Because the law is very specific, non-physician practitioners such as physician assistants and nurse practitioners are not permitted to provide "direct supervision" under the PR program in either setting.

More Information, Please

This article is a starting point for PR programs that want to know more about the new Medicare benefit. For more information, you can link to:

- The physician fee schedule [Pages 61879–61886 (overall provisions); 62002–62003 (summary text)]: http://edocket.access.gpo.gov/2009/pdf/E9-26502.pdf
- The hospital outpatient provisions: [Pages 60566–60574 (payment/supervision)]; 60575–60591) comments/supervision summary]: http://edocket.access.gpo.gov/2009/pdf/E9-26499.pdf

You can also take advantage of these resources from the AARC:

- Dr. Brian Carlin's November webcast on www.aarc.org/webcast_central. In addition to going into more detail about the new PR provisions, Dr. Carlin provides a great overview of recent research on pulmonary rehabilitation you can use to guide the evidence-based development of your programs. He also answers questions that may be of interest to you. We encourage you to listen to it.
- AARC presentations at the International Respiratory Congress in San Antonio. The Congress featured several presentations on the new benefit, and the lectures are available for purchase on CD or via download on www.siattend.com.
- The Continuing Care & Rehabilitation Section supports a dedicated e-mail list (www.aarc.org/sections/ccr) where you can learn about up-to-the-minute developments and network with colleagues around the country who are dealing with the same issues regarding the new provisions as you are. ■

Payment and coding

- Pulmonary rehabilitation services furnished to patients with moderate, severe, and very severe COPD are paid under a single code (see below) that includes *all* components of the program. Unbundling of services and separate billing is not permitted. For both physician office and hospital outpatient PR settings, payment is based on a one-hour session with up to two sessions per day allowed.
  - The new code is G0424 – Pulmonary rehabilitation, including aerobic exercise (including monitoring), per session, per day.
  - In the hospital outpatient setting, G0424 is assigned to new clinical APC: 0102 (Level II Pulmonary Treatment)
  - Coding and payment for covered respiratory services furnished to non-COPD Medicare beneficiaries under local policies prior to the new PR benefit stay the same.
- Physical therapists cannot bill separate PT codes if they conduct assessments and individualized treatments as part of the PR program. These services are considered part of the overall treatment plan for pulmonary rehabilitation and are to be billed using the new single G0424 code. This is also true for occupational therapy services.

A bright future lies ahead

While these regulations do not reflect everything we in the PR community had asked for in our comments to CMS last fall, they are a significant step up from the proposed regulations issued last summer. Brian Carlin, MD, FAARC, FAARCVPR, assistant professor of medicine at Drexel University and medical director of pulmonary rehabilitation for the Lifeline Specialty Centers in Pittsburgh, PA, probably summed it up best in his recent AARC webcast on the new regulations: "Obviously there are a lot of individual items that will be clarified in the future. What I can say to all of you in pulmonary rehabilitation, or getting involved in pulmonary rehabilitation, is that there is a bright future out there."

As we have throughout the public comment period, the AARC will continue to work closely with related professional organizations — the AACVPR, the American College of Chest Physicians, the American Thoracic Society, and the National Association for Medical Direction of Respiratory Care. We expect to work with the local contractors and to develop resources and "frequently asked questions" to keep you informed. In the meantime, we agree wholeheartedly with Dr. Carlin when he said the future is bright. The ultimate beneficiaries will not be our organizations or even our members, but the chronic pulmonary patients who will now have greater access to the services they need to live well with lung disease. ■

Anne Marie Hummel is the AARC's director of regulatory affairs.

Because you need to...

hear Rose's story

VATER, Tracheomalacia,
Vocal Cord Paralysis and
Chronic Aspiration

"Passy-Muir has helped in ways that we cannot put in words. The Passy-Muir Valve is part of my daughter's body. When we take it off for a breathing treatment and do not put it back on immediately after, she whispers "Passy-Muir" and signs for it (by putting her fingers towards her trach). When her valve falls off in the apartment (no worries, I steam clean the floor), she picks it up and puts it back on herself. I just cannot imagine Rosie without a voice. She is a little actress, she acts out loud all day long: her movies, her favorite songs… She is a non-stop talker, she is so loud, to the point that we have to tell her: "Rosie, please use your quiet voice" when we are inside the house.

She also suffers from vocal cord paralysis and chronic aspiration (complication from esophageal reconstruction surgery). She's been g-tube fed for two years and we are introducing solid foods to her. The Passy-Muir Valve has been such a huge help in this area as well. She aspirates without it. She can eat half a container of chocolate pudding and drink water without needing suctioning even once when she wears the Passy-Muir Valve… anyway, we are just so very grateful!"

Amélie, Rose's Mom

Passy-Muir Inc.

Tracheostomy & Ventilator Swallowing and Speaking Valves
www.passy-muir.com • 1-800-634-5397

Circle 13 on product information card

Pulmonary Community Loses Pioneering Physician

Dr. Thomas Petty made a huge mark on respiratory care

The entire pulmonary community has been saddened by the death of Thomas L. Petty, MD, FAARC, who passed away on Dec. 12 at his home in Colorado following a long illness.

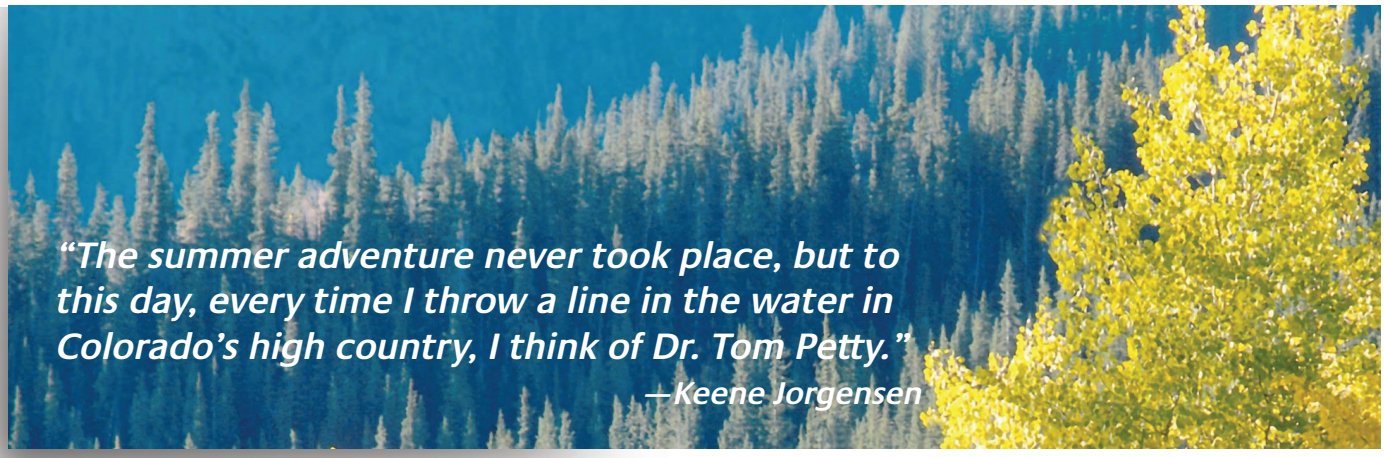
While friends and co-workers around the world mourn his loss, we also celebrate the man and his legacy, which included pioneering work on many of the treatments and modalities used in respiratory care today.

Comments heard from some of his closest colleagues illustrate the great love and admiration they had for this professional icon. "He left us with fond memories of him as a leader, educator, researcher, innovator, and most of all a patient advocate — yet he was one of the most humble men I have ever met," said Dennis E. Doherty, MD. "He was a true mentor to thousands, led by example, and was always there for you."

Gretchen Lawrence, BA, RRT, FAARC, expressed the disbelief felt by many upon news of his death. "Larger than life people like Tom are supposed to live on and on — and I know he will through the people he mentored over the years. And what a wonderful patient advocate he was! He set an example for all of us."

"Tom Petty was an inspiration to me and the person who taught me to focus and care about the patients we serve," noted Robert McCoy, BS, RRT, FAARC. "He was a pioneer and a visionary who created much of the evidence we have in respiratory care, and he is considered the father of long-term oxygen therapy."

Although Dr. Petty was destined to become one of the leading pulmonary physicians of his day, his original plan was to become a family physician.



The "Patient's" Doctor

by Keene Jorgensen

One winter day not that long ago, Dr. Tom Petty and I planned a fishing trip for the upcoming summer while walking in the parking lot of National Jewish Hospital in Denver, CO, on our way to a morning meeting. I thought how fun this adventure was going to be — it was a week before Dr. Petty's upcoming leg surgery, and he was looking forward to that being done so he could pursue more important things like fishing. The summer adventure never took place, but to this day, every time I throw a line in the water in Colorado's high country, I think of Dr. Tom Petty. Dr. Petty was a "patient's" doctor. No matter who you were, as he talked with you he put you at ease and made you feel like everyone was on the same level playing field.

Dr. Petty's real passion was getting patients involved with not only their care, but communicating with other patients as well so they would get the most out of their lives and other patients' lives too. As my pulmonologist put it on one of my many visits, Dr. Petty was the "godfather of long-term oxygen therapy." And for that, we, the oxygen patients of the world, owe him our lives.

Dr. Thomas Petty was someone very special — one in a million, as the saying goes. He was a husband, family man, doctor, researcher, peer and colleague, fisherman, patient, author, inventor, jokester, mentor, philanthropist, director, professor… the list is endless. So as one fisherman to another, as a final resting place, the Trappers Lake Area in the heart of the White River National Forest has to be the most beautiful place on the planet.

Farewell to my friend and mentor. ■

Keene Jorgensen is president of the Patient Chapter of the Colorado Society for Respiratory Care.

Early career

Although Dr. Petty was destined to become one of the leading pulmonary physicians of his day, his original plan was to become a family physician. After graduating from the University of Colorado Medical School in the late 1950s — where he famously assisted leading researchers Clarence Maaske and Dr. John Chain in their high altitude experiments the summer after his freshman year — he completed an internship at Philadelphia General Hospital. He selected internal medicine as his specialty and went on to spend a year as assistant resident in medicine at the University of Michigan. From there he returned to the University of Colorado, where he completed another residency and fellowship in pulmonary medicine before being named chief resident.

By 1962, Dr. Petty was a member of the faculty at the school, a position he would hold throughout his long career. From 1965 to 1985 he was director of the respiratory care unit at the medical center, and he served as head of the pulmonary medicine division from 1971 to 1983. During his tenure, he was credited with training more than 220 physicians who would themselves go on to lead the way in pulmonary medicine, including

"His own need for supplementary oxygen afforded him a unique insight that has touched the lives and welfare of patients throughout the world." —*Edna Fiore*

David Pierson, MD, FAARC, editor emeritus of RESPIRATORY CARE.

Test Your Lungs, Know Your Numbers

Widely known as the father of pulmonary rehabilitation, Dr. Petty founded the National Lung Health Education Program (NLHEP) to promote earlier detection of COPD through the use of spirometry in primary care practices. The organization's motto — Test Your Lungs, Know Your Numbers — has gone a long way in getting the word out to physicians and the public alike. He conducted much of the early work on the acute respiratory distress syndrome as well, and pioneered studies on ambulatory oxygen.

Dr. Petty enlisted the help of respiratory therapists in many of his efforts and worked with the AARC to support the mission of NLHEP. He was a major contributor to the AARC's consumer web site, YourLungHealth.org, where he hosted an "Ask Dr. Tom" column for many years, taking questions from patients, families, and even RTs.

"Dr. Tom dedicated his life to improving the quality of life for respiratory patients," said Edna Fiore, speaking on behalf of her fellow patients in the Colorado COPD Connection. "His own need for supplementary oxygen afforded him a unique insight that has touched the lives and welfare of patients throughout the world. His legacy and dedication to all patients will live on in the annual Thomas L. Petty Moving Mountains COPD Conference and in the body of his published works."

Other patients remember Dr. Petty for the personal touch he put on each and every patient encounter. Marty and Marylou Lannon recall meeting the physician at the Sixth Oxygen Consensus Conference, where he immediately put them at ease and even spent time visiting with them during dinner. "We are so grateful that we got to be with Dr. Petty," said the couple. "He always seemed interested in how things were working out for us and what he could do to help."

Far-reaching impact

In addition to his position at the University of Colorado, Dr. Petty served as adjunct professor of medicine at the University of Kansas, professor of medicine at Rush-Presbyterian-St. Luke's Medical Center in Chicago, faculty consultant with HealthONE, and consultant to the Denver Veterans Administration Hospital. He held an academic appointment at the University of North Dakota as well, served as a consultant to Fitzsimons General Hospital, and as director of the Webb-Waring Lung Institute.

Dr. Petty served on numerous editorial boards over the years, including RESPIRATORY CARE, CHEST, the *Archives of Internal Medicine*, *Heart and Lung*, and *Critical Care Medicine*. He was associate editor of the *American Review of Respiratory Diseases* from 1983 to 1990 and co-editor-in-chief

■ Dr. Petty won the Jimmy A. Young medal in 2003.

■ He spoke several times at the AARC International Congresses.

Thanks to Dr. Petty, Colorado Professionals Move Mountains for Their COPD Patients

People who suffer from COPD say they often feel like they must "move a mountain" to improve their quality of life.

In Colorado, moving mountains is par for the course for respiratory professionals, and they live that philosophy every year during their annual Thomas L. Petty, MD, Moving Mountains COPD Conference. The group that gathered in Denver last October was honored to have the legendary physician attend the event. Despite his declining health, Dr. Petty took the time to come and visit with health professionals and patients, sharing his insights into the best ways to manage chronic lung disease.

The impact that the conference has had on the state was evident by the presence of U.S. Representative Diana DeGette, from Colorado's first district, who received a certificate of appreciation both for supporting legislation to improve care and treatment for COPD and becoming the first member of Congress from Colorado to join the Congressional COPD Caucus.

The conference also served as the site for a session of the AARC's COPD Educator Course (which will be available to RTs this year in a new online format), providing attendees with tools to hone their disease management skills. ■

■ Dr. Tom Petty joined his colleagues at the annual Moving Mountains conference last October. It was one of his last public appearances.

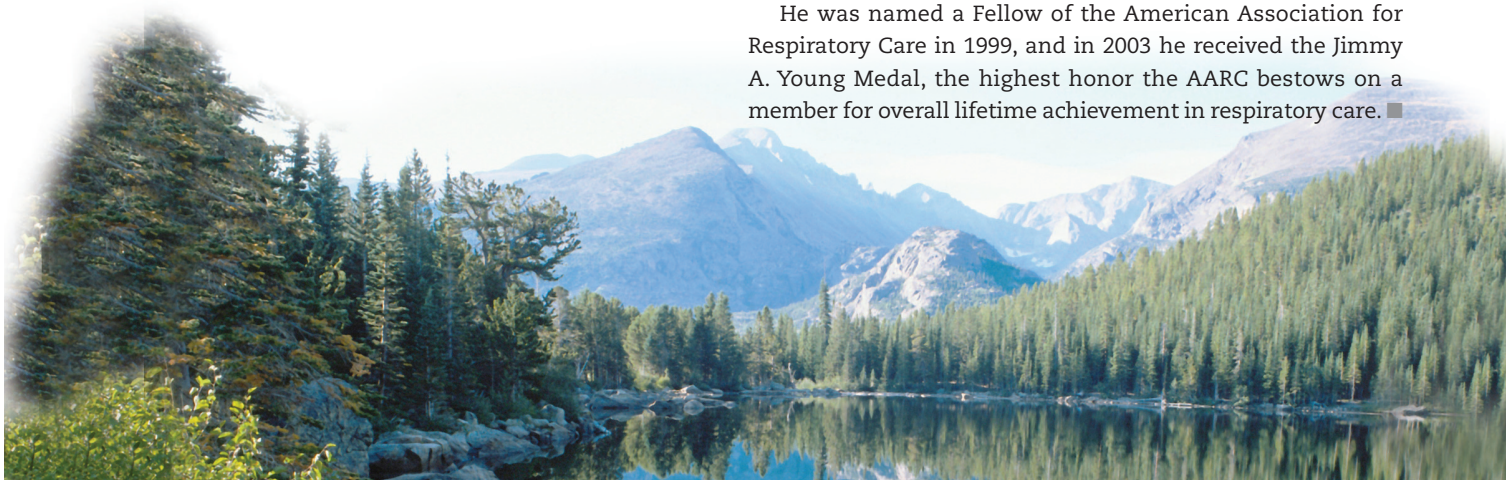
of *Seminars in Respiratory and Critical Care Medicine* from 1976 to 1996.

He authored or co-authored hundreds of original investigations, and his 1971 book, "Intensive and Rehabilitative Respiratory Care," is credited with establishing the core of respiratory care practice.

Honors and awards

Dr. Petty was honored by his colleagues on many, many occasions, receiving, among others, the University of Colorado's Silver and Gold Award for Excellence, the Michigan Thoracic Society's Bruce Douglas Award for Outstanding Contributions to Pulmonary Medicine, and the American Thoracic Society's Distinguished Achievement Award.

He was named a Fellow of the American Association for Respiratory Care in 1999, and in 2003 he received the Jimmy A. Young Medal, the highest honor the AARC bestows on a member for overall lifetime achievement in respiratory care. ■



CALL FOR ENTRIES

AARC Times

PHOTO CONTEST

IMPORTANT:
PLEASE READ THE FOLLOWING PHOTO REQUIREMENTS

Adhering to these requirements will assure that your photograph will be acceptable for publication. A good photograph produced at the wrong resolution may render it unsuitable for reproduction.

➡ **Since the photo is for the cover,** we require a vertical format. Turn your camera sideways to take the photo.

NO | YES

➡ **If your photo is taken with a standard film camera,** we will need a color print and negative shipped to us at **PHOTO CONTEST,** AARC, 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706.

➡ **Most digital cameras give you a choice of settings for image resolution.** Photos taken at lower resolution settings take up less room on your memory card but may not be useable for print productions. Set your camera for the highest resolution photo and save it as JPEG or TIFF.

➡ **We prefer that you mail a CD of your photo since it will probably be too large to be e-mailed.** If you do try to e-mail, please send it directly to our production manager, Donna Knauf, at knauf@aarc.org and indicate clearly in your e-mail that the photo is for the Photo Contest.

HERE'S YOUR CHANCE TO HELP CHOOSE THE COVER OF *AARC TIMES* MAGAZINE

HERE'S HOW IT WORKS:

AARC Times will collect photo entries from the membership. Contest finalists will receive **FREE DUES** on renewal AND will automatically be entered into the publication's Photo-of-the-Year Contest, which will take place in the November 2010 issue.

The Photo-of-the-Year winner will see his or her photograph on the **COVER** of the January 2011 issue of *AARC Times*!

WHAT KINDS OF PHOTOS ARE WE LOOKING FOR?

Heartwarming photos of your adult patients who rely on your care and guidance and who inspire you.

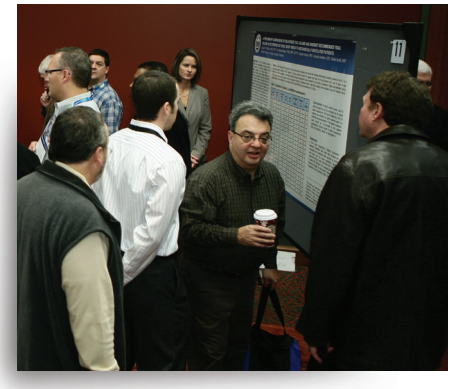
JUST FOLLOW THESE SIMPLE RULES:

- Provide a signed release for any patients or co-workers pictured in your photos. The form is available online at **www.aarc.org/headlines/photo_contest/** or can be faxed to you by calling Karen at (972) 406-4661. Photos cannot be published without signed releases.
- Send a brief background story with the photo.
- Photos will not be returned and become the property of the AARC.
- Do not print photos from your home printer.
- Photographic prints of good quality are acceptable. Please **read the requirements we have provided at left** so that you send your photo in a format that can be used and reproduced in a magazine.

WWW.AARC.ORG

Everything That *Matters*

Photos by Lennie Sirmopoulos, Convention Photography



For more AARC Congress news, visit our web site at www.aarc.org/education/meetings

55th Annual Meeting

provides the tools needed to maintain quality patient care while keeping an eye on the bottom line

Cutbacks on hospital spending and even layoffs in some places did not dissuade respiratory professionals from converging on San Antonio, TX, Dec. 5–8 to take part in the AARC International Respiratory Congress. The strong attendance figures noted at the meeting not only illustrate the importance of this annual event in the respiratory care profession but the value placed in the conference by health care administrators faced with increasingly tight budgets for continuing education.

"We were pleased to see so many people attend after a year of financial uncertainty. I think this reflects on how respiratory therapists are eager to participate and bring back critical information that will help them ultimately provide better care," said AARC COO Thomas Kallstrom, BS, RRT, AE-C, FAARC. "Clearly, hospital leaders recognize that only by ensuring the education of these frontline caregivers will their facilities truly be equipped to meet patient needs in the event of a national emergency, such as the H1N1 flu, or even deliver the most cost-effective care under health care reform."

Attendees definitely got what they came for — over the four-day session, respiratory professionals from around the world heard more than 200 lectures on everything from the latest techniques and modalities in the profession to the best ways to maximize resources. They also took advantage of original research presented in 16 Open Forums, saw the most up-to-date technology available in the Exhibit Hall, and had the opportunity to network with peers from across the nation and around the world about what works and what doesn't in the practice of respiratory care.

The following pages illustrate some of the events and activities of the Congress.

Photo by Beth Binkley

A Moving Tribute to a Living Legend

Dr. Forrest M. Bird

As it always does, the meeting kicked off with the Awards Ceremony and Keynote Address. But the presentation by a living legend in the respiratory care profession packed the house. There was standing room only as Forrest M. Bird, PhD, ScD, MD, FAARC, came to the podium to accept the Jimmy A. Young Medal, deliver the 2009 Keynote Address, and receive a moving tribute from more than 75 military respiratory therapists in uniform. Led by Scott (Woody) Woodcox, BS, RRT, the military contingent surprised him with a special military recognition award and presented him with American flags that had recently been flown in Afghanistan and Iraq. The tribute was especially appropriate, given the fact that military physicians in San Antonio were among the first to learn about Dr. Bird's early inventions in respiratory care back

when he was still a pilot in World War II.

Visibly touched by this special honor, Dr. Bird thanked the military, noting that many people in the service had helped him along his way to success and that his extended education after his service in WWII was made possible by the GI Bill.

In his keynote address, Dr. Bird delighted attendees with several entertaining stories of how his father and the pre-WWII military helped him become the man and the respiratory care icon he is today. According to the inventor, his father taught him a couple of very important things. First, if you want something, you have to earn it. Second, "Your true wealth is not in your bank, it's in your brain."

In appreciation for his outstanding work in respiratory care, Dr. Bird received several standing ovations, further cementing his beloved status among respiratory care professionals around the world. ■

Scott (Woody) Woodcox

Education, Education, Education

Respiratory professionals who came to San Antonio last December were there to learn about new clinical, managerial, and educational techniques they could use to help their facilities cope with everything from H1N1 influenza to health care reform. The meeting delivered the goods. Take a look at just a few of the standout presentations available during the Congress:

• The science and practice of aerosol therapy took center stage during the Donald F. Egan Lecture, delivered by Bruce K. Rubin, MD, MEngr, MBA, FAARC.
• The New Horizons Symposium® zeroed in on "Airway Management: Current Practice and Future Direction," with lectures aimed at bringing everyone up-to-speed on the latest thinking regarding intubation and tracheostomy.
• The Phil Kittredge Memorial Lecture by Dale M. Needham, MD, PhD, targeted "Patient Safety, Quality of Care, and Knowledge Translation in the ICU."
• AARC Director of Management and Education Bill Dubbs, MEd, RRT, FAARC, presented an overview of the Association's 2009 Human Resources Survey.
• The "Respiratory Care Journal Conference on RC Controversies" provided a first look at the cutting-edge papers presented during the recently convened conference.
• The "Respiratory Care Journal Symposium: What You Should Know About the Journal and Its Role as a Peer-Reviewed Journal" served as both a tutorial on publishing in the Journal and a primer on how to read and interpret the scientific literature.
• The "Educator Academy" focused on coaching students and other issues essential to success in the classroom and clinic.
• Several presenters took aim at the new Medicare pulmonary rehabilitation benefit, explaining the final regulations to attendees and equipping them with the information they would need to get ready for the Jan. 1 implementation of the benefit.
• And of course, H1N1 was addressed, with several lectures bringing attendees up to speed on the care of patients who become critically ill with the flu.

Dr. Dale M. Needham

The Leader's Edge

With the nation still embroiled in an economic crisis and health care reform right around the corner, Congress programmers went above and beyond to provide managers with targeted information aimed at helping them stay one step ahead in 2010:

- Saturday's seminar on "Resource Management" provided details on improving service excellence, boosting productivity, and harnessing the power of AARC Benchmarking to control missed treatments.
- Sunday morning's session on "Leading Through Tumultuous Times" zeroed in on how to use disposable equipment safely and effectively, how to get approval for new equipment, how to eliminate waste while adding value, and how to make your staff indispensable.
- On Monday afternoon, leaders found out more about making the business case for respiratory care, increasing productivity, and implementing protocols in "Essential Skills for the Successful Leader."
- Tuesday's "Leadership Institute" was full of great ideas and alternative approaches for new and experienced managers alike.
- And Tuesday afternoon, everyone got an inside look at the "lean" process in "Perfecting Patient Care with Lean Thinking."

Other presentations ran the gamut, targeting everything from tobacco cessation, to the role RTs play in the military, to quality assurance standards in pulmonary function labs, to the latest in ICU care, to neonatal-pediatric issues, to respiratory home care and the ongoing challenges it faces, to sleep testing and treatment. Attendees said the problem wasn't finding relevant lectures to attend — it was trying to decide how to fit as many of these sessions as possible into the four-day schedule.

Top Performing Companies Honored with Zenith Awards

The AARC Zenith Award — which recognizes respiratory care manufacturers, service organizations, and supply companies for their quality, accessibility, responsiveness, service, truth in advertising, and support of the profession — went to these five companies this year: CareFusion, Covidien, Draeger Medical, GE Healthcare, and Masimo Corporation. Company representatives accepted the awards presented by Dario Rodriguez and William Bernhard, MD (right).

AARC Installs 2010 Officials

The Association's 2010 officials were installed during the AARC Annual Business Meeting on Sunday. Karen Stewart, MSc, RRT, FAARC, was sworn in as president-elect and Frank Salvatore, MBA, RRT, FAARC, assumed his seat as director at large on the AARC Board of Directors. The new specialty section chairs are Debbie Koehl, MS, RRT, AE-C, Continuing Care/Rehab; Greg Spratt, RRT, CPFT, Home Care; Tiffany Mabe, RRT-NPS, CICP, Neonatal-Pediatrics; and Tony Stigall, MBA, RRT, RPSGT, Sleep.

New officers for the House of Delegates are Thomas Lamphere, BS, RRT, speaker; Billy M. Lamb, BS, RRT, CPFT, FAARC, speaker-elect; Sheri Tooley Peters, RRT-NPS, CPFT, AE-C, secretary; and Debra Skees, BS, RRT, CPFT, treasurer.

Congress Delivers Extra Value with New RC Solutions Showcase

The Exhibit Hall is always THE place to see the latest in respiratory technology, but the 2009 meeting offered attendees even more opportunities to learn about new products and equipment.

The Association's RC Solutions Showcase, located in a dedicated space right in the Exhibit Hall, featured short presentations by manufacturers, with time allotted for questions from the audience. The idea was to provide an organized venue wherein attendees could become better equipped to make purchasing decisions for their organizations.

Combined with the Buying Show concept, which allows exhibitors to offer special meeting discounts right on the Exhibit Hall floor, the RC Solutions Showcase delivered added value to anyone looking to scout out the best deals at the meeting.

2009 Award

The following people were recognized at the Congress by the American Association for Respiratory Care, American Respiratory Care Foundation, and the National Board for Respiratory Care.

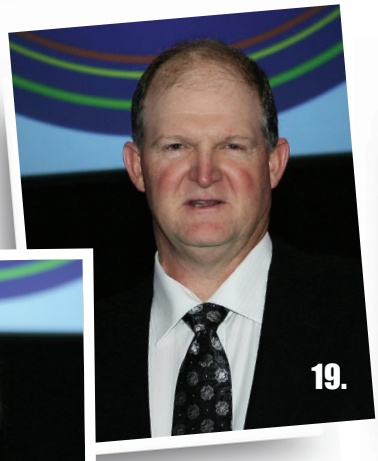
1. Jimmy A. Young Medal: Forrest M. Bird, MD, PhD, ScD, FAARC
2. Morton B. Duggan Jr. Memorial Education Recognition Award: Jessica Edgerton, RRT
3. NBRC/AMP William W. Burgin Jr. MD Education Recognition Award: Jason D. Ramsey, RRT
4. NBRC/AMP Robert M. Lawrence MD Education Recognition Award: Bjorn Spoon, RRT
5. William F. Miller MD Postgraduate Education Recognition Award: Leah M. Carlson, BS, RRT-NPS
6. NBRC/AMP Gareth B. Gish Memorial Postgraduate Education Recognition Award: Ashley F. Dulle, BS, RRT, AE-C
7. Charles W. Serby COPD Research Fellowship: John G. Seifert, PhD
8. GlaxoSmithKline Fellowship for Asthma Care Management Education: Elgloria A. Harrison, MS, RRT-NPS
9. Monaghan/Trudell Fellowship for Aerosol Technique Development: Robert L. Chatburn, RRT-NPS, FAARC
10. Philips Respironics Fellowship in Non-Invasive Respiratory Care: Louis M. Kaufman, RRT-NPS, FAARC
11. Philips Respironics Fellowship in Mechanical Ventilation: Arthur A. Taft, PhD, RRT
12. CareFusion Fellowship for Neonatal and Pediatric Therapists: Diane K. Howard RRT-NPS

Winners

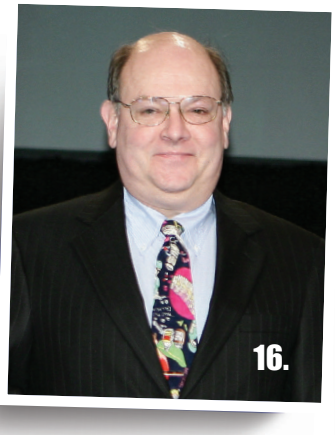
13. Forrest M. Bird Lifetime Scientific Achievement Award: James K. Stoller, MD, MS, FAARC
14. Dr. Charles H. Hudson Award for Cardiopulmonary Public Health: John Kattwinkel, MD
15. Invacare Award for Excellence in Home Respiratory Care: John R. Loyer, MS, RRT
16. Sepracor Achievement Award for Excellence in Pulmonary Disease State Management: Peter C. Gay, MD
17. Ikaria Literary Award: Kathy Jones-Boggs Rye, EdD, RRT
18. Dr. Allen DeVilbiss Literary Award: Robert M. DiBlasi, RRT-NPS; John S. Salyer, MBA, RRT, FAARC; Jay C. Zegnego; Gregory J. Redding, MD; and C. Peter Richardson, PhD
19. Albert H. Andrews Jr. MD Memorial Award (NBRC): Robert A. May, MD
20. Héctor León Garza MD Achievement Award for Excellence in International Respiratory Care: Kazunao Watanabe, MD


13.


15.


19.


20.


16.


17.

International Fellows:

Bolanle Adefuye, MBBS, FWACP (Nigeria)
Adriana Maria Davalos Goiriz, MD (Paraguay)
Keiko Hasegawa, MD (Japan)
Aliaksandr Makarevich, MD, PhD (Belarus)
Noel Tiburcio, MBA, RRT-NPS (UAE)
Yue-hua Yuan, BS, RT, RN (China)

2009 Award Winners

(Continued)

Specialty Practitioners of the Year:
Adult Acute Care, Matthew Davis, RRT; Continuing Care and Rehabilitation, Maria Correa, BS, RRT; Diagnostics, Anne M. Hamilton, BS, RRT; Education, Jeffrey J. Ward, MEd, RRT, FAARC; Long Term Care, Amy D. Jackson, RRT; Management, Scott Reistad, RRT; Neonatal-Pediatric, Cynthia C. White, BA, RRT-NPS, AE-C; Sleep, Thomas R. Smalling, PhD, RRT, RPFT, RPSGT, FAARC; Surface and Air Transport, Richard W. Zimmerman, Jr., RRT-NPS, CCEMTP, C-NPT

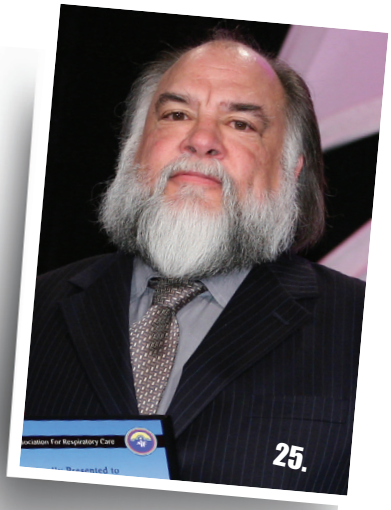
21. Zenith Awards: CareFusion, Covidien, Draeger Medical, GE Healthcare, Masimo Corporation
22. Honorary Membership: Dale L. Griffiths
23. Life Membership: Vijay M. Deshpande, MS, RRT, FAARC
24. Outstanding Affiliate Contributor: Robert A. Milisch, MEd, RRT
25. Delegate of the Year: Jim Lanoha, RRT (Louisiana)
26. Summit Award: Kansas Respiratory Care Society

AARC Fellows:

Kathleen Deakins, MSHA, RRT-NPS
John Emberger, BS, RRT
Homer Engert, RRT
Susan Rinaldo-Gallo, MEd, RRT
Keith B. Hopper, PhD, RRT
John M. Hughes, MEd, RRT, AE-C
Billy M. Lamb, BS, RRT, CPFT
Carolyn O'Daniel, EdD, RRT
John H. Riggs, PhD, RRT
David W. Robbins, DC, RRT, CPFT
Michael W. Runge, BS, RRT
Kathy Jones-Boggs Rye, EdD, RRT
Robert C. Shaw, Jr., PhD, RRT
Mark S. Siobal, BS, RRT
Linda A. Smith, BS, RRT
Arthur A. Taft, PhD, RRT
Linda Van Scoder, EdD, RRT
Dennis Wissing, PhD, RRT, CPFT, AE-C


23.


24.


25.


26.

Big Military Presence in San Antonio

From the more than 75 military RTs who came up on stage to honor Dr. Forrest Bird during the Awards Ceremony to the 50-plus respiratory therapy students from the Interservice Respiratory Therapist Program at Fort Sam Houston who ran in formation during the Roche 5K on Sunday morning, the 2009 Congress definitely had a military flare.

Part of the reason was the free Congress registration the AARC made available not only to military RTs but also to military physicians, nurses, and other professionals who staff the many military medical facilities in and around the city.

Members of the Association's Military Roundtable were on hand each day in the Exhibit Hall as well, to visit with attendees about the Association's support of the military and to urge them to sign up for the roundtable. Membership in the roundtable is available free of charge to any AARC member, regardless of current or former military service, who wants to show his or her support for our military members. You can join the roundtable now by going to www.aarc.org and clicking on Sections/Roundtables in the left-hand menu.

RT students at the University of Texas Health Science Center at San Antonio volunteered for community service.

Your Lung Health Program Gives Back to the Community

The AARC typically hosts a consumer health program during the Congress, but organizers took a different approach in San Antonio. The 2009 Your Lung Health Public Health Program moved outdoors on Sunday afternoon, with both student and RT volunteers setting up displays and informational materials in the Gazebo in Alamo Plaza, located right across the street from the world-renowned Alamo.

The event drew plenty of foot traffic, as folks out to see the city's most famous attraction spotted our display and came over to learn a little about lung health from AARC members who were on hand to provide information about pulmonary conditions. They answered questions about medications and devices and demonstrated the use of devices and peak flow meters.

"Our 'Your Lung Health' program is always a great way to give something back to the city that is acting as our host for the AARC Congress," said Thomas Kallstrom.

Photos by Beth Binkley

AARC Salutes 2009, 2010 Corporate Partners

AARC Corporate Partners work with the Association to advance the respiratory care profession and promote quality respiratory health care. The AARC is proud to recognize its Corporate Partners for 2009: Cardinal Health, Sepracor, Masimo, Boehringer Ingelheim, Covidien, Monaghan, Philips Respironics, Ikaria, Maquet Inc, Draeger, and GE Healthcare.

The Association's 2010 Corporate Partners include CareFusion, Masimo, Covidien, Monaghan, Philips Respironics, Draeger, and GE Healthcare.

It Really Was an International Affair

Languages from around the globe could be heard throughout the hallways and meeting rooms at the Congress, as attendees from all over the world came to San Antonio to take part in the premiere respiratory care meeting of the year.

"AARC's international involvement has steadily increased over the past 20 years," says John Hiser, MEd, RRT, FAARC, chair of the International Committee. "We now have over 600 international members from 60 countries, and our International Congress is a reflection of how diversified we, as an organization, have become. Last year in Anaheim we had attendees from more than 20 countries, and I would expect that we had a similar turnout in San Antonio."

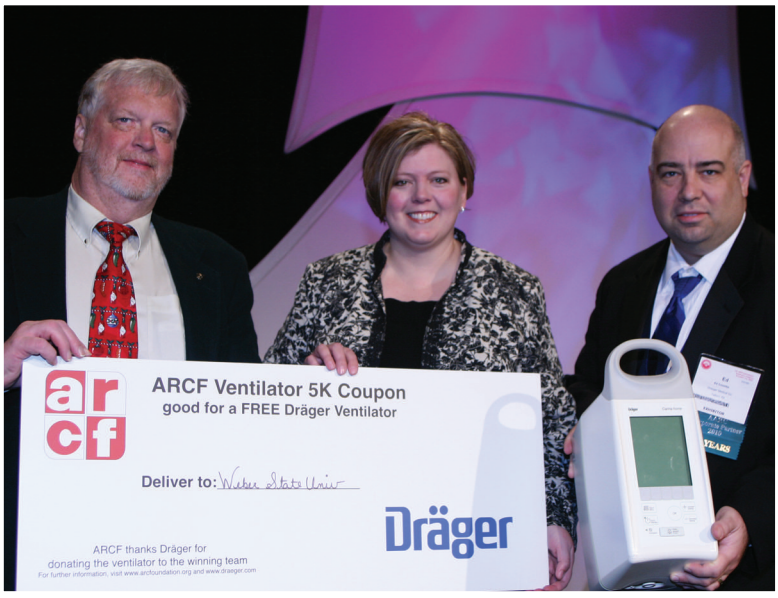
Chief among these international attendees were our 2009 international fellows who came to the meeting fresh from visits to two U.S. cities each, where they learned more about American respiratory care during visits to hospitals, educational programs, and other care settings. Our 2009 international fellows included:

- Yue-hua Yuan, BS, RT, RN, China
- Adriana Maria Davalos Goiriz, MD, Paraguay
- Keiko Hasegawa, MD, Japan
- Aliaksandr Makarevich, MD, PhD, Belarus
- Noel Tiburcio, MBA, RRT-NPS, United Arab Emirates
- Bolanle Adefuye, MBBS, FWACP, Nigeria

The fellows were honored along with the International Fellowship sponsors and city hosts, International Council for Respiratory Care governors, and winners of the Héctor León Garza Award and the Koga Medal, at a special reception and fundraiser held on Monday evening. ■

John Hiser

Dr. Kazunao Watanabe



Vent 5K: 2009 Champs!

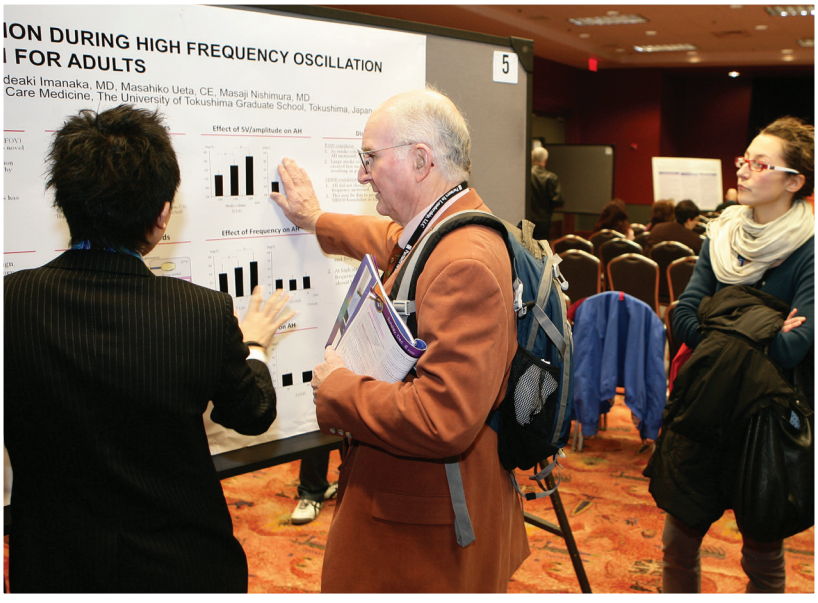
This year's Ventilator 5K events took place all over the country, and the results were announced at the Congress. The winning team is from Weber State University in Ogden, UT. The respiratory care program will receive a Carina® home ventilator, donated by Draeger. Ed Coombs (right) of Draeger presented the award to Janelle Gardiner of WSU.

Want to get in on the action in 2010? Find out how to host a Vent 5K of your own at www.arcfoundation.org.■

Open Forum Abstracts Online Now

If you had to miss this year's Congress, you can still catch up:

- All of the abstracts presented during the 2009 Open Forum — and dating back to 1995 — are available on www.rcjournal.com.
- Lectures are available for sale, either on CD or via downloading, on the Sound Images web site, www.siattend.com.



Thank-you 2009 Congress Sponsors

The AARC Congress benefits every year from the generous support of our friends in industry who help fund everything from the Sputum Bowl to the printed *Congress Gazettes*. We would like to take this opportunity to thank the 2009 sponsors:

CareFusion
Covidien
GE Healthcare
Geico
Hill-Rom
Ikaria
Kimberly-Clark Health Care
Monaghan Medical Corporation
Nonin Medical Inc.
Roche Diagnostics

36th Donald F. Egan Memorial Lecture

Air and Soul: The Science and Application of Aerosol Therapy

by Bruce K. Rubin MEngr, MD, MBA, FAARC

This lecture reviewed the history of aerosol therapy; discussed patient, drug, and device factors that can influence the success of aerosol therapy; and identified trends that will drive the science of aerosol therapy in the future. Aerosol medication is generally less expensive, works more rapidly, and produces fewer side effects than the same drug given systemically. For thousands of years, aerosol therapy has been used by steaming and burning; but in the 50 years since the invention of the MDI, advances in drugs and devices have made aerosols the most commonly used means to deliver therapy for asthma and COPD.

Many devices have been developed to target the effectiveness of aerosol inhalation and deposition. The requirements for aerosol therapy depend on the target site of action and the underlying disease. Medication to treat airways disease should deposit on the conducting airways. Effective deposition of airway particles generally requires particle size between 0.5 and 5 μm MMAD, but a smaller particle size neither equates to greater side effects or greater effectiveness. However, medications, like peptides intended for systemic absorption (insulin, growth hormone), need to deposit on the alveolar capillary bed. Thus, ultrafine particles, a slow inhalation, and relatively normal airways that do not hinder aerosol penetration will optimize systemic delivery.

Aerosolized antimicrobials are often used for treating CF or bronchiectasis, and mucoactive agents to promote mucus clearance have been delivered by aerosol for treating a variety of diseases. As technology improves, a greater variety of novel medications are being developed for aerosol delivery, including: pulmonary hypertension (prostacyclin analogues, epoprostenol, and iloprost), immunizations and vaccines (influenza and tuberculosis), dyspnea (morphine), airway inflammation (alpha-1 antiprotease, glutathione), migraine headache (ergotamine), nicotine and drug addiction, and, ultimately, gene therapy.

Common reasons for therapeutic failure of aerosol medications include the use of inactive or depleted medications, inappropriate use of the aerosol device, and most importantly, poor adherence to prescribed therapy. The RT plays a key role in patient education, device selection, and outcomes assessment.

2009 Covidien Sputum Bowl Winners

The following teams captured the big prizes in the 2009 Covidien Sputum Bowl:

National Division
First Place:
Ohio

Second Place:
Minnesota

Third Place:
Maryland/DC
Wisconsin

Students Division
First Place:
California

Second Place:
Arizona

Third Place:
Pennsylvania and Texas

California won the students' division.

The Ohio team placed first in the national championship.

Industry Watch

NHLBI awards contract to improve asthma control

The National Heart, Lung, and Blood Institute has approved the award of 13 contracts totaling $1.3 million to local organizations across the country to develop, implement, and test science-based approaches to improving asthma control using evidence-based national guidelines for diagnosing and managing asthma. The two-year contracts will be administered by the Academy for Educational Development, which serves as a contractor for the NHLBI's National Asthma Control Initiative, a new initiative to strengthen collaborative efforts among patients and families, health care providers, and other stakeholders committed to improving the management of asthma.

Pharmaxis test receives nod from FDA

According to Pharmaxis, the FDA's Pulmonary-Allergy Drugs Advisory Committee has voted to recommend the approval of the company's Aridol™ (mannitol bronchial challenge test) for use as a bronchial test to assess bronchial hyperresponsiveness to aid in diagnosing patients who have symptoms of asthma or symptoms that are suggestive of asthma. In making its decision, the Advisory Committee reviewed efficacy and safety data from two Phase 3 trials that were conducted in more than 1,100 people. "Pharmaxis is pleased that the committee has recognized the effectiveness and safety profile of Aridol," Pharmaxis CEO Dr. Alan Robertson was quoted as saying.

Discovery Labs moves ahead on surfactant front

Discovery Laboratories Inc. has submitted a proposed protocol for a Surfaxin® (lucinactant) limited clinical trial to the FDA. The proposal was made in response to a comment by the FDA that a limited clinical trial could potentially resolve the key remaining issue for approval of Surfaxin for the prevention of respiratory distress syndrome in premature infants. The company is also developing its proprietary KL4 Surfactant Technology platform to potentially improve the medical outcomes of patients, from premature infants to adults, suffering debilitating respiratory diseases and conditions.

Dosing gets underway in inhaled ciprofloxacin trial

The first patient was recently dosed in a six-month, multicenter, international Phase 2 clinical trial of Aradigm Corporation's novel version of inhaled ciprofloxacin (ARD-3150) in 40 adult patients with non-cystic fibrosis bronchiectasis. The study is exploring whether the novel formulation ARD-3150, which has a different drug release profile than ARD-3100 (another formulation under study), may have additional therapeutic benefits. The six-month study will also generate valuable data on the long-term impact of once-daily inhaled ciprofloxacin in patients with severe bronchiectasis.

JCI marks tenth anniversary

Joint Commission International is marking the 10th anniversary of the first health care organization to be awarded accreditation under its globally developed international standards for hospitals. In December 1999, Hospital Israelita Albert Einstein in Sao Paulo, Brazil, was the first hospital accredited by JCI under the international standards. The hospital has also since achieved JCI Disease- or Condition-Specific Care Certification for its stroke program. Established to respond to a growing demand around the world for standards-based evaluation of quality in health care, today JCI accredits or certifies more than 300 health care organizations and clinical care programs in 39 countries.

AARC members implement spirometry training course in Vietnam

AARC members Susan Blonshine, RRT, RPFT, AE-C, FAARC, and Carl Mottram, BA, RRT, RPFT, FAARC, recently traveled to Vietnam to implement a country-wide spirometry training course sponsored by the World Health Organiza-

tion and Ho Chi Minh University. The program was facilitated by 2000 AARC International Fellow Le Thi Tuyet Lan, MD, PhD, and has been recognized by the AARC's International Education Recognition System.

Asthmatx presents data on bronchial thermoplasty

Asthmatx Inc. presented the results of a series of studies investigating the effectiveness and safety of bronchial thermoplasty delivered by the Alair® System at a recent meeting of the American College of Allergy, Asthma and Immunology. The poster presentation highlighted clinical results from three randomized clinical trials that investigated bronchial thermoplasty's effectiveness as a treatment option for patients with severe asthma. Bronchial thermoplasty delivered by the Alair System uses thermal energy to reduce the amount of smooth muscle in the lungs.

Survey provides insights into COPD care

In a telephone survey commissioned by the COPD Foundation and Dey Pharma LP, 400 patients and 400 caregivers were asked about their thoughts on nebulization therapy and how they manage their COPD. Survey findings indicate that well-informed patients with self-reported, moderate breathing conditions are most likely to have high levels of satisfaction with their current mode of therapy. The survey also reported that nine in 10 patients who use nebulizers are satisfied with their current treatments. Caregivers were significantly more likely than patients to wish that those they cared for had been placed on nebulization therapy sooner.

NIAID targets asthma, emerging infectious diseases

The National Institute of Allergy and Infectious Diseases has renewed a contract to study asthma in children living in lower-income, inner city environments. The five-year, $56 million award will support the Inner-City Asthma Consortium, a nationwide clinical trials network. NIAID has also awarded approximately $208 million to two programs that support research to better understand the human immune response to emerging and re-emerging infectious diseases, including those that may be introduced into a community through acts of bioterrorism. The grants went to the Cooperative Centers for Translational Research on Human Immunology, and Biodefense and the Immune Mechanisms of Virus Control.

InterMune submits NDA for pirfenidone

InterMune Inc. has submitted a New Drug Application with the FDA seeking approval to market pirfenidone for the treatment of patients with idiopathic pulmonary fibrosis. Pirfenidone has been granted Orphan Drug and Fast Track designation by the FDA, and also has been granted Orphan Drug status in Europe. Preclinical and in-vitro evidence has shown that pirfenidone has both anti-fibrotic and anti-inflammatory effects. Results from three Phase 3 studies have shown evidence of a treatment effect in IPF patients, and the compound has been safe and generally well tolerated, with side effects including photosensitivity rash and gastrointestinal symptoms.

Inspire completes enrollment in denufosol trial

Inspire Pharmaceuticals Inc. has completed enrollment of its second Phase 3 clinical trial of denufosol, an investigational therapy for cystic fibrosis patients. Denufosol is a first-in-class treatment and the only in late-stage trials targeting the underlying ion transport defect present in all CF patients, not limited to a specific genetic mutation. The TIGER-2 trial follows the Phase 3 TIGER-1 study, in which denufosol increased lung function in patients with CF over the course of a year, including the placebo-controlled portion and open-label extension.

Covidien completes sale of oxygen therapy assets

Covidien has completed the previously announced sale of its oxygen therapy assets to Chart Industries Inc. The sale of the oxygen therapy product line, which includes products sold under the Companion™ and Helios™ brands, was made following a thorough review and evaluation of a number of strategic alternatives. According to the company, the decision is consistent with its strategy to streamline its portfolio and reallocate resources to its faster-growing, higher-margin businesses, where the company has or can develop a global competitive advantage.

Brief submissions and photos for this column may be sent to Marsha Cathcart, *AARC Times* editor, at cathcart@aarc.org. ■

RC Currents

IN THE NEWS

AARC State Societies Host First-ever "World COPD Day @ the State Capitol" Events

COPD patients depend on respiratory therapists for bedside care and rehabilitation. They can also count on therapists to help get the word out about their condition to the ones who hold the health care purse strings.

The latest effort came on World COPD Day in November when the AARC asked its state societies to host COPD awareness events at their state capitol or state department of health buildings. Six AARC state societies rose to the occasion — Colorado, Delaware, Florida, Wisconsin, Minnesota, and Pennsylvania — and that means legislators in those states now have a much better idea of what COPD is and how they can help their residents with the condition.

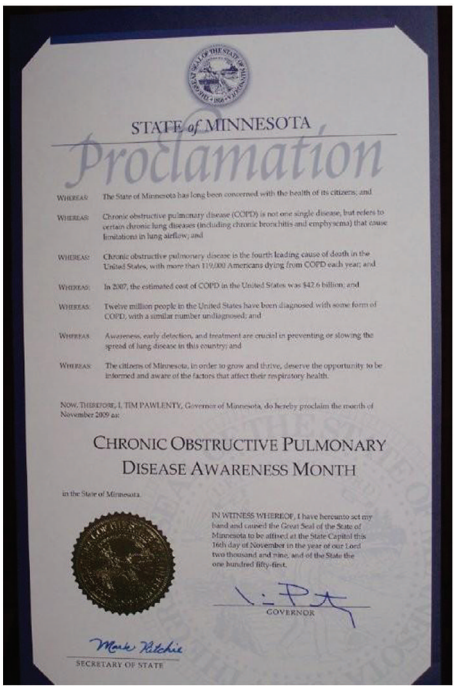
"World COPD Day is a global event," says AARC Associate Executive Director Sherry Milligan, MBA, who spearheaded the project from the Executive Office in Dallas. "We wanted to make an impression on the decision makers in this country. We want them to know what COPD is, how early detection and treatment helps, and what kind of national health problem this is."

The Pennsylvania Society for Respiratory Care (PSRC) sent 10 members to the state capitol building in Harrisburg, including five students from the RC program at York College. "The group set up a display promoting COPD awareness, which included literature on the disease, the importance of early diagnosis, and tips for smoking cessation," says PSRC Executive Director Thomas Lamphere, BS, RRT, RPFT. "The team also set up two spirometry testing areas and offered screening to the public, legislators, and legislative aides who visited the booth."

Lance Lothert , RRT, CPFT (left), enjoyed speaking with Minnesota Sen. D. Scott Dibble about COPD and how it affects people in his state.

York RC students Ryan Glackin (left) and Julia Newberger (right) join PSRC President Ann Wilson in showing off the booth.

Healthy and diseased pig lungs were a big hit with school children visiting the Wisconsin capitol building that day. Photo by Brent Nicastro


STATE of MINNESOTA

Proclamation

WHEREAS: The State of Minnesota has long been concerned with the health of its citizens; and

WHEREAS: Chronic obstructive pulmonary disease (COPD) is not one single disease, but refers to certain chronic lung diseases (including chronic bronchitis and emphysema) that cause limitations in lung airflow; and

WHEREAS: Chronic obstructive pulmonary disease is the fourth leading cause of death in the United States, with more than 119,000 Americans dying from COPD each year; and

WHEREAS: In 2007, the estimated cost of COPD in the United States was $42.6 billion; and

WHEREAS: Twelve million people in the United States have been diagnosed with some form of COPD, with a similar number undiagnosed; and

WHEREAS: Awareness, early detection, and treatment are crucial in preventing or slowing the spread of lung disease in this country; and

WHEREAS: The citizens of Minnesota, in order to grow and thrive, deserve the opportunity to be informed and aware of the factors that affect their respiratory health.

NOW, THEREFORE, I, TIM PAWLENTY, Governor of Minnesota, do hereby proclaim the month of November 2009 as:

CHRONIC OBSTRUCTIVE PULMONARY DISEASE AWARENESS MONTH

in the State of Minnesota.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Minnesota to be affixed at the State Capitol this 16th day of November in the year of our Lord two thousand and nine, and of the State the one hundred fifty-first.

GOVERNOR

Mark Ritchie

SECRETARY OF STATE

MSRC volunteers proudly displayed this official proclamation signed by Gov. Tim Pawlenty in their booth at the state capitol in St. Paul.

In Madison, WI, five second-year students in the RC program at Madison Area Technical College (MATC) demonstrated pulse oximetry and discussed Wisconsin's new public smoking ban with legislators and their aides. Wisconsin Society for Respiratory Care (WSRC) Legislative Affairs Coordinator Mary Roth, RRT, CPFT, arranged for visits to legislators' offices as well, using the opportunity to talk with lawmakers about COPD and how it impacts the state.

The students also set up normal and diseased pig lungs for all to see — and that drew in more than just the legislative crowd. "This was a big hit with the many school groups touring our state capitol building that day," says Deborah Hendrickson, RRT, who was on hand for the event along with her fellow delegate to the AARC House of Delegates, Bill Pupanek, RRT. "We also encouraged the visiting student groups to consider health care as a future career — and, of course, respiratory therapy in particular."

The Minnesota Society for Respiratory Care (MSRC) teamed up with the COPD Foundation's Mobile Spirometry Unit to send seven MSRC therapists and two students from the RC program at St. Catherine's University to the state capital in Saint Paul. "Multiple spirometry stations were set up and free testing was made available to legislators, state capital employees, and the public," says Lance Lothert, RRT, CPFT. "The therapists and students were able to meet with Sen. D. Scott Dibble to discuss the impact of COPD on health care and how increased awareness and early testing can help save lives." A highlight of the event was the display of a signed proclamation by Gov. Tim Pawlenty making November "COPD Awareness Month" in Minnesota.

Longtime PSRC member Dave Stempel, CRT, performs spirometry on a legislative aide.

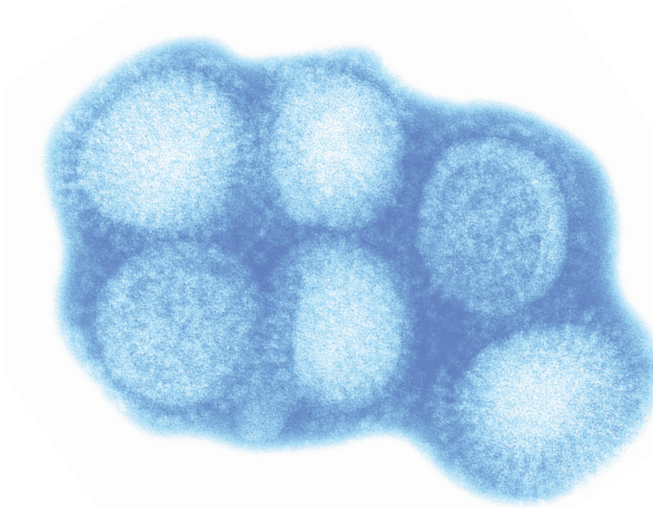
"As students, the World COPD Day event at the capitol was a great way to become involved in not only the respiratory care community but also within the general public," say students Alicia Schroeder and Valerie Hathaway. "It was a really great experience to meet and talk with not only Sen. Dibble but also the MSRC community."

Sherry Milligan believes the events held by these state societies will serve as a great example going forward. "We really appreciate the extra effort these state societies made to participate in our World COPD Day @ the State Capitol event," she says. "2009 was a great kick-off year for the program, and we're looking forward to even greater participation this coming November." ■

MATC students (from left) Andrew Kaiser, Lynaia Gibson, Victoria Pagano, Massanvi Bolga, and Bob Patten join Wisconsin Delegate Deborah Hendrickson, RRT; Legislative Action Committee Co-chair Mary Roth, RRT; and MATC Instructor Lauri Mill, RRT, CPFT; in front of the WSRC display. Photo by Brent Nicastro

H1N1 Update: Winding Down, But Is a Resurgence Ahead?

by Debbie Bunch



As we go to press with this issue of the magazine, H1N1 appears to be slowing down in communities across the United States. However, health officials warn the virus could return, and new research continues to be published; reports posted on the Centers for Disease Control and Prevention (CDC) web site at www.cdc.gov/H1N1FLU offer the most up-to-date information available to the public. The following reports add to our knowledge of the pandemic.

One in six Americans affected

The latest data from the CDC show about one in six Americans — some 47 million people — were hit with H1N1 influenza between April and November of 2009. Of those, 213,000 were hospitalized, and 9,820 died. Here's a breakdown of the specific populations:

- The virus affected about 16 million children. Pediatric hospitalizations stood at around 71,000, with 1,090 deaths.
- About 27 million adults between 18 and 64 came down with H1N1. Around 121,000 were hospitalized, and 7,450 died.
- Four million people age 65 and older were affected, with 21,000 hospitalizations and 1,280 deaths.

While deaths from H1N1 are not calculated the same as deaths from seasonal flu, the CDC figures suggest H1N1 has been harder on children and young people. The seasonal flu normally causes fewer than 1,000 deaths in people under age 50.

Not as deadly as we first thought?

CDC statistics paint a disturbing picture of the H1N1 pandemic, but a new study out of Harvard suggests the virus may not have been any more deadly than the seasonal flu. Their research analyzed data from Milwaukee, WI, and New York City, NY, two cities that have kept detailed statistics on the virus in their communities. Results showed about 1.44% of symptomatic pandemic H1N1 patients seen in the United States last spring were hospitalized, 0.239% required intensive care or mechanical ventilation, and 0.048% died. Using New York data only, the death rate dropped to just 0.007%.

In terms of actual numbers, the researchers cited a potential range of 7,800–29,000 deaths from H1N1, compared with an average number of deaths from seasonal flu of about 36,000. The findings were published in a recent issue of *PLoS Medicine*.

Government launches campaign to increase vaccine rates

As the media began to report a waning of H1N1 around the country, health officials feared many people would forego the vaccine. The Department of Health and Human Services (HHS) attempted to overcome that complacency with a new public service ad campaign called "Together We Can All Fight the Flu." Launched in December, the television and radio announcements are designed to hit all the high-risk categories, including people with asthma and other underlying conditions, pregnant women, parents of young children, and teens and young adults. Several are available in both English and Spanish.

"Right now, Americans have a window of opportunity to get vaccinated," HHS Secretary Kathleen Sebelius was quoted as saying. "These new PSAs will encourage pregnant women, children, young adults, and other priority groups to protect themselves by getting the H1N1 vaccine."

Secondary bacterial infection seen in half of fatal H1N1 cases

In fatal cases of 2009 H1N1 influenza, the virus appears to damage cells throughout the respiratory airway in much the same way as the viruses that caused the 1918 and 1957 influenza pandemics, report researchers from the National Institutes of Health and the New York City Office of Chief Medical Examiner.

The scientists reviewed autopsy reports, hospital records, and other clinical data on 34 people who died of H1N1 influenza infection between May 15 and July 9, 2009. All but two of the deaths occurred in New York City. A microscopic examination of tissues throughout the airways revealed that the virus caused damage primarily to the upper airway, but tissue damage in the lower airway, including deep in the lungs, was present as well. In 18 cases, evidence of damage in the bronchioles was noted. In 25 cases, the researchers found damage to the alveoli.

Evidence of secondary bacterial infection was seen in more than half of the victims. The authors believe this suggests community-acquired bacterial pneumonia is playing a role in the current pandemic. "Even in an era of widespread and early antibiotic use, bacterial pneumonia remains an important factor for severe or fatal influenza," they write.

The study also found 91% of those autopsied had underlying medical conditions, such as heart disease or respiratory

disease, including asthma, before becoming ill with H1N1 influenza. Seventy-two percent of the adults and adolescents who died were obese, a finding that agrees with earlier reports linking obesity to an increased risk of death from this virus.

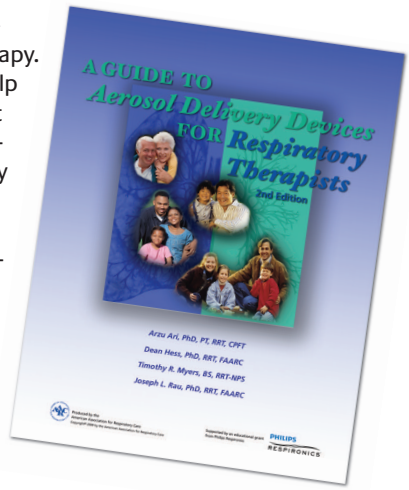
The research was published in the online version of *Archives of Pathology & Laboratory Medicine* and will appear in this month's printed edition.

H1N1 worse than seasonal flu in kids with sickle cell disease

Johns Hopkins researchers who looked at the records of 118 children with sickle cell disease treated for any kind of flu at Hopkins Children's between September 1993 and November 2009 — including 28 infected with the H1N1 virus — found patients with H1N1 were three times more likely to develop acute chest syndrome and five times more likely to end up in the ICU. They were also more likely to end up on a ventilator and to need a blood transfusion.

"Children with sickle cell disease are hospitalized about once a year for pain crises and other complications, so we should do everything we can to prevent hospitalization from the flu by using safe and effective vaccines," lead investigator John J. Strouse, MD, PhD, was quoted as saying. The study was presented at the December meeting of the American Society of Hematology. ■

AARC Offers New Web-Based Continuing Education Course on Aerosol Delivery Devices



Respiratory therapists are the experts when it comes to aerosol therapy. Yet it is an evolving discipline. To help you keep up-to-date in order to best help your patients, the AARC has developed "A Guide to Aerosol Delivery Devices for Respiratory Therapists – 2nd Edition," which covers nebulizers, metered-dose inhalers, dry-powder inhalers, and the science and educational tools you need to know about. Plus, you can earn six CRCE® credits after taking a short test, and it is free for AARC members.

The booklet may be downloaded in Adobe Reader format at www.aarc.org/education/aerosol_devices/aerosol_delivery_guide2.pdf. This new version was supported by an educational grant from Philips Respironics. ■

2009 AARC Human Resources Survey Says…

Respiratory therapists report being assigned a mean of 6.33 mechanically ventilated patients at one time. The standard deviation value defined a range of three to nine. ■

SOURCE: AARC 2009 Human Resources Survey

The Joint Commission Revises Its Interpretation of Respiratory Care Orders

Back in August we notified our members of CMS' interpretation of the Hospital Conditions of Participation Standard that requires respiratory care orders to be written only on, and in accordance with, the orders of a doctor of medicine or osteopathy (MD/DO).

CMS stated at the time that nurse practitioners and physician assistants could also write orders if they were eligible to do so under state law and the physician had delegated authority for them to do so. But, under that scenario, the physician would have to co-sign the order in a timely manner based on established hospital policies. The Joint Commission, however, held fast to their interpretation of the standard that only a MD/DO could write respiratory care orders. The differences in interpretation have caused confusion, and the AARC has received numerous inquiries since we published the CMS clarification.

We are pleased to report that The Joint Commission is now on the same page as CMS. In hopes of resolving the issue, the AARC Government Affairs staff went back to CMS asking that they contact The Joint Commission to discuss CMS' interpretation of the standard. Once again, our diligence has paid off. In The Joint Commission's online newsletter, dated Oct. 28, 2009, they have published a clarification of respiratory care orders. It states:

"Element of performance 7 under the 2010 hospital standard LD.04.01.05 requires all respiratory care services to be ordered by a physician. The Centers for Medicare & Medicaid Services (CMS) permits non-physician practitioners to write such orders provided it is within the scope of their license. The Joint Commission will also recognize respiratory orders written by eligible non-physician practitioners as meeting the requirement. However, if a physician delegates responsibility for writing orders to an eligible non-physician practitioner (such as a physician assistant or nurse practitioner), the responsible physician must co-sign the order." ■

Texas Students Rally To Support Great American Smokeout

Students and faculty gather at the end of the Cold Turkey Bowling alley. Front row (from left) are Professor Jennifer Gresham, MA, RRT-NPS; Utto Obot; Maria Varela; Tonya Hartman; Carrie Robertson; Morgan Mora; Erin Simpson; and Andrea Rodriguez; (back row) Professor Tammy Kurszewski, MEd, RRT; Sharmeon Price; Brandon Hernandez; David Payne; Deirdre Pearson; Zecharias Kassahun; and Professor Patrick Helton, RRT-NPS, RPFT.

by Tammy Kurszewski, MEd, RRT

Nothing is sweeter to the ears of a respiratory therapist than the sound of healthy lungs. At Midwestern State University (MSU) in Wichita Falls, TX, our respiratory care students took on the challenge of promoting healthy lungs by participating in the Great American Smokeout held last Nov. 19.

As part of the rehabilitation and health promotion course, senior respiratory care students were asked to put together a professional development project focusing on healthy living, and tobacco was the obvious choice because in the spring of 2009 the MSU Board of Regents passed a resolution making our campus tobacco free as of Jan. 1, 2010. This action made MSU the first tobacco-free campus in the state of Texas.

Our students joined forces with the MSU Wellness Center, American Cancer Society, and Texas Department of Health to promote MSU's Tobacco-Free Initiative through numerous educational activities, including a Smoke Scream Contest and Cold Turkey Bowling.

The Smoke Scream Contest was held at the junior high level and provided tobacco education as well as an opportunity for the kids to show off their healthy lungs through a little competition between schools. Guest speakers were brought in to provide real-life experiences about the long-term consequences of tobacco use.

Cold Turkey Bowling was a big hit on campus. From left, Professor Patrick Helton, Andrea Rodriguez, Erin Simpson, Nhu Tran, Sarah Iyoha, and Zecharias Kassahun show how it's done.

Cold Turkey Bowling took place on campus. Students who chose to participate received smoking-cessation information and support, and were also given a T-shirt promoting the occasion. The event was covered by local media, which challenged North Texans to provide some feedback on smoking. The response was promising. Of those participating in the poll, 23% had quit smoking and felt great, and 12% were current smokers who wanted to quit. An exciting 48% had never smoked and said they never will.

This experience provided these future respiratory therapists with an opportunity to directly impact the public while promoting respiratory therapy and healthy lungs. ■

Tammy Kurszewski, MEd, RRT, is an assistant professor in the respiratory care program at Midwestern State University in Wichita Falls, TX.

From left are MSU Program Chair Ann Medford, MA, RRT, and Professors Patrick Helton, Tammy Kurszewski, and Jennifer Gresham.

Members, Send Us Your Human Interest Stories

Have you been active in a ventilator-dependent kids' summer camp? Have you helped an elderly patient in need? Have you saved a life outside of a health care facility? *AARC Times* is always searching for stories from AARC members that relate special experiences.

Do you have a human interest story to share with our readers? If so, please contact *AARC Times* Editor Marsha Cathcart at cathcart@aarc.org. ■

Respiratory Care Education Annual Call for Papers

The AARC will publish Volume 19 of the *Respiratory Care Education Annual* in the spring of 2010, and the Education Section invites educators to submit papers for consideration. Deadline for submission is **Feb. 15, 2010**. Papers should be approximately six to 10 pages in length with abstracts less than 120 words. For more information on style and format, contact Dennis Wissing at dwissi@lsuhsc.edu. ■

Asthma Survey Reveals Unmet Needs

More than 1 million patients were hospitalized with asthma over the past year, and nearly 3 million went to the ED for treatment of the condition, report researchers who conducted a large study aimed at assessing the burden of this chronic health condition.

The Asthma Insight and Management (AIM) survey involved 2,500 asthma patients age 12 and older, 1,004 adults without asthma, and 309 physicians across the United States. Among the other findings:

- Seven percent of adults with asthma were hospitalized due to asthma in 2009, the same as in 1998.
- The percentage reporting other unscheduled emergency visits due to asthma was also similar (26% in 2009 vs. 25% in 1998).
- Incremental improvements in ED visits and missed work or school days due to asthma were noted: 16% of adults with asthma visited the ED in 2009 compared with 19% in 1998, and 20% vs. 25% reported missed work or school days.
- One in five asthma patients live in fear of hospitalizations or ED visits due to asthma, and 29% say that fear keeps them from doing the things they want.
- Twelve percent of asthma patients who had an episode in the past year when asthma symptoms were more frequent or severe than normal reported that these episodes lasted 7–13 days; 18% reported that these episodes lasted 3–4 days. The mean duration was 6.5 days.
- Compared to a typical day, asthma patients reported a 33% decline in average productivity at times of the year when asthma was at its worst.
- Adult asthma patients reported taking an average of 12.4 sick days in the past year compared with 3.6 sick days for adults without asthma; they noted 37.9 days in which they limited their activities compared with 15.8 days for adults without asthma.
- Twenty-eight percent of adult asthma patients say they feel "a lot" or "some" limitations in social activities due to their asthma, compared to 14% of adults without asthma who say they feel "a lot" or "some" limitations in social activities due to their health.

The survey also suggests room for improvement in patient communications. For example, 69–93% of physicians use the term "asthma exacerbations" when speaking with patients, but only 24% of asthma patients say they have heard the term. "Asthma attack" and "asthma flare-ups" are phrases that are better recognized by patients. ■

2001 International Fellow Reports a Remarkable Experience

Deniz Inal-Ince (third from left) was one of the international fellows honored at the 2001 AARC Congress.

by Deniz Inal-Ince, PhD, PT

I first heard about the AARC's International Fellowship Program after a magnificent respiratory therapy course given by the Georgia State University respiratory therapy faculty in Istanbul, Turkey, in 2001. At the time I was a PhD candidate working as a researcher and clinical instructor in respiratory physiotherapy at Hacettepe University. I applied for the program to learn about the practice and scope of the respiratory therapy profession. My host cities were Portland, ME, and Macon, GA.

During my visit to Portland, I had two wonderful hosts: Christopher A. Hirsch, MS, RRT, from Maine Medical Center, and Jane Barthelette, RRT, CPFT, from Penobscot Bay Medical Center in Rockport. I remember Portland as a very beautiful old seacoast town.

During my visit, I saw the high technical support, supplies availability, and very well organized respiratory care services. I observed and participated in a variety of activities performed by respiratory therapists, including intubation and invasive and noninvasive mechanical ventilation; structured and multidisciplinary pulmonary rehabilitation; and the use of portable laptop ventilators, a mechanical insufflator-exsufflator, and high-frequency chest wall oscillation for airway clearance. I also visited Southern Maine Technical College, where I saw well-equipped classrooms and laboratories and was informed about the formal respiratory therapy education program. I experienced clinical simulations in teaching and saw other teaching styles and the written materials and books used for teaching and learning.

My hosts showed me great hospitality as well, with two welcome lunches and a great reception dinner attended by the president of the Maine Society for Respiratory Care. I also had a chance to experience the Thanksgiving Day tradition with the families of my hosts.

In Macon, I had another excellent host in Thomas A. Madrin, BS, RRT, FAARC, and the Medical Center of Central Georgia. I learned about the southern lifestyle and hospitality, and they showed me every aspect of respiratory care and the roles of respiratory therapists in the health care system. At the Medical Center of Central Georgia, I participated in clinical and research activities performed by RTs and learned about the organization and in-service training of RTs in a large hospital. I started my education in mechanical ventilation applications, which was one of my main interests, and I had a chance to see kinetic therapy, prone positioning, lung simulators, and the use of mannequins for teaching. I also witnessed the use of protocols and algorithms in clinical practice.

At the Macon Health Center, I saw the structured outpatient pulmonary rehabilitation program; and at Macon State College, I observed formal teaching and learning activities and was informed about the respiratory therapy curriculum. My host and his team also organized a welcome lunch and another great reception dinner attended by the president of the Georgia Society for Respiratory Care.

My fellowship ended at the 47th International Respiratory Congress held in San Antonio, TX. It was rewarding to be recognized as an International Fellow during the opening ceremony and to give a presentation on the practice of respiratory care in Turkey at the International Council Meeting. I also got to meet with the AARC International Committee and the other international fellows, and I had a chance to learn about the organization of RTs in the United States. During my fellowship, I realized that being a faculty member in a respiratory therapy program would ensure me a better under-

standing of respiratory therapy as a whole. The Ohio State University gave me this opportunity, and I worked as an associate professor for three quarters in 2003 and 2004.

In 2007, I had a chance to teach cardiopulmonary physiotherapy and rehabilitation in the physiotherapy undergraduate program at Saxion University in the Netherlands through the European Union ERASMUS teacher exchange program. Together with my previous experience in respiratory physiotherapy in the United Kingdom in 2000, this gave me a way to improve my understanding of respiratory physiotherapy teaching and practice in Europe.

Currently I am a faculty member at Hacettepe University. I am also an executive committee member of the Turkish Thoracic Society's Pulmonary Rehabilitation and Chronic Care Group, a multidisciplinary group for improving respiratory care and rehabilitation in Turkey by organizing a scientific congress and central and regional courses, as well as preparing practice guidelines and educational materials. I am also the Southern Europe representative on the European Respiratory Society Task Force on the Harmonization of Respiratory Physiotherapy Education throughout Europe.

My international fellowship program stimulated my professional evolution. I would like to thank my hosts for providing me with such wonderful experiences. I would also like to thank the AARC for this invaluable opportunity to be exposed to different areas of the profession. ■

Deniz Inal-Ince, PhD, PT, was a 2001 international fellow from Turkey.

Contribute to Writer's Corner

AARC Times is currently considering poems, essays, and short stories for publication in the Writer's Corner section of "RC Currents." AARC members' submissions should be under 500 words and contain a cover letter with contact information such as phone and fax numbers and e-mail address. Send submissions to cathcart@aarc.org with "Writer's Corner" in the subject line. ■

AARC Member "Feels Good Around Anvils"

If you were tuned in to the "CBS Evening News" last Nov. 2, you might have caught the story on AARC member Gay Wilkinson, CRT, director of respiratory care at Mineral Area Regional Medical Center in Farmington, MO.

But Wilkinson wasn't being featured for his day job — he was out in a field demonstrating his strange but truly explosive hobby to CBS reporter Steve Hartman. While the newsman watched in awe, Wilkinson threaded a fuse though one anvil, packed it with a pound of black powder, put another anvil on top, lit the fuse, and then quickly stood back while anvil number one soared far into the sky.

The sport is called "anvil shooting"; and as it turns out, it has a long history among pioneers in America, who began shooting anvils as far back as the 1700s. Why did they do it? Accounts run the gamut, from making a big noise at celebrations to warning would-be intruders to stay away from family farms. Wilkinson was introduced to the sport in 1994 by an elderly man in his town who had been shooting anvils for decades. After seeing it for the first time, he was hooked and has since competed in the National Anvil Shooting Contest in Mississippi, winning in the Traditional division with a blast of 224 feet in 2000.

The attention he's gotten for the sport over the past year, however, has truly amazed him. In mid-August, a reporter from his local newspaper called about doing a story, and that article was quickly followed by another in the *St. Louis Riverfront Times*. CBS News caught wind of the story shortly thereafter. "Steve Hartman — actually, his producer — called during lunch in the hospital cafeteria. My dining friends didn't believe me when I told them that my call was from 'CBS Evening News,'" recalls Wilkinson. "They wanted to come from New York and video and interview me about my hobby."

Hartman and his crew showed up the following Tuesday. "I'm asked a lot about autographs. People tell me I'm famous. They say they've never met a TV star before," says Wilkinson. As for his colleagues at the hospital and many of his patients, the RT says most of them are well acquainted with his hobby. "Patients tell me they have been in the crowd when I've shot the anvils for some event," he says. "They all tell me it's way neater to see this live than on video. Almost everyone thinks it's pretty cool."

Anvil shooting is just in his blood now (he collects anvils as well, carves his own from wood, soap, and other materials, and even has a giant version he plans to use as his tombstone). He says the sport is a great form of release too, something he especially appreciated back in the 1990s when he headed up his city's government.

"When I served as mayor of our town, I worked at this job — respiratory care director — eight hours, went to City Hall for three hours, went to evening meetings, and still had time to carve an anvil or two every day. I'm pretty sure that was a stress reliever. I feel good around anvils." ■

Military Minute: Patrick J. Dunne, MEd, RRT, FAARC

Patrick J. Dunne, MEd, RRT, FAARC

***AARC Times*:** Which branch of the service were you in, and how long did you serve?
Patrick Dunne: I served four years as a U.S. Navy Hospital Corpsman, from March 1965 to January 1969.

***AARC Times*:** Where did you serve?
Dunne: I was assigned to various duty stations in the United States — specifically, naval hospitals at Quantico, VA; Bethesda, MD; Camp Lejeune, NC; and Camp Pendleton, CA.

***AARC Times*:** What was your most exciting or heart-warming experience while on active duty and why?
Dunne: When I passed my then ARIT exam in 1965, I was assigned to the naval hospital at Bethesda, MD. My initial responsibility was to start an "inhalation therapy" service as part of the existing cardiopulmonary laboratory and to teach respiratory care to students enrolled in the program. I was also placed in charge of outfitting the base ambulances to facilitate the safe transfer to Bethesda of vent-dependent marines and sailors being medically evacuated from nearby Andrews Air Force Base. Another assignment was to train the corpsmen at the U.S. Capital who were responsible for providing respiratory care to members of Congress.

***AARC Times*:** How did your military service enhance your career as a respiratory therapist?
Dunne: As a practicing therapist prior to joining the military, I was fortunate to have the majority of my duty assignments directly related to my civilian occupation. Moreover, during that time in our profession's evolution, military medical personnel were allowed to do many of the invasive procedures that had yet to become commonplace in our present scope of practice.

***AARC Times*:** Where do you work today?
Dunne: I'm president of HealthCare Productions Inc. in Fullerton, CA.

If you're an AARC member on active duty with the U.S. military, or a veteran of service, go online to www.aarc.org/go/mm/ to participate in our "Military Minute" Q&A. ■

Nominate an AARC Member for "Success Stories" or "Interesting People"

Do you know an AARC member who would be a good choice for one of our "people" features in "RC Currents"? If so, provide this information to the editor at the address below: the member's name, job title, place of work, city, and state; why you think they should be featured; and their contact information. Send to: Editor Marsha Cathcart, cathcart@aarc.org with "Success Stories" in the subject line. *AARC Times* is the "People" magazine for respiratory care, so we hope to hear from you soon. ■

Photo Op

Eighty-two-year-old June Nichols enjoyed the warm Caribbean sun during last fall's Smooth Sailors cruise, made possible by respiratory therapist volunteers working with the American Respiratory Alliance of Western Pennsylvania. "Mrs. Nichols hadn't been in the water for more than 15 years," says Bruce Toben, RRT-NPS, CPFT, who co-founded the organization back in 1994 with Vicki Siegfried, RN, to make travel possible for people on oxygen and other forms of respiratory technology. "Behind her is our ship, the Carnival Miracle." ■

National Health Observances

- **National Sleep Awareness Week;** March 7–13; National Sleep Foundation; (202) 347-3471; www.sleepfoundation.org
- **World Tuberculosis Day;** March 24; World Health Organization; www.stoptb.org/events/world_tb_day

COPD Awareness Improves, But Work Still Needs To Be Done

Awareness of COPD is still low, but it's improving. That's the take-home message from a survey conducted in 2009 by the National Heart, Lung, and Blood Institute (NHLBI). According to the government agency, 68% of adults are now aware of COPD, up from 64% in 2008 and just 49% in 2004. Awareness among current smokers rose from 69% in 2008 to 74% in 2009.

Less than half of all adults, however — just 44% — understood that the COPD can be treated. Physicians maintained a more optimistic view, with approximately nine out of 10 primary care physicians agreeing that available treatments can optimize quality of life for their patients with COPD.

"Awareness is an important first step," says James P. Kiley, PhD, director of the NHLBI Division of Lung Diseases. "However, awareness alone is not enough. People at risk of developing the disease need to know what the disease looks and feels like, and most importantly, to understand that it can be treated. The key is to get tested and start treatment as soon as possible." ■

▶Strange But True…

iCough? American and Australian scientists are working on computer software to diagnose a cough made into a smartphone. The software would compare the patient's cough to a pre-recorded database of coughs containing the sounds of different respiratory diseases in people of both sexes and various ages, weights, and other variables.

Batter Up: The break in a curveball is really just an optical illusion, report cognitive neuroscience researchers from the University of Southern California. Their video (see it at http://illusioncontest.neuralcorrelate.com/2009/the-break-of-the-curveball/) shows why baseball players think the ball curves when really it doesn't.

The Downside of Hope: Sure, it's good to hope for the best. But when the best won't be forthcoming, a reality check might be a better way to happiness. University of Michigan researchers found people with a colostomy were actually happier when they were told it would be permanent than when physicians held out hope it could be reversed. ■

Students Get a First-hand Look at the Research Process

AARC member Lynn Lenz, BS, RRT, always admired her fellow therapists who presented original research during the Open Forum at the AARC International Respiratory Congress, and back in 2004 she joined that elite group with a presentation of her own.

When she left department management last March to become director of clinical education at Western Technical College in La Crosse, WI, she was determined to instill an interest in research in her students as well. Little did she know, however, how quickly she would be able to accomplish that goal. Just a couple of months into her new job, a paramedic student came to her for help with a study on CPR masks, and she decided it would be the perfect way to show her students what research is all about.

"We talk a lot in class about evidence-based practice, and this was a great opportunity to link the two in a concrete way," says the educator. The students served as subjects for the study, which compared the effectiveness of a novel CPR mask designed with an off-center connection to the breathing bag to that of a traditional bag valve mask. The primary author on the abstract was Eric Bauman, PhD, faculty associate in the University of Wisconsin-Madison's anesthesiology department, and the abstract was accepted for presentation at the International Simulation in Healthcare meeting.

Respiratory therapy student Lenora Parr was initiated into the world of research through the CPR mask study.

"Dr. Bauman came to class and presented the results of the study and talked in general about research," says Lenz. "It was really a great example of collaborative practice, too."

Lenz believes the experience has given her students a first-hand look at how research can figure into their future practice of respiratory care. As one student told her, "Research never sounded interesting to me, and I never understood why we really needed it in the first place." After taking part in the study, that outlook has taken a 180-degree turn. "I have come to realize that without research we would never know how well products really, truly work," noted the student. "I would not like to find myself in a hospital that's using new devices on me that did not have proper research to back up their credentials. It is great that research is around to protect us and the people we are helping." ■

Submit an Abstract to Summer Forum 2010

The 2010 AARC Summer Forum, scheduled for July 16–18 on Marco Island, FL, offers an excellent opportunity for participants to share their scholarly activities with colleagues through a research abstract. The submission deadline is March 15, 2010. For more information, log on to www.aarc.org/resources/summer_forum/index.asp. To request a mentor, volunteer as a mentor, or for questions about the education research abstracts, contact: Weissman@pbcc.edu, (561) 207-5068. ■

Golf Tournament Teaches Professional Behavior

Coahoma Community College in Clarksdale, MS, may be located in an area with a higher than average poverty rate and a less than stellar public school system, but that hasn't stopped Robert C. Swatzell, RRT-NPS, from instilling the highest possible professional standards in his students.

One way he accomplishes that goal is by hosting an annual golf tournament that not only raises much-needed funds for the school's scholarship program but also teaches students professional behavior through golf etiquette. "Our students have great 'street smarts' but have never been exposed to, or have limited exposure to, professional behavior," says the AARC member. "The golf course is a great way to teach manners, respect, and discipline."

Each year, he hosts a training session for students who volunteer to work the event, teaching them about everything from repairing ball marks to how to present a positive image. "I set the same high standard in the clinical setting, with a strict dress and conduct code."

The 2009 tournament took place at the Tunica National Golf Course last October, with 29 foursomes participating, some coming from as far away as Nashville to compete. After expenses, the event netted about $30,000, 75% of which will be distributed in the form of scholarships to students throughout the school. The respiratory therapy program will receive about $4,000 for its students. ■

Robert Swatzell

JAMA: No Benefit Seen for Prone Positioning in ARDS

Italian researchers publishing in the Nov. 11 edition of *JAMA* find no benefit to prone positioning in acute respiratory distress syndrome (ARDS). The study was conducted among 342 adult patients being treated for ARDS in 23 Italian and two Spanish centers. All were randomized to undergo prone or supine positioning during ventilation. Results showed:

- Similar 28-day and 6-month mortality rates for prone and supine patients (31.0% vs. 32.8% and 47.0% vs. 52.3%, respectively), despite significantly higher complication rates in the prone group.
- Similar 28-day and 6-month mortality rates for patients with moderate hypoxemia in the prone and supine groups (25.5% vs. 22.5% and 42.6% vs. 43.9%, respectively).
- Similar 28-day and 6-month mortality rates for patients with severe hypoxemia in the prone and supine groups (37.8% vs. 46.1% and 52.7% vs. 63.2%, respectively).
- Similar median Sequential Organ Failure Assessment scores, ventilator-free days, and ICU length of stay between the different groups of patients. ■

Parent Mentors Lead to Better Care for Kids with Asthma

Parents or caregivers of children with asthma can benefit from mentoring by other parents who have been specially trained to do the job, report University of Texas Southwestern Medical Center researchers publishing in the December issue of *Pediatrics*.

They compared asthma outcomes for 220 African-American and Hispanic children in Milwaukee, WI, whose families were randomly assigned to either parent mentors or usual care. The parent mentors all received training on how to improve asthma care and the importance of consistent treatment for the condition, then conveyed this knowledge to up to 10 families each, following up with them over a one-year period.

Children whose families were mentored had significant reductions in asthma exacerbations and emergency department visits, and their caregivers demonstrated greater knowledge of asthma control techniques. Costs were lower for children in the mentored families as well, with an overall per patient savings of $361.84 in hospitalization costs and $50.33 in emergency department costs. ■

AARC Member Gets Ventilator Patients Up and Moving

Skip Bangley, RRT (center), worked closely with colleagues Scott Bankard, RPT, and Myra Barnes, RN, on a protocol aimed at early ambulation for ventilator patients.

If you attended the AARC International Respiratory Congress in San Antonio in December, you had the opportunity to hear Johns Hopkins physician Dale M. Needham, MD, PhD, outline his groundbreaking research on early ambulation for ICU patients. Charles "Skip" Bangley, RRT, has long been a proponent of the same concept, and as Dr. Needham's research began to be published, he decided to use it to drive early ambulation for ventilator patients in his facility.

"The recent research from Dr. Needham rekindled this idea and opened the lines of communication with the medical staff here at Pitt County Memorial Hospital in Greenville, NC," says the assistant manager of respiratory care. The timing couldn't have been better. The hospital was in the process of developing a Respiratory Intermediate Unit (RIU) — or weaning center — and one of the goals was early ambulation with or without ventilatory support.

Bangley dusted off plans he had used 20 years before at another facility to build a cart designed to hold oxygen tanks and provide a seat for the patient during attempts at early ambulation. "As we were setting up the RIU here, I thought of the cart again." Working with a manufacturer, he revamped the design to produce a customized cart featuring a mount for the ventilator and a fold-up foot support.

"The cart was used to help encourage the staff to walk these patients by making it easier, with fewer staff members needed," he continues. "Our success with the cart caught the eye of the surgical and medical ICU physicians, and we used Dr. Needham's research to help drive the conversation along." Then Bangley teamed up with the facility's inpatient supervisor for physical therapy, Scott Bankard, RPT, and a nurse in the medical ICU, Myra Barnes, RN, to refine the system. "Myra reviewed published information and best practices on ambulation from the nursing discipline, Scott did the same from the PT viewpoint, and I did the same from the RT viewpoint," says Bangley.

The end result was a protocol presented in a decision-tree format. "There are criteria for inclusion and exclusion, when to consult physical therapy, and when respiratory therapy and nursing can walk the patient alone," says Bangley. The protocol was implemented in February of last year in the RIU and in June in the ICUs. The team is currently collecting outcomes data, but initial results suggest early ambulation is probably best suited to the RIU in their facility.

"We have had very good success in our RIU, with 95% of the patients being weaned off the ventilator, and the cart has been a big part of that by providing a safe, controlled environment for the patient and staff to walk," says the AARC member. "The protocol in our ICUs has run into some hesitation from the staff, and we are finding that there is a high percentage of our ICU patients who are too unstable to walk."

He and his colleagues believe that could change in the future, however, thanks in part to Dr. Needham's presentation at the 2009 AARC Congress. While Bangley was unable to attend, Ken Stephens, RRT, a day-shift supervisor in the department, was there and notes: "I was very impressed with the outcomes data presented and noted that our protocol, while based on Dr. Needham's research, has limited the patient population far below his patient population. We can use his research to expand our criteria and allow more patients to mobilize earlier." ■

▶Transitions

Donna Schmidt, RRT, has received a Spirit of Achievement Award from the Oklahoma Hospital Association in recognition of her significant commitment and contributions to moving her hospital to higher levels of success over the past year. Schmidt is an RT at Edmond Hospital in Edmond, OK. (Photo 1)

Joseph Conley, RRT, was honored as the first Respiratory Therapist Outstanding Alumnus by Mid-State Technical College in Marshfield, WI. Conley currently works for Doctors Oxygen Service Inc. in Spencer, WI. (Photo 2)

William O. Johnson, RRT, has retired from active practice in respiratory care. Johnson has been an AARC member since 1970 and a member of the profession since 1965.

John W. Lindsey Jr., MEd, RRT-NPS, a past AARC Board of Directors member, was presented with the Arkansas Respiratory Therapist of the Year award at the 38th annual meeting of the Arkansas Society for Respiratory Care. Lindsey, who is currently serving as clinical supervisor of respiratory therapy at St. Joseph's Mercy Health Center in Hot Springs, has received the statewide honor six times. (Photo 3)

Dan Conyers, MS, RRT, has been appointed to the Kansas Respiratory Care Council by Gov. Mark Parkinson. Conyers is the respiratory therapy services department director at the University of Kansas Hospital in Kansas City. (Photo 4)

Lee Guion, MA, RRT, recently published "The Respiratory Management of ALS," the first textbook on the respiratory management of motor neuron disease. Guion is a neuro respiratory specialist at Forbes Norris MDA/ALS Research Center in San Francisco, CA. (Photo 5)

A. "Jay" Block, MD, passed away on Dec. 5. Dr. Block was a past president of the American College of Chest Physicians and also served as editor-in-chief of CHEST for 13 years. From 1970 to 1998 he was chief of the pulmonary and critical care division at the University of Florida in Gainesville. Dr. Block was one of the fathers of sleep medicine and was a thought leader in the use of long-term oxygen therapy for the treatment of COPD and other respiratory conditions. He was 71.

Peter Pearse, RRT, passed away in November at the age of 61. At the time of his death he was an RT at Blythedale Children's Hospital in Valhalla, NY, where he also taught CPR instructor classes.

We welcome news about AARC members. Submit job changes, awards, and death notices online at www.AARC.org/transitions. ■

Asthma Educators Make a Difference

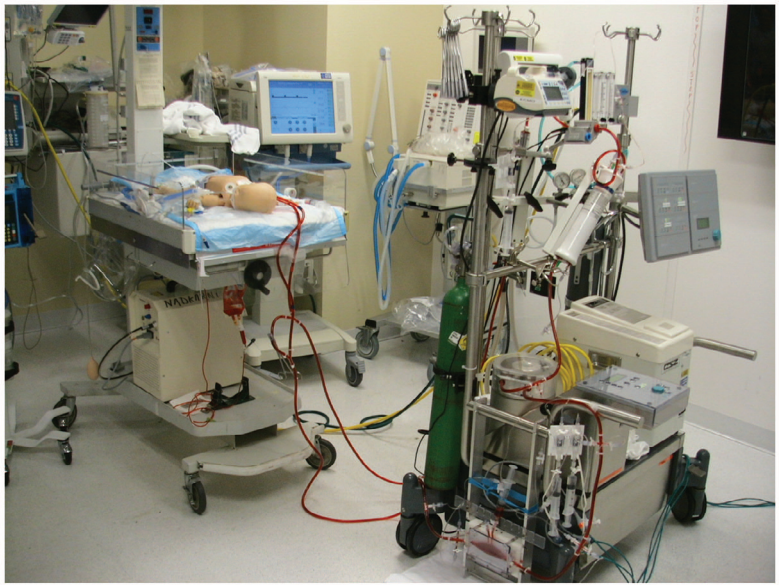
Asthma educators can make a difference in the care of children with the condition, report Johns Hopkins Children's Center researchers who compared three different groups of children who had come to the emergency department for their asthma.

One group received a booklet with basic asthma information. The other two groups received educational home visits by asthma educators. The first received education only while the second received education plus feedback on how well patients were following their medication instructions (measured by a monitoring device on the child's inhaler), along with coaching on how to improve adherence. Results showed:

- Children in the home visit group whose medication use was monitored had 15% fewer trips to the ED compared to children who got the booklet alone. They also had a 52% faster rate of refill of inhaled corticosteroids.
- On average, children who received the educational home visits reported fewer symptoms per month compared to children who received the informational booklet.
- Children who received the informational pamphlet had 12% more ED visits and 17% higher use of oral corticosteroids when compared to children from the other two groups.
- There was no added value in providing medication monitoring and feedback above providing at-home educational visits alone.
- There was no significant difference in the number of hospitalizations among the three groups.

The study was published in the December issue of *Pediatrics.* ■

Going Global: AARC Member Takes ECMO Abroad



You hear a lot about the globalization of respiratory care these days. In reality, the entire health care field is going global, and nowhere is that more evident than at Johns Hopkins Hospital in Baltimore, MD. Extracorporeal membrane oxygenation (ECMO) is one high-tech procedure being shared by the facility, and AARC member Gary Oldenburg, RRT-NPS, is playing a major role in the effort. As ECMO program coordinator at Hopkins, he's made trips recently to Tawam Hospital in Al Ain, UAE, and Clinica Las Condes in Santiago, Chile, to provide education and support on the technique.

Johns Hopkins is one of only a handful of hospitals worldwide to use ECMO simulation to train staff and ensure their competency.

The trip to the United Arab Emirates (UAE) corresponded with Tawam's inaugural conference on respiratory care. "Respiratory therapists are becoming widely used there, and they were doing their first Respiratory Care Conference. We were asked to visit the hospital and give our perspective on the neonatal and pediatric critical care therapies performed, as well as speak at the conference," says Oldenburg. He and his colleagues also attended rounds in the neonatal ICU and visited with health professionals throughout the UAE and Middle East about respiratory care.

Oldenburg traveled to Chile last October specifically to provide ECMO training to health professionals at Clinica Las Condes. "They are in the process of implementing a neonatal and pediatric ECMO program, and I have been working very closely with them in developing this program and training the staff at the hospital."

The registered respiratory therapist says both of the Hopkins affiliates have appreciated the assistance they have received from their U.S. colleagues. "These institutions recognize the value of having respiratory therapists help with the respiratory needs of their patients, as well as see a tremendous need in developing an ECMO program to support respiratory and cardiac failure patients who are not responding to traditional means of life support." ■

If you don't know what you're missing, don't you think you owe it to yourself to find out?

Make the most of your career.
Be an active member of the AARC

AMERICAN ASSOCIATION FOR RESPIRATORY CARE

Marketplace

Featuring information on products and equipment from manufacturers

▶ You can receive information on the products listed in this section by contacting the manufacturers using one of two easy methods.

1. **Circle the respective "Cir #" on the Advertiser Index in this issue and fax today.**
2. **Send your request electronically via the AARC web site at www.aarc.org/resources/ (click on Reader Service Program).**

Sleep Waves
(continued from page 11)

CSA/CSR or CompSAS. The study showed that both forms of ventilatory support improved sleep parameters, with ASV being the most effective.[7]

Accurate recognition is the essential key to managing complex sleep-disordered breathing patterns. Scoring is only a small part of the recognition. Central apnea and CSR, in their pure forms, may respond to bi-level PAP, whereas patients with complex disease are very susceptible to induced hypocapnea with positive pressure ventilation. Avoid drugs that are known to increase REM sleep such as methadone and baclofen, if possible.[3]

Research opportunity

Much controversy still exists over the diagnosis and treatment of patients who do not respond to conventional CPAP or noninvasive positive pressure ventilation. The ASV device appears to be an effective treatment option for patients with CompSAS. Further studies need to be conducted to understand the effects of hypocapnea on this subset of patients. Medicare has recognized this as a separate and distinct diagnosis based on peer-reviewed literature. ■

REFERENCES

1. Gay PC. Complex sleep apnea: it really is a disease. J Clin Sleep Med 2008; 4(5):403-405.
2. Malhortra A, Bertisch S, Wellman A. Complex sleep apnea: it isn't really a disease. J Clin Sleep Med 2008; 4(5):406-408.
3. Gilmartin GS, Daly RW, Thomas RJ. Recognition and management of complex sleep-disordered breathing. Curr Opin Pulm Med 2005; 11(6):485-493.
4. Sleep Review web site. More than just OSA. Available at: www.sleep reviewmag.com/issues/articles/2006-09_06.asp *Accessed Nov. 16, 2009*
5. Morgenthaler TI, Kagramanov V, Hanak V, Decker PA. Complex sleep apnea syndrome: is it a unique clinical syndrome? Sleep 2006; 29(9):1203-1209.
6. Allam JS, Olson EJ, Gay PC, Morgenthaler TI. Efficacy of adaptive servoventilation in treatment of complex and central sleep apnea syndromes. Chest 2007; 132(6):1839-1846.
7. Morgenthaler TI, Gay PC, Gordon N, Brown LK. Adaptive servoventilation versus noninvasive positive pressure ventilation for central, mixed, and complex sleep apnea syndromes. Sleep 2007; 30(4):468-475.

New Members

Welcome to the AARC

U.S. Members

A

Briceno, Brandie, Montgomery, Al*
Doyle, Michael, Mobile, Al*
Williams, Deborah, Phil Campbell, Al*

Foster, Henry, Fouke, Ar*

Anderson, Susan, Mesa, Az*
Boser, Jewel, Arizona City, Az
Cadena-Sandoval, Diana, Oro Valley, Az*
Carver, Christine, Chandler, Az
Casarez, Cecilia, Maricopa, Az
Cochlin, Shirley, Chandler, Az
Dooley, James, Scottsdale, Az
Fannon, Troy, Gilbert, Az*
Haws, Dawna, Tucson, Az*
Heintz, Nick, Mesa, Az
Hughes, Clarence, Phoenix, Az*
Jones, Justin, Maricopa, Az
Kaff, Catherine, Mesa, Az*
Kingsfield, Vanessa, Mesa, Az
Knight, Corey, Goodyear, Az*
Krecklow, Melinda, Mesa, Az
Lloyd, Natasha, Mesa, Az
Madrigal, Enok, Maricopa, Az
Mangione, Danielle, Gilbert, Az
Parks, Carrie, Mesa, Az
Pearson, Michelle, Queen Creek, Az
Pisut, Frank, Tucson, Az*
Ross, Shannon, Mesa, Az*
Sherrill, Jenifer, Phoenix, Az*
Tatham, James, Gilbert, Az
Thomas, Dorie, Tucson, Az*
Tompkins, Daniel, Mesa, Az
Turner, Janice, Kingman, Az*
Urrea-Gutierrez, Gerardo, Tolleson, Az
Velasquez, Nancy, Mesa, Az
Villalobos, Melissa, Gilbert, Az
Wheeler, Brent, Globe, Az
Winikates, David, Cave Creek, Az
Ziegenbein, Kristen, Phoenix, Az*

C

Agnir, Susana, La Puente, Ca*
Alvarado, Mariano, Oakland, Ca
Amaral, Dusti, Yucaipa, Ca*
Arellano, Ambrocio, Pittsburg, Ca
Aries, Maria, San Diego, Ca
Arrigoni, Janis, Carlsbad, Ca*
Baillif, Michael, El Cajon, Ca
Balke, Elizabeth, Oakley, Ca
Bartholomaei, Amy, Pleasanton, Ca
Bassia, Abdul, Elk Grove, Ca*
Bedolla, Delmy, Reedley, Ca
Belnap, Michael, Fair Oaks, Ca
Bennallack, Kathryn, Walnut Creek, Ca*
Bihl, Kimberly, Pinole, Ca
Blanco, Deysi, Pleasant Hill, Ca*
Bliss, Edward, Hesperia, Ca*
Bricco, Melissa, Castro Valley, Ca
Burger, Marita, Pleasanton, Ca*
Burns, Gregory, Castro Valley, Ca
Butler, Earl, Victorville, Ca*
Canfield, Christina, Rancho Cucamonga, Ca*
Cappelle, Kim, Napa, Ca*
Carungay, Marton, Huntington Beach, Ca*
Cavallaro, Michael, Arcadia, Ca*
Cebuano, Zandra, Daly City, Ca
Ching, Brian, Concord, Ca
Chiong, Janssen, Concord, Ca
Clark, Martha, Fairfield, Ca
Conner, Teresa, San Diego, Ca
Cronin, Elise, Novato, Ca*
Cunningham, Sara, Alameda, Ca
Dabu, Rafael, Cerritos, Ca
Davies, Lisa, Union City, Ca*
Davis, Amber, Modesto, Ca
Decker, Michael, Encinitas, Ca*
Dillon, Tracy, Modesto, Ca*
Dominguez, Patronilo, Vallejo, Ca*
Fernandez, Ronnel, Vallejo, Ca
Folkendt, Brian, Fresno, Ca*
Freels, Liane, Sacramento, Ca
Fuentes, Javier, Bay Point, Ca
Gates, Brianne, Sunnyvale, Ca
Gilmore, Shannon, Livermore, Ca
Gonzales, Anna Lizza, Roseville, Ca*
Hale, Richard, West Covina, Ca*
Halog, Jennifer, Tracy, Ca*
Harrison, Kenzie, Alamo, Ca
Hartelt, Deborah, Benicia, Ca
Hoang, Ngoc, Antioch, Ca
Hurtado, Nelitta, Antioch, Ca
Hwang, Kevin, Milpitas, Ca
Jansen, John, Walnut Creek, Ca
Jimenez, Yoselin, Victorville, Ca*
Joe, Eric, Hayward, Ca
Johnson, Donald, Rialto, Ca*
Kelty, Katherine, Emeryville, Ca
Lawson, Erin, Citrus Heights, Ca
Lebeau, Deborah, Merced, Ca
Lontoc, Irene, San Leandro, Ca
Lundstrom, Ruth, Yorba Linda, Ca
Machado, Lionel, Tulare, Ca*
Maciel, Cecilia, Martinez, Ca
Maness, Donna, Apple Valley, Ca*
Mariano, John, Fremont, Ca
Masody, Mustafa, San Ramon, Ca
Massaquoi, Clarence, Pittsburg, Ca
McSweeney, Thea, Yorba Linda, Ca
Miller, Nelson, Bellflower, Ca*
Moreno, Yadira, Hayward, Ca
Morin, Isaac, Riverside, Ca*
Mu, Bryan, Elk Grove, Ca*
Murphy, Jeff, Lakeside, Ca*
Myers, Candyce, Danvill, Ca*
Nguyen, Giang, Oakland, Ca
Noveno, Christopher, Chula Vista, Ca
O'Neill, Jan, Huntington Beach, Ca*
Oakley, Valerie, Pittsburg, Ca*
Perez, Mark, Pittsburg, Ca
Phu, Allen, Walnut, Ca*
Ponik, Thomas, Folsom, Ca
Roberts, John, Danville, Ca
Rosenberry, Rachael, Clayton, Ca
Ruiz, Oswaldo, Los Angeles, Ca*
Russell (Gwinn), Laura, Torrance, Ca*
Sadat, Miguel, Chino, Ca*
Saephan, Fahm Meng, San Ramon, Ca
Sanchez, Stephanie, Stockton, Ca*
Sanders, Tony, Clovis, Ca*
Santamaria, Angelica, Visalia, Ca*
Sharma, Gaurav, Union City, Ca
Sikhounchanh, Annie, Oakland, Ca
Singh, Sangeeta, Turlock, Ca
Spencer, Katie, Walnut Creek, Ca
Spencer, Melissa, Napa, Ca
Swindle, Tracy, Vallejo, Ca
Thomas, Augare, Victorville, Ca*
Torres, George, Agoura Hills, Ca*
Tumanut, Edmundo, Escondido, Ca*
Valadez, Georgina, San Bruno, Ca
Vasquez, Francisco, Los Angeles, Ca
Villanueva Jr, Joseph, Oakley, Ca
Walsh, Matthew, Discovery Bay, Ca
Wang, Allen, Walnut Creek, Ca
Weber, Lloyd, San Francisco, Ca
Williams, Juliana, Concord, Ca
Woods, Kevin, Sacramento, Ca*
Wooten, Austin, Vallejo, Ca
Xayasounthone, Somchay, American Canyon, Ca
Yanit, Rudy, San Jose, Ca
Yee, Gail, Kenwood, Ca
Yendall, Diane E, Inglewood, Ca

Brace, Ryan, Denver, Co
Bramblett, Susan, Bailey, Co*
Farrell, Tiffany, Greeley, Co*
Galindez, Ria, Aurora, Co
Stevens, Kara, Burlington, Co*

Anderson, Deborah, Farmington, Ct*
Hayes, Ruth, Danbury, Ct
Marciniak, Janet, Norwich, Ct*
Perez, Nancy, Waterbury, Ct*
Rodriguez, Dawn, Waterbury, Ct*
Wilkinson, Kevin, New Hartford, Ct*

D

Baldo, Leah, Wilmington, De*
Durnan, Marybeth, New Castle, De*
Wright, Michael, Claymont, De*

F

Alexander, Koya, St Petersburg, Fl
Anderson, Robin, Fort Myers, Fl
Baxter, Phillip, Weston, Fl*
Bernard, Ken, Lake Worth, Fl
Bujan, Nancy, Largo, Fl*

These individuals have been approved for membership in the AARC. Any member may object to a new membership by filing a written objection with the Executive Office within 30 days. *Active Members

Dirubbo, Nicholas, Lakeland, Fl
Flora, Douglas, Largo, Fl*
Garcia, Hector, Jacksonville, Fl*
Guirado, Michael, Miami, Fl
Johns, Kimberly, Dunedin, Fl*
Marthelly, Marlyn, Royal Palm Beach, Fl*
Ripley, Gordon, Ocala, Fl*
Rogerson, Rodney, Fort Lauderdale, Fl*
Smith, Sandra, Palatka, Fl*
Stupp, Carol, Largo, Fl*
Ward, Umur, Fort Myers, Fl*

G

Case, Heather, Armuchee, Ga*
Colson, Vickie, Sugar Hill, Ga*
Doleman, Marvin, Snellville, Ga*
Glidewell, Marshall, Conyers, Ga*
Heidt, Cathy, Springfield, Ga*
Higgins, Denise, Dawsonville, Ga*
Hills, Karla, Rincon, Ga*
Hodsdon, Stan, Commerce, Ga*
Howard, Marcia, Covington, Ga*
Hughes, Phil, Brunswick, Ga*
Jackson, Cherrieann, Dallas, Ga*
Kinler, Julie, Smyrna, Ga*
Manning, Lesley, Brooklet, Ga*
Maund, Debra, Auburn, Ga*
McCreary, Harriet, College Park, Ga*
Miller, Brenda, Augusta, Ga*
Seymore, Randolph, Rome, Ga*
Smith, Karen, Duluth, Ga*
Weeks, Darlene, Athens, Ga*
Wortmann-Sparacino, Stephanie, Roswell, Ga*

H

Arakaki, Bryce, Kaneohe, Hi
Balatbat, Laura, Waipahu, Hi
Chen, Jojo, Honolulu, Hi
Hall, Jessica, Honolulu, Hi
Ikehara Lyman, Lori, Honolulu, Hi
Jale, Dolores, Honolulu, Hi
Kashimura, Takako, Honolulu, Hi
Koo, Anna, Honolulu, Hi
Lozano, Candice, Ewa Beach, Hi
Lum, Alden, Honolulu, Hi
Pasion, Patricia, Ewa Beach, Hi
Pollard, Christopher, Honolulu, Hi
Rivera, Sophia, Honolulu, Hi
Sasaki, Keith, Honolulu, Hi
Shimabukuro, Lynn, Waipahu, Hi
Tani, Austin, Honolulu, Hi

I

Anderson, Hope, Fonda, Ia*
Grider, Maranda, Vinton, Ia

Brough, Michael, Post Falls, Id*
Harkness, Kevin, Pocatello, Id*
Page, Kala, Blackfoot, Id*

Adams, Ashley, Champaign, Il
Burnett, Kimberly, South Elgin, Il*
Cunningham, Penny, Fieldon, Il*
Dyke, Marlaina, Tuscola, Il
Garvin, Suzanne, Naperville, Il*
Hagerstrom, Tyler, Neoga, Il
Hsieh, Jenny, Buffalo Grove, Il
Mathys, Shannon, Warrenville, Il*
Matuz, Susan, Edwardsville, Il*
Mosetich, Kathleen, Aurora, Il*
Mykytiuk, Andrew, Crete, Il
Rensing, Kathy, Waterloo, Il*
Sneed, Clarice, Champaign, Il
Van Buskirk, Kim, Stillman Valley, Il
Wensing, Delores, Quincy, Il*
Westfall, Pamela, Hoffman, Il*

Alston, Lewis, Indianapolis, In
Gray, Nicole, Bloomington, In*
Hobson, Kyle, Salem, In
Kidwell, Daniel, Indianapolis, In*
Kokotis, Kathy, Merrillville, In*
Miller, Palma, Carmel, In*
Pitzer, Holly, Seymour, In
Samourian, Sally, Henryville, In
Sidell, Tabatha, Henryville, In
Staton, Brenda, Winchester, In
Stewart, Carlton, Richmond, In
Swada, Danielle, Huntington, In*

K

Bachman, Jaylynn, Kansas City, Ks
Bose, Eric, Hays, Ks*
Boyum, Bridget, Wichita, Ks
Clark, Amy, Kansas City, Ks
Dinh, Lisa, Wichita, Ks
Gillen, Stacy, Wichita, Ks
Henry, Tanisha, Kansas City, Ks
Hird, Chrisnida, De Soto, Ks
Howard, Sheri, Ellsworth, Ks*
Knaup, Anson, Pittsburg, Ks*
Kramer, Emily, Overland Park, Ks
Losure, Amber, Lenexa, Ks
Madison, Tiffany, Shawnee, Ks
Munoz, Joe, Kansas City, Ks
Nguyen, Mike, Wichita, Ks
Robinson, Renata, Kansas City, Ks
Steinert, Michelle, Larned, Ks*
Vermeulen, Marcia, Shawnee, Ks
Young, Jeremy, Lawrence, Ks

Alexander, Dana, Smiths Grove, Ky*
Alton, Tia, Louisville, Ky
Bailey, Beth, Leitchfield, Ky
Bowles, Joy, Slaughters, Ky*
Collins Daugherty, Tonya, London, Ky*
Fields, Katherine, Louisville, Ky*
Hall, Kelli, Cold Spring, Ky*
Hall, Ryan, Cold Spring, Ky*
Hayes, Ashley, Liberty, Ky*
Honeycutt, Andrea, Lexington, Ky*
Huddleston, Tom, Rockfield, Ky*
Jackson, Louella, London, Ky*
Lovell, Brett, Olaton, Ky*
Maynard, Teri, Paris, Ky*
McElwain, Shana, Hartford, Ky*
Rafferty, Michael, Taylor Mill, Ky*
Roark, Timothy, London, Ky*
Schaefer, Frank, Morganfield, Ky*

L

Bass, Mary, Bossier City, La*
Cousson, Lindsey, Belle Chasse, La*
Deville, Hollie, Lafayette, La*
Doss, John, Slidell, La
Falcone, Vincent, Amite, La*
Green, Anthony, Jennings, La*
Hayes, Lakisha, Shreveport, La*
Lanoux, Stacy, Abita Springs, La*
Lapointe, Wendy, Belle Chasse, La*
Miller, Ryan, Laplace, La
Phillips, Jennifer, Bossier, La
Rodriguez, Felipe, New Orleans, La
Rodriguez, Jose, New Orleans, La
Schleben, Troy, Bossier City, La
Spohrer, Paul, Stonewall, La*
Stockstill, Steven, Columbia, La*
Talley, Harold, Bogalusa, La*
Terry, Samantha, Gretna, La
Toney, Troy, Pollock, La
Vegas, Mary, Covington, La*
Ward, Christina, Bush, La

M

Barber, Joanne, Pittsfield, Ma*
Benoit, Henry, S Weymouth, Ma*
Bien-Amie, Arold, Everett, Ma*
Chiang, Cristina, Andover, Ma*
Czar, Veronica, Revere, Ma*
De Jesus, M Lisette, Randolph, Ma*
Difronzo, Phyllis, Worcester, Ma*
Doyle, Catherine, Dalton, Ma*
Edouard, Lyonel, Medford, Ma*
Evangelista, Michael, Quincy, Ma*
Flagg, Charles, Malden, Ma*
Gourgue, Armande, Lynn, Ma*
Hester, Mark, Douglas, Ma*
Johnson, Kathleen, Ludlow, Ma*
Kwapien, Thomas, Westfield, Ma*
Little, Chris Ann, Southwick, Ma*
Malinowski, Stephen, Kingston, Ma*
Menard, Freddy, Melrose, Ma*
Merlin, Napoleon, Cambridge, Ma*
Millien, Casandra, Brockton, Ma*
Odestin, Marie, Malden, Ma*
Paul, Vania, Boston, Ma*
Peterson, Jan, Shrewsbury, Ma*
Poindujour, Smith, Revere, Ma*
Romain, Frederic, Marlborough, Ma*
Roman, Richard, Monson, Ma*
Schmidt, Ulrich, Andover, Ma
Sheran, Jennifer, Marsons Mills, Ma*
St Pierre, Ruthe, Brockton, Ma*
Turene, Jeiotte, Brockton, Ma*

Conteh, Kadiatu, Laurel, Md*
Duncan, Linda, Baltimore, Md*
Stokes, Jacqueline, Baltimore, Md*
Woodall, Joy, Chesapeake City, Md*

White, Christopher, Sanford, Me*

Chandler, Kimberly, Parchment, Mi*
Cheng, Katherine, Grand Blanc, Mi*
Fisch, Meagan, Middleville, Mi*
Hallenbeck, Donna, Trenton, Mi
Haubner, Sharon, Macomb, Mi*
Jones, Ladonna, Oak Park, Mi*
Ng, M Deborrah, Ann Arbor, Mi*
Obenchain, Valerie, Newaygo, Mi*
Story, Deborah, Madison Heights, Mi*
Tallman, James, Jackson, Mi*

Eiynck, Heide, Sartell, Mn*

Bidondo, Joanna, Belton, Mo
Bosch, Lisa, Belton, Mo
Coleman, Shameika, Kansas City, Mo
Couts, Kayleigh, Sibley, Mo
Curtis, Wendi, Kansas City, Mo*
Dauda, Sia, Kansas City, Mo
Dorton, Jamie, Richmond, Mo
Ducharme, Kristen, Columbia, Mo*
English, William, Gladstone, Mo
Harris, Donna, Warrensburg, Mo*
Hoch, Heather, Maryland Heights, Mo*
Keel, Regina, High Ridge, Mo*
King, Jennifer, Blue Springs, Mo
Kolb, Garret, Kearney, Mo
Lamb, Adrian, Raymore, Mo
Lamb, Carolyn, Raymore, Mo
Leonard, Matthew, Liberty, Mo

Lipscomb, Eddie, West Plains, Mo*
Long, Dennis, Cabool, Mo*
Lorenson, Danielle, Columbia, Mo*
Mace, Emily, Liberty, Mo
Malik, Romana, Blue Springs, Mo
Mann, Rodney, Platte City, Mo
McGuire, Patrick, Cameron, Mo
McIllwain, LaDonna, East Prairie, Mo*
McIntire, Meganne, Kansas City, Mo
Miller, Kevin, Liberty, Mo
Mitchell, Beverly, Washburn, Mo
Morefield, Kirk, Ashland, Mo*
Nagbe, Lawrence, Kansas City, Mo
Newton, Dion, Kansas City, Mo
O'Kelley, Cora, Kansas City, Mo
Odell, Jolene, Kansas City, Mo
Oliver, Tina, Maryland Heights, Mo*
Onwuemegbulem, Rose, Kansas City, Mo
Pattchett, Trisha, Columbia, Mo*
Peace, Tammie, Sedalia, Mo*
Perks, Jeri, Plattsburg, Mo
Prewitt, Latasha, Kansas City, Mo
Rawdon, Peggy, Sedalia, Mo*
Rennie, Lance, Gladstone, Mo
Rittenhouse, Rachel, Belton, Mo
Sager, Holly, Saint Louis, Mo*
Sanders, Kabrena, Kansas City, Mo
Simons, Erin, Kansas City, Mo*
Soerries, Kate, Napoleon, Mo
Thomas, Sherrie, Grandview, Mo
Webb, Curtis, Jefferson City, Mo*
Wells, Tomiko, Gladstone, Mo
Williams, Khara, Independence, Mo

Poteet, Casey, Southaven, Ms
Roesti, Julianna, Horn Lake, Ms

N

Bingham, Cheryl, Franklin, NC*
Breen, Richard, Pinehurst, NC
Cano, Pamela, Charlotte, NC*
Carson, Carol, Rolesville, NC*
Frick, Mike, Huntersville, NC*
Hodge, Sarah, Charlotte, NC*
Johnson, Jean, Hendersonville, NC*
Love, Lori, Charlotte, NC*
Peaden, Ron, Winterville, NC*
Turley, Dianne, Rougemont, NC*

Edwardson, Roberta, Lincoln, Ne*
Harvey, Michael, Syracuse, Ne*
Kontras, Kayla, Lincoln, Ne*
Skaw, Andrea, Lincoln, Ne*

Chamberlin, Catherine, Wilmot, NH*
Darwish, Harry, Nashua, NH
Demers, Robert, Nashua, NH*
Hall, Steven, Derry, NH*
Hayes, Linda, Exeter, NH*
Holland, Catherine, Penacook, NH*
Powers, Diane, Claremont, NH*
Thornton, Karen, Andover, NH*

Barringer, Jadie, Williamstown, NJ*
Boccia, Karen, South Plainfield, NJ*
Francois, Kenya, Sicklerville, NJ*
Hill, Loretta, Pittsgrove, NJ*
Howard, Glen, Bridgeton, NJ*
Johnson, Imena, Lumberton, NJ*
Kidd, Darrin, Magnolia, NJ*
Kotadia, Komal, Lodi, NJ*
Mattson, Andrew, Glassboro, NJ*
Obando, Evelyn, Newark, NJ
Patel, Puja, Jersey City, NJ
Pfirman, Steven, Egg Harbor City, NJ*
Sellers, Ayanna, Paterson, NJ*
Smith, Monica, Sicklerville, NJ
Williams, George, Monroeville, NJ*
Williams, Jean, Monroeville, NJ*

Alkhass, Edmon, Albuquerque, NM
Barreras, Manuel, Albuquerque, NM
Cutlip, Tracey, Albuquerque, NM
Decker, Traci, Albuquerque, NM
Elkins, Allix, Albuquerque, NM
Garcia, Raina, Cedar Crest, NM
Gooch, Kathryn, Albuquerque, NM
Jiron, Tracy, Albuquerque, NM
Kelsey, Robin, Rio Rancho, NM
Lightfoot, Christie, Albuquerque, NM
Lovato, Alisha, Albuquerque, NM
McCool, Jessica, Albuquerque, NM
Montano, Danielle, Albuquerque, NM
Obotakata, Chrys, Albuquerque, NM
Omandam, Eulalia, Albuquerque, NM
Polosky, Waynette, Tijeras, NM
Richards, Jennifer, Albuquerque, NM
Shelton, John, Albuquerque, NM
Shumate, Kristen, Albuquerque, NM
Skousen, Caitlin, Rio Rancho, NM
Sutker, Sharone, Albuquerque, NM
Williams, Lisa, Albuquerque, NM
Yates, Laura, Albuquerque, NM

Alba, Alfredo, Bronx, NY*
Anuforoh, Chika, Brooklyn, NY*
Banos, Jeanne, Rochester, NY*
Fogu, Brian, Clay, NY*
Gunay, Murat, Tonawanda, NY
Hodzic, Sanela, Utica, NY*
Jaquez, Yenny, Baldwin, NY*
Lane, Jimmy, Binghamton, NY*
Raphael, Clemand, Brooklyn, NY*
Simms, Byron, New Windsor, NY*

O

Allison, Jennie, Columbus, Oh
Bana, Lufta, Columbus, Oh
Beach, Jacob, Columbus, Oh
Bender, Jeff, Columbus, Oh
Cress, Stephanie, West Chester, Oh*
Deal, Angela, Perrysville, Oh*
Goehring, Jeremy, Dover, Oh
Gradert, Amanda, Columbus, Oh
Grove, Leslie, Columbus, Oh
Hagen, William, Oxford, Oh*
Hammel, Pam, Englewood, Oh*
Hartnagel, Stephanie, Ft Recovery, Oh
Holden, Mary, Leesburg, Oh
Karlecke, Holly, Columbus, Oh
Keasal, Lee, Grove City, Oh
Lewis, Raimie, Chardon, Oh
Liddil, Jessica, Hilliard, Oh
Mann, Philip, Highland Heights, Oh
Meek, Londa, Fairfield, Oh*
Niederst, Sean, Mentor, Oh
Niswonger, Kevin, Cincinnati, Oh
Patel, Mihal, Galloway, Oh
Paterniti, Mary, Chesterland, Oh*
Seibert, Courtney, Beavercreek, Oh
Sias, Brooke, Marion, Oh
Telle, Ann, Dover, Oh*
Tucker, Marlena, Columbus, Oh
Weber, David, Columbus, Oh
Yauger, Mary Frances, West Chester, Oh*
Zils, Lenore, Parma, Oh*

Poe, Paula, Midwest City, Ok*
Porterfield-Yenzer, Lynn, Oklahoma City, Ok*
Shaw, Beverly, Edmond, Ok
Stoabs, Dale, Oklahoma City, Ok*
Thomas, Glenn, Vian, Ok*
Viner, Sandra, Tulsa, Ok
Wyche, Margaret, Fittstown, Ok*

Hepner, Linda, Springfield, Or

P

Adjei Bohyen, Kofi, Wilkes Barre, Pa
Allen, Alkeisea, Philadelphia, Pa
Ameonu, Evelyn, Philadelphia, Pa
Antonelli, Donna, Washington, Pa*
Arthur, Joseph, Harrisburg, Pa*
Bannon, Kathleen, Philadelphia, Pa
Beckman, Richard, Erie, Pa*
Beebie, Michael, Philadelphia, Pa*
Calivas, Artemisdiane, Philadelphia, Pa
Carman, Christine, Philadelphia, Pa
Coleman, Ashley, Glenside, Pa
Cosgrove, Meghan, Philadelphia, Pa
Delete, Delete, Philadelphia, Pa*
Falchini, Michael, Altoona, Pa*
Foley, Katy, Philadelphia, Pa
Gillin, Michael, Philadelphia, Pa*
Gilpin, Frederick, Philadelphia, Pa
Holloman, Britt, Philadelphia, Pa
Joseph, Roxann, Philadelphia, Pa
Kompanets, Alla, Philadelphia, Pa
Kruszewski, Lori, Erie, Pa*
Mathis, Theola, Philadelphia, Pa
Matthews, Tiana, Williamsport, Pa*
Mehl, Souad, Philadelphia, Pa
Mink, Richard, Philadelphia, Pa
Morrow, Sheena, Philadelphia, Pa
O'Brien, Shawn, Folcroft, Pa*
Pascal, Ronald, Philadelphia, Pa
Rastetter, Charles, Philadelphia, Pa
Rdesinski, Katie, Philadelphia, Pa
Rigler, Vernonica, Philadelphia, Pa
Ruci, Gersicda, Philadelphia, Pa
Schafer, Karen, Phoenixville, Pa*
Schilling, Frederick, Philadelphia, Pa*
Seabron, Peter, Philadelphia, Pa
Soifaite, Mary, Philadelphia, Pa
Struky, Terry, Central City, Pa*
Taylor, Yvonne, Philadelphia, Pa
Torrence, Nicholas, Philadelphia, Pa
Trethaway, Kevin, Philadelphia, Pa
Venneri, Tracy, Philadelphia, Pa
Vranich, Janice, Johnstown, Pa*
Wax, Antoinette, Philadelphia, Pa
Wax, Melanie, Philadelphia, Pa
Willis, Deborah, Red Lion, Pa*
Wojciechowski, Jennifer, Philadelphia, Pa

Aponte, Nydia, San German, PR*

R

Rofino, Cynthia, Cumberland, RI*
Venancio, Heather, Providence, RI*

S

Dodge, Candelaria, Beaufort, SC*
Gilbert, Pearce, Charleston, SC
Isgett, Beverly, Mt Pleasant, SC*
Smith, Amanda, Mullins, SC*
Thorne, Stacia, Summerville, SC*

Gordon, Ryan, Montrose, SD*
Pitts, Shirley, Garretson, SD*

T

Blair, Whitney, Kingsport, Tn*
Burruss, Joaquina, Arlington, Tn*
Johns, Debbie, Russellville, Tn*
Mercer, Edward, Goodlettsville, Tn*

Agrait, Finees, San Antonio, Tx*
Anaya, Eddie, Austin, Tx*
Arumugam, Rajkumar, Austin, Tx
Barnes, Bridget, Spring, Tx*
Beckwith, Jeanne, San Antonio, Tx*
Bernard, Kimberly, Austin, Tx*
Best, Edward, Fairview, Tx*
Bracho, Pablo, Grand Prairie, Tx*
Brown, Shannon, Waxahachie, Tx*
Burgin, James, Kerrville, Tx*
Caballero, Rene, McAllen, Tx*
Cade, Ralph, Dallas, Tx*
Copeland, Joshua, Oglesby, Tx
Dillenburg, Patricia, San Antonio, Tx*
Dupre, Laurie, Houston, Tx*
Espinosa, Anthony, Red Oak, Tx*
Estrada, Patricia, San Antonio, Tx*
Fear, George, Uvalde, Tx*
Freeman, Connie, Lubbock, Tx*
Fryer Glover, Debra, Temple, Tx*
Haas, Thomas, Galveston, Tx*
Hall, Sara, Mountain City, Tx*
Heintschel, Judy, Deer Park, Tx*
Hudson, Clint, San Antonio, Tx*
Hughey, Marilynn, Balch Springs, Tx*
Hunter, Teresa, Wichita Falls, Tx*
Johnston, Amanda, San Marcos, Tx
Kelley, Ladonna, Belton, Tx*
Kraus, Kami, Euless, Tx*
Logue, Joe, Ft Sam Houston, Tx*
Lopez, Luis, Corpus Christi, Tx*
Lybarger, Suzanne, Cibolo, Tx*
Mackey, Elizabeth, Austin, Tx*
Martinez, Jade, Temple, Tx
Mathewson, Michael, Brownsville, Tx*
McCain, Jana, Kyle, Tx*
McGhee, Martin, Ft Sam Houston, Tx*
Mejias, Jonas, San Antonio, Tx*
Mendez, Carolina, Laredo, Tx*
Mohan, Mercy, Mesquite, Tx*
Oblepias, Avery, Katy, Tx*
Okereke, Charity, Houston, Tx
Oommen, Merline, Missouri City, Tx*
Oviedo, Marilyn, San Antonio, Tx*
Plyler, Bill, Kerrville, Tx
Ramirez, Isidro, Austin, Tx*
Reed, Colin, El Paso, Tx*
Respondek, Anita, Mission, Tx*
Rigg, Melissa, Holland, Tx
Rodriguez, Anthony, Round Rock, Tx*
Rodriguez, Jorge, Spring, Tx*
Scott, Anthony, Rowlett, Tx*
Walters, Kelly, Seabrook, Tx*
White, Jamie, Frisco, Tx*
Zepeda, Fernando, Progreso, Tx*

U

Andersen, Kristin, Washinton, Ut
Bladen, Blaire, Saint George, Ut
Burns, Rebecca, St George, Ut
Campbell, Astrid, Murray, Ut*
Erickson, Martina, St Geroge, Ut
Hierz, Theresa, West Jordan, Ut
Johns, Bob, Cedar Hills, Ut
Krog, Michael, Sandy, Ut
Larsen, Bryan, Salt Lake City, Ut
Martinez, Jesus, Salt Lake City, Ut*
Rice, Anthony, Herriman, Ut
Snyder, Whitney, Saint George, Ut

V

Anden, Hillary, Virginia Beach, Va
Barker, Kelly, Virginia Beach, Va
Betts, Lindsey, Virginia Beach, Va*
Briggs, Jennifer, Virginia Beach, Va
Cherian, Benny, Glen Allen, Va*
Clifton, William, Stuarts Draft, Va*
Downing, Terrell, Virginia Beach, Va
Doyle, Kelly, Moseley, Va*
Durham, Barry, Virginia Beach, Va
Eble, Teresa, Rocky Mountain, Va*
Elliott, Whitney, Virginia Beach, Va
Gardner, Karon, Virginia Beach, Va
Gregory, Alecia, Virginia Beach, Va
Hess, Sidnie, Springfield, Va*
Jenkins, Shalynn, Virginia Beach, Va
Laverdiere, Michael, Virginia Beach, Va
Mahoney, Anita, Virginia Beach, Va
Marsden Barrett, Sandra, Virginia Beach, Va
Mavracic, Christine, Woodbridge, Va*
Methot, Susan, Virginia Beach, Va
Mohoney, Anita, Virginia Beach, Va
Moore, Devonne, Norfolk, Va
Pinnock, Petagay, Virginia Beach, Va
Rau, Bridget, Reston, Va*
Robinson, Noel, Amherst, Va*
Seemueller, Justin, Virginia Beach, Va
Smith, Andrew, Virginia Beach, Va
Spengler, Kelly, Chesapeake, Va*
Sprinkle, Tina, Virginia Beach, Va
Terry, Jessica, Virginia Beach, Va
Wimmer, David, Bon Air, Va*

Malboeuf, Melissa, Saint Albans, Vt*
Murley, Shane, Essex Junction, Vt*

W

Alviz, Michelle, Renton, Wa
Anderson, Nicholas, Port Orchard, Wa
Asfaw, Million, Des Moines, Wa
Ayres, Vanessa, Federal Way, Wa
Bergquist, Debra, Kent, Wa
Beuca, Adelynne, Woodinville, Wa
Beuca, Camelia, Woodinville, Wa
Bouttavong, Bounprasong, Issaquah, Wa
Bowen, Robin, Kent, Wa
Bowling, Linda, Snoqualmie, Wa
Burdick, Jessica, Marysville, Wa
Burnett, Brittany, Covington, Wa
Cavalieri, Jessica, Seattle, Wa
Cox, David, Spanaway, Wa
Crawley, Frances, Puyallup, Wa
Crawley, Keith, Puyallup, Wa
Crook, Courtney, Seattle, Wa
Devine, Gail, Dupont, Wa
Dhillon, Jaideep, Federal Way, Wa
Duncan, Michael, Everett, Wa
Duque, Jari, Snohomish, Wa*
Ewing, Curtis, Port Orchard, Wa
Ezell, Janice, Milton, Wa
Farrell, Bridget, Lake Stevens, Wa*
Fidler, Melissa, Puyallup, Wa
Frati, Matthew, Snohomish, Wa
Gebretnsae, Efrem, Seattle, Wa
Gordon, Janaye, Seattle, Wa
Hanzik, Kiersten, Shelton, Wa
Heaton, Thomas, Edmonds, Wa
Hertlein, Anna, Lake Tapps, Wa
Hicks, Bobby, Olympia, Wa
Hilde, Megan, Auburn, Wa
Hinckley, Scott, Puyallup, Wa
Jackson, Jacob, Maple Valley, Wa
Jackson, Michael, Bothell, Wa
Johnson, Naheed, Puyallup, Wa
Jordan, Joseph, Marysville, Wa
Kibarita, Esther, Marysville, Wa
Knight, Michaela, Bellevue, Wa
Kroon, Michael, Bainbridge Island, Wa*
Lacoste, David, Seattle, Wa
Levene, Sarah, Tacoma, Wa
Maddox, Michelle, Burien, Wa
Malyugin, Arkadiy, Renton, Wa
Mata, Mary, Olympia, Wa
Mosley, Derrick, Tacoma, Wa
Petterborg, Brett, Lake Stevens, Wa*
Pirtle, Logan, Mead, Wa*
Price, Jeffery, Kent, Wa
Quesnel, Edward, Covington, Wa
Quinn, Jason, Lynnwood, Wa
Quint, Mark, Seattle, Wa
Reed, Arielle, Milton, Wa
Riedel, Jacob, Wenatchee, Wa
Rowe, Kathryn, Aberdeen, Wa*
Sagar, Dharmendra, Kent, Wa
San, Sony, Sumner, Wa
Shoemaker, Jim, Spokane, Wa*
Singh, Amanda, Ferndale, Wa
Sosaya, Jacquelynn, Lynnwood, Wa
Sosaya, Mario, Marysville, Wa
Tonoyan, Irina, Bellevue, Wa
Truppner, Patrick, Lake Tapps, Wa
Van, Linda, Lacey, Wa
Vu, Diane, Edmonds, Wa
Watson, Kenneth, Tacoma, Wa
White, Monica, Kent, Wa
Woldemicael, Zaid, Lynnwood, Wa
Yang, Brian, Renton, Wa
Yee, Kristine, Everett, Wa
Young, Nicole, Olympia, Wa

Bazan, Jason, Wauwatosa, Wi*
Demerath, Michelle, Manitowoc, Wi*
Heim Duaime, Crystal, Depere, Wi*
Lemere, Stacey, Green Bay, Wi
Schmidt, Heather, Fond Du Lac, Wi*
Tremaine, Michelle, Ixonia, Wi*
Wojcik, Donna, Hortonville, Wi*

Adams, Teresa, Parkersburg, WV
Rush, Ashley, Fairmont, WV*

Rogers, Lani, Casper, Wy*

Military Members

Boeckholt, Melanie, McChord AFB, Wa
Carter, Laarni, APO, AE*

International Members

Alferez, Dulce, Riyadh, Saudi Arabia
Chou, Jeng Yu, Yilan County, Taiwan*
Serada, Kazuyuki, Japan
Kinoshita, Akio, Chiba-Ken,Ichikawa-Shi, Japan

Classifieds

ADVERTISING SECTION

For Sale/For Rent

Ventilators, Pulse Oximeters, and More
Respiratory care and cardiopulmonary equipment for sale. Featuring Puritan Bennett, Siemens, Bird, Bear, Lifecare, Sechrist, Infrasonics, Dräger, Newport, and other brand names. Adult, pediatric, infant/neonatal, transport, and home care ventilators. All equipment are fully remanufactured and warrantied. Lowest prices and best quality. Nationwide-worldwide shipping. We buy used equipment. Call for trade-in prices. General Biomedical Service, Inc., New Orleans, LA, (800) 558-9449.

AARC Times Classified Advertising Information & Requirements:

Classified Word Advertisements
AARC Members: $50 for 50 words or less; each additional word, $1. Free Internet placement. Nonmembers: $60 for 50 words or less; each additional word, $1.20. Listings are categorized by state. Following the state listings are United States/International, For Sale/For Rent, Miscellaneous, and Situations Wanted. All copy should be typed double-spaced. All ads will be set in 8-point type. To calculate the cost per advertisement, a "word" is considered to be one or more letters, numbers, or special characters with a space before and after.

Ads are featured on the AARC web site for one month after publication. Ad may only be placed on the web site with an insertion order for placement in an AARC publication. Ad is noncancelable after placement on the web site. NOTE: *AARC Times* reserves the right to refuse any advertisement not directly relevant to respiratory care. *AARC Times* does not endorse any advertiser, its positions, practices, services, or products.

We reserve the right to make editorial changes for reasons of clarity and consistency. Every effort is taken to avoid mistakes, but *AARC Times* cannot be responsible for clerical or printing errors. **Deadline for Ad Placement/Cancellation** Deadline for ad placement and written cancellations for the next available issue is February 24. Blind ads available. **For Recruitment Advertising Information, Contact Classified Advertisement** Anna Blydenstein • Alhambra Plaza • 725 N. Highway A1A, Suite C-106 • Jupiter, FL 33477 • (561) 745-6793 • Fax (561) 745-6795 • AARCAD@aol.com

Recruitment Display Advertisements
For Recruitment Display Ad Rates, go to http://www.aarc.org/marketplace/media_kit/2010_recruitment.pdf, or contact Goldsbury and Associates, Alhambra Plaza, 725 N. Highway A1A, Suite C-106, Jupiter, FL 33477, (561) 745-6793, Fax (561) 745-6795

www.carolinashealthcare.org

When you join the team at Levine Children's Hospital, you'll be part of an exceptional group of healthcare professionals who have a strong commitment to family-centered care.

Levine Children's Hospital is the largest children's hospital between Atlanta and Washington, DC. Our 234-bed hospital, on the campus of Carolinas Medical Center, provides a scope of pediatric care and depth of expertise unmatched in this region. Levine Children's Hospital offers more than 30 specialized pediatric services, including kidney, liver, heart, bone marrow transplants, cardiovascular surgery and interventional cardiology, neurosurgery, rehabilitation services and ECMO (extracorporeal membrane oxygenation). We also offer the highest level of neonatal care in the regional and a Pediatric Emergency Department.

Respiratory Therapy Opportunities
Join our exceptional Level IV NICN/High Risk Delivery team, Pediatric ED and Pediatric Rehabilitation department. Responsibilities include assisting in Bronchoscopy, caring for the Cardiac Thoracic Post-Op patient, performing intubation, airway/ventilator management and treatment protocols as well as Asthma education.

- **Lead Therapist**: Requires 3-5 years of management experience.
- **Staff Respiratory Therapists**: FT, PT and PRN opportunities available. Requires at least one year of Pediatric experience.

If you would like more information about Levine Children's Hospital on the campus of Carolinas Medical Center, or to see current opportunities and apply online, please visit **www.levinechildrenshospital.org**.
EOE/AA

Levine Children's Hospital
Our world revolves around children.
On the campus of Carolinas Medical Center

Circle 19 on product information card

Join our Respiratory Therapy Team

Breathe new life into your career at Clarian Health in Indianapolis, Indiana. Exciting opportunities exist for experienced Registered Respiratory Therapists (RRT) at Indiana's largest hospital system.

CURRENT OPPORTUNITIES

RRT – Registered Respiratory Therapist
Pediatric/Neonatal Experience
Riley Hospital for Children – One of the nation's premier children's hospitals

RRT – Registered Respiratory Therapist
Adult Care Experience
Methodist Hospital – one of Indiana's busiest hospitals

Indiana University Hospital – one of the country's premier teaching facilities

We're ready to give you a spot on the Clarian Respiratory Team if you have:

- Graduated from a CoARC-accredited respiratory care program
- Pediatric or neonatal experience preferred for Riley Hospital positions
- Current Indiana licensure as a Respiratory Care Practitioner
- Knowledge/experience in all phases of respiratory care involving adult or pediatric general and critical care
- A.S. or B.S. degree in Respiratory Care and an RRT credential
- N.B.R.C. registry exam must be passed within one year of graduation, if not currently registered

Find out more and apply today!
Contact Brandon Kaser:
317-962-8192 • bkaser@clarian.org

Great careers start in great environments.

When you join Clarian Health, you will be part of one of the nation's leading critical and complex care teams. Outside of work, life in Indianapolis is full of diverse cultural activities, great shopping, dining, entertainment, strong schools and neighborhoods, several professional sports teams and anything else you could want in a city to call home.

MAGNET RECOGNITION
AMERICAN NURSES CREDENTIALING CENTER

Clarian Health

Circle 17 on product information card

Be A Part Of The AARC Now!

Your Membership Makes A Difference

ACTIVE MEMBER

An individual is eligible if he/she lives in the U.S. or its territories or was an Active Member prior to moving outside its borders or territories, and meets ONE of the following criteria: (1) is legally credentialed as a respiratory care professional if employed in a state that mandates such, OR (2) is a graduate of an accredited educational program in respiratory care, OR (3) holds a credential issued by the NBRC.

ASSOCIATE OR SPECIAL MEMBER

Individuals who hold a position related to respiratory care but do not meet the requirements of Active Member shall be Associate Members. They have all the rights and benefits of the Association except to hold office, vote, or serve as chair of a standing committee. The following subclasses of Associate Membership are available: Foreign, Physician, and Industrial (individuals whose primary occupation is directly or indirectly devoted to the manufacture, sale, or distribution of respiratory care equipment or supplies). Special Members are those not working in a respiratory care-related field.

STUDENT MEMBER

Individuals will be classified as Student Members if they meet all the requirements for Associate Membership and are enrolled in an educational program in respiratory care accredited by, or in the process of seeking accreditation from, an AARC-recognized agency.

SPECIAL NOTICE — Student Members do not receive Continuing Respiratory Care Education (CRCE) transcripts. Upon completion of your respiratory care education, continuing education credits may be pursued upon your reclassification to Active or Associate Member.

Membership Application

Please read the eligibility requirements for each of the classifications to the left, then complete the form. All information requested must be provided, except where indicated as optional. See **side 2** for more information and fee schedule. Please sign and date application on **side 2** and type or print clearly. Processing of application takes approximately 15 days.

You may apply or renew instantly on-line by going to https://secure.aarc.org/membership/

☐ Active ☐ Associate (Foreign) ☐ Associate (Physician) ☐ Associate (Industrial) ☐ Special ☐ Student

Last Name _____ First Name _____

Social Security No. (last four digits only) _____ Home Address _____

City _____ State _____ Zip _____

Phone No. (_____) _____ Email Address _____

You are automatically assigned to a state society based on your **home address**. If you wish to be assigned to a different state society, please indicate which state that is here: _____

Work Information: Place of Employment _____

Address _____ City _____

State _____ Zip _____ Phone No. (_____) _____

Preferred Fax No.(_____) _____ Preferred Email Address _____

Preferred Mailing Address: ☐ Home ☐ Business

Have you ever been or are you currently in the military? ☐ Yes ☐ No

For Student Member (Required)

School/RC Program _____ Address _____

City _____ State _____ Zip _____

Phone No. (_____) _____ Program Director _____

Expected Date of Graduation Month _____ Year _____

Please answer these questions to help us design services and programs that meet your needs.

Primary Job Responsibility (check one only)

☐ Diagnostic Technologist ☐ Director (Technical or Program) ☐ Instructor/Educator ☐ Medical Director
☐ Nurse ☐ Student ☐ Supervisor ☐ Therapist/Technician ☐ Other, please specify _____

Type of Business

☐ DME/HME ☐ Educational Institution ☐ Home Health Agency ☐ Hospital ☐ Manufacturer or Supplier
☐ Outpatient Clinic ☐ Physician's Office ☐ Sleep Laboratory (Free Standing) ☐ Sleep Laboratory (Hospital Based)
☐ SNF ☐ Other, please specify _____

Check the Highest Degree Earned

☐ RC Graduate Technician ☐ High School ☐ Associate's Degree
☐ Bachelor's Degree ☐ Master's Degree ☐ Doctorate Degree

Job Status ☐ Full Time ☐ Part Time ☐ Years in Respiratory Care _____

Credentials ☐ RRT ☐ CRT ☐ CPFT ☐ RPFT ☐ NPS ☐ AE-C ☐ RPSGT ☐ DO/MD ☐ RN ☐ LVN/LPN ☐ CRNA

Date of Birth _____ **Sex** _____

American Association for Respiratory Care

AARC An Excellent Investment

Membership has many personal and professional benefits. The potential savings from these benefits go well beyond the cost of AARC membership, only a quarter a day!

PLEASE SIGN

I hereby apply for membership in the American Association for Respiratory Care. If approved for membership in the AARC, I will abide by its bylaws and professional code of ethics. I authorize investigation of all statements contained herein and understand that misrepresentations or omissions of facts called for is cause for rejection or expulsion.

A yearly subscription to Respiratory Care journal and *AARC Times* magazine includes an allocation of $11.50 from my dues for each of these publications, if applicable.

NOTE: Contributions or gifts to the AARC are not tax deductible as charitable contributions for income tax purposes. However, they may be tax deductible as ordinary and necessary business expenses subject to restrictions imposed as a result of Association lobbying activities. The AARC estimates that the nondeductible portion of your dues — the portion which is allocable to lobbying — is 19%.

Signature _____ **Date** _____

You may apply or renew instantly on-line by going to https://secure.aarc.org/membership/

Membership Fees (U.S. dollars only)

Payment must accompany your application to the AARC. Fees are for 12 months. These fees contain the $12.50 new members processing fee. **Renewing members (except students) can deduct $12.50.**

Choose One Level of Membership

AARC REGULAR MEMBERSHIP (Receive both *AARC Times* magazine and Respiratory Care journal)

☐ Active $102.50 ☐ Associate (Industrial or Physician) $102.50 ☐ Associate (Foreign) $117.50 ☐ Special $102.50 ☐ Student $50.00

→ **NEW! AARC REGULAR MULTI-YEAR MEMBERSHIP** ☐ Active **or** ☐ Associate (U.S. only) **or** ☐ Special **for:** ☐ 2 years $170 **or** ☐ 3 years $240

Or

AARC CHOICE MEMBERSHIP (Choose one publication) I want ☐ *AARC Times* magazine **or** ☐ Respiratory Care journal

☐ Active $91.00 ☐ Associate (Industrial or Physician) $91.00 ☐ Associate (Foreign) $106.00 ☐ Special $91.00

Or

AARC PLUS MEMBERSHIP (All publications and other special benefits)

☐ Active $137.50 ☐ Associate (Industrial or Physician) $137.50 ☐ Associate (Foreign) $177.50 ☐ Special $137.50

(Includes one **free** specialty section – please mark your choice below.)

Or

Web-only MEMBERSHIP (Open only to international members) ☐ Foreign $92.50

***Voluntary PAC Contribution $**_____ ****Voluntary ARCF Contribution $**_____

* AARCPAC is a separate aggregated fund. Voluntary political contributions by individuals should be written on personal checks. Contributions from corporations are illegal and cannot be accepted. The AARC will not favor or disadvantage anyone based upon the amounts of or refusal to make AARCPAC contributions. Contributions to a political action committee are not deductible for federal income tax purposes.
** American Respiratory Care Foundation (ARCF) is a not-for-profit organization formed for the purpose of supporting research, education, and charitable activities in respiratory care. Contributions to the ARCF are tax deductible.

Specialty Sections (Open to all members) E-mail address is required.

Membership in AARC Specialty Sections connects you to others who practice in your area of respiratory care through an electronic mailing list, monthly E-Newsletters, quarterly Section E-Bulletins, and an information-rich Specialty Section website. Programs created by specialty section members are integral to the AARC Summer Forum and AARC International Respiratory Congress.

☐ Adult Acute Care Section $15.00 ☐ Education Section $20.00 ☐ Neonatal-Pediatric Section $15.00 ☐ Diagnostics Section $15.00
☐ Management Section $20.00 ☐ Transport Section $15.00 ☐ Long-Term Care Section $15.00 ☐ Home Care Section $15.00
☐ Continuing Care Rehabilitation Section $15.00 ☐ Sleep Section $15.00

Payment Information

Enclosed is a check for the membership fee I selected ***plus*** any specialty section fees ***plus*** any contributions to AARCPAC or ARCF for the total amount of $_____. Please make checks payable to the AARC.

Please charge my dues to: ☐ MasterCard ☐ Visa ☐ American Express

Card Number _____ Card Expires _____ /_____ Signature _____

Send this application and fees to:
American Association for Respiratory Care
9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706 (if using a credit card)
or P.O. Box 650097, Dallas, TX 75265-0097 (if sending a check)
Fax: 972-484-2720 • Phone: 972-243-2272

Did you remember to give us your email address on page 1?

Thanks for Being Part of the Team

Revised May 07

Calendar of Events

AARC & State Society Programs

March 31 – April 1
Newport, RI
26th Annual Convention and Exhibition of Rhode Island Society for Respiratory Care
Contact www.risrc.org or Bill Ozga, (508) 363-6281, william.ozga@stvincenthospital.com

April 11–13
Seattle, WA
37th Annual Pacific Northwest Regional Respiratory Care Conference and Scientific Assembly
Contact Lauri Stephens at Lauri@uw.edu or Jon Jahns at Jonathan_Jahns@Valleymed.org

April 29
Monroe, NJ
New Jersey Society for Respiratory Care Spring Lecture Series
Contact www.njsrc.org or Linda Birnbaum, (732) 713-6859, Lbirnbaum2@yahoo.com

April 29–30
Ames, IA
Iowa Lung Conference
Contact Tammy Jarnagin, (515) 239-2611, jarnagin@mgmc.com

May 4–5
Plantsville, CT
Connecticut Society of Respiratory Care Annual Symposium
Contact Beth Moore, (203) 789-3767, emoore@srhs.org

June 8–10
Oak Brook Terrace, IL
42nd Annual Conference and Exposition of Illinois Society for Respiratory Care
Contact www.isrc.org or Kelli DeBerry, (847) 437-5500, ext. 4866, deberryk@Alexian.net

July 16–18
Marco Island, FL
Summer Forum
Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

October 24–30
Respiratory Care Week
Contact AARC, (972) 243-2272, www.aarc.org

December 6–9 (Monday–Thursday)
Las Vegas, NV
AARC International Respiratory Congress
Contact AARC, (972) 243-2272, www.aarc.org/meetings

Other Meetings

March 16 (11–12 EST)
Live Pulmonary Function Webcast Series
Spirometry in Occupational Disease
Contact Susan Blonshine, (517) 676-7018, sblonshine@techedconsultants.com

May 14–19
New Orleans, LA
2010 American Thoracic Society International Conference
Contact www.thoracic.org, or ATS International Conference Department at (212) 315-8652, conference@thoracic.org

Submissions for the next available issue are due Feb. 24.

For information on submitting calendar events, contact: Beth Binkley, AARC Times 9425 N. MacArthur Blvd, Suite 100, Irving, TX 75063-4706 (972) 243-2272, Fax (972) 484-2720, E-mail binkley@aarc.org

Advertiser Index

To advertise, contact: Tim Goldsbury, Advertising Sales, Alhambra Plaza, 725 N. Highway A1A, Suite C -106, Jupiter, FL 33477, (561) 745-6793, Fax (561) 745-6795, goldsbury@aarc.org. Or contact Beth Binkley, Advertising Assistant, Daedalus Enterprises, Inc., 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706, (972) 243-2272, Fax (972) 484-2720, binkley@aarc.org.

Company Name	Cir #	Pg #
Alda Pharmaceuticals Corp. www.aldacorp.com	83	92
Apria Healthcare www.Apria.com	5	98
ARC Medical, Inc. (800) 950-2720 arcinfo@arcmedical.com	9	15
B & B Medical Technologies, Inc. (800) 242-8778 (760) 929-9953 Fax www.bandb-medical.com	14	27
B & B Medical Technologies, Inc. www.BandB-Medical.com	76	92
CareFusion carefusion.com	7	3
CareFusion carefusion.com	11	C2
Carolinas Medical Center www.levinechildrenshospital.org	19	99
Clarian Health (317) 962-8192 bkaser@clarian.org	17	99
Covidien Respiratory and Monitoring Solutions www.covidien.com	74	92
Covidien Respiratory and Monitoring Solutions covidien.com/successstories	15	31
GE Healthcare (866) 281-7545 www.gehealthcare.com/respiratorycare	16	C3
Hans Rudolph, inc. (913) 422-7788 (913) 422-3337 Fax www.rudolphkc.com	18	11
HCA West Florida www.MoreCareerChoices.com	25	100
Hydrate/PARI Respiratory (877) C-FORCE-9 www.HYDRATEinc.com	6	13
Impact Instrumentation Inc www.impactii.com	4	29
Invacare (800) 333-6900 www.invacare.com	8	25
Maquet (888) 627-8383 www.maquetusa.com	75	92
Masimo www.masimo.com	86	92
Masimo (800) 257-3810 www.masimo.com	20	C4
Monaghan Medical (800) 833-9653 www.monaghanmed.com	12	7
Oridion (888) ORIDION (781) 453-2722 Fax www.oridion.com	10	21
Passy-Muir Inc. (800) 634-5397 www.passy-muir.com	13	49
Philips Respironics www.philips.com	77	92
ResMed www.resmed.com	78	92
Vortran (800) 434-4034 (916) 648-9751 Fax www.vortran.com	22	17
Wright Solutions (305) 289-7369 www.wrighttrachsolutions.com	21	33

Name _____ **Title** _____ **Facility** _____

Address _____ **City** _____ **State** _____ **Zip** _____ **Phone #** _____

FOR FAST PRODUCT INFORMATION FROM THE MANUFACTURERS, circle the corresponding number on this page and fax this form to (888) 847-6035 or go online to www.aarc.org/resources/ and click on Reader Service Program

GE Healthcare

Breathe in.
We've got you covered.

Whatever your respiratory care needs, GE Healthcare has the solutions you can use to help improve patient outcomes. Our extensive line of respiratory solutions is tailored to a broad range of patients across a wide range of care settings. From solutions for acute neonatal, acute pediatric and acute adult critical care to transport, disaster response, home ventilation, sleep-disordered breathing therapy and including many non-invasive solutions, GE provides a full-range of products tailored to a variety of patient conditions.

For more information, please call (866) 281-7545 or visit us on the web at www.gehealthcare.com/respiratorycare.

Tailored therapy. For every patient. Everywhere.

imagination at work

Circle 16 on product information card

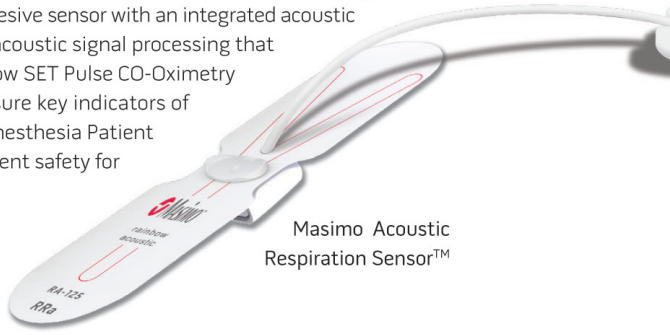
Acoustic Respiration Rate

Accurate > Easy-to-Use > Enhances Compliance

Introducing Masimo Rainbow SET® Acoustic Monitoring

Respiration Rate Monitoring That Works Where and When You Need It

By helping you detect respiratory compromise and patient distress earlier, Masimo Rainbow SET Acoustic Respiration Rate Monitoring (RRa™) may allow you to monitor more patients, more safely than ever before. This revolutionary new technology noninvasively and continuously measures respiration rate using an innovative adhesive sensor with an integrated acoustic transducer that is easily and comfortably applied to the patient's neck, and uses acoustic signal processing that leverages Masimo's patented Signal Extraction Technology (SET). Masimo Rainbow SET Pulse CO-Oximetry and Acoustic Monitoring together let you noninvasively and continuously measure key indicators of oxygenation (SpO_2), ventilation (RRa) and bleeding ($SpHb^{TM}$) to help you meet Anesthesia Patient Safety Foundation (APSF) guidelines and provide you with a breakthrough in patient safety for post-surgical patients who are being monitored on general care floors.



Masimo Acoustic Respiration Sensor™

To find out more about how the Masimo Rainbow SET Acoustic Respiration Monitoring can help in your hospital's patient safety and "do no harm" initiatives, call 1-800-257-3810, or go to www.masimo.com.

Circle 20 on product information card

Masimo®