AARC
Times
The Official Publication of the American Association for Respiratory Care
March 2012 Vol. 36, Issue 3 www.aarc.org $10.00

One on One with President Karen Stewart

SAFETY CHECKLISTS Reduce Medical Errors

Applying for the NBRC's RRT Examination

AARC President Karen Stewart, MSc, RRT, FAARC

When you can detect subtle variations,
you get **a better sense**
of where your patient is headed.

THE SENSING SYSTEMS OF COVIDIEN

INVOS™ Cerebral/Somatic Oximetry | **Nellcor**™ pulse oximetry with OxiMax™ Technology | **BIS**™ Brain Monitoring | **LiDCO**™ Hemodynamic Monitoring

All monitors connect to patients. But the Sensing Systems of Covidien also connect patients to you. With revealing, real-time data that speaks to both your mind and your intuition. It's the timely intelligence you need to respond decisively to every unique situation. And the Sensing Systems of Covidien also keep you continuously aware of each patient's ongoing status, alerting you only when it's imperative.

TO GET A BETTER SENSE OF OUR CAPABILITIES, VISIT WWW.RESPIRATORYSOLUTIONS.COVIDIEN.COM.

COVIDIEN, COVIDIEN with logo, Covidien logo and *positive results for life* are U.S. and internationally registered trademarks of Covidien AG. Other brands are trademarks of a Covidien company. Covidien is the exclusive distributor of LiDCO*rapid* products in the United States. LiDCO is the manufacturer of record for the LiDCO™ product line and is responsible for maintaining all governmental and regulatory authorizations for the LiDCO*rapid* product. LiDCO and LiDCO*rapid* are trademarks of LiDCO Ltd.
©2011 Covidien. All rights reserved. 11-PM-0337

Table of Contents

March 2012
Volume 36, Issue 3

Sleep Waves | 5
Considerations when bringing the home CPAP machine to the hospital. By Suzanne Bollig, RRT-SDS, RPSGT, FAARC

Coming of Age | 9
Home care and elder safety issues in the home. By Kimberly S. Wiles, BS, RRT, CPFT

Ventilation for Life | 12
Home ventilatory management of patients with neuromuscular disease. By Joseph Lewarski, BS, RRT, FAARC, and Robert Messenger, BS, RRT, CPFT

Chronic Disease Manager | 18
Implications of not teaching patients proper aerosol use in the hospital. By Thomas J. Kallstrom, MBA, RRT, FAARC

"Speak Up" To Prevent Medical Errors | 26
Respiratory therapists should actively participate in preventing medical errors. By Frank Sandusky, HCMBA, RRT

One on One with AARC President Karen Stewart | 30
The AARC's influence with related groups and organizations continues with the in-hospital COPD management protocol, which is currently in work.

Calling All Respiratory Care Photos for the 2012 AARC Photo Contest | 34
Members, send us your photos of what makes respiratory care so great!

Patient Safety Checklists Take Aim at Reducing Medical Errors | 38
AARC releases two checklists designed especially for respiratory care. By Douglas S. Laher, MBA, RRT

General Counsel | 16
Government Advocacy | 22
Observations | 24
NBRC Insight | 43
Industry Watch | 48
Marketplace | 50
New Members | 51
RC Currents | 54
Classified Advertising | 62
Calendar of Events | 64
Advertiser Index | 64

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 AARC members online at www.aarc.org/members_area/resources/strategic.asp.

Editor
Marsha Cathcart, BA

Managing Editor
Thomas Kallstrom, MBA, RRT, FAARC

Assistant Editor
Karen Singleterry, BS

Contributors
Debbie Bunch, BA
Sheila Henegar

Art Director
Donna Knauf, BA

Graphic Designers
Jeanette Chawdhury
Lisa Dudley
Kelly Piotrowski

Consultant
Sherry Milligan, MBA, CAE

Director, Advertising Sales
Tim Goldsbury, BA, RRT
Goldsbury@aarc.org

Advertising Sales Consultant
Andrea Conté
andrea@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, BA

Publisher
Sam P. Giordano, MBA, RRT, FAARC

Printed in USA

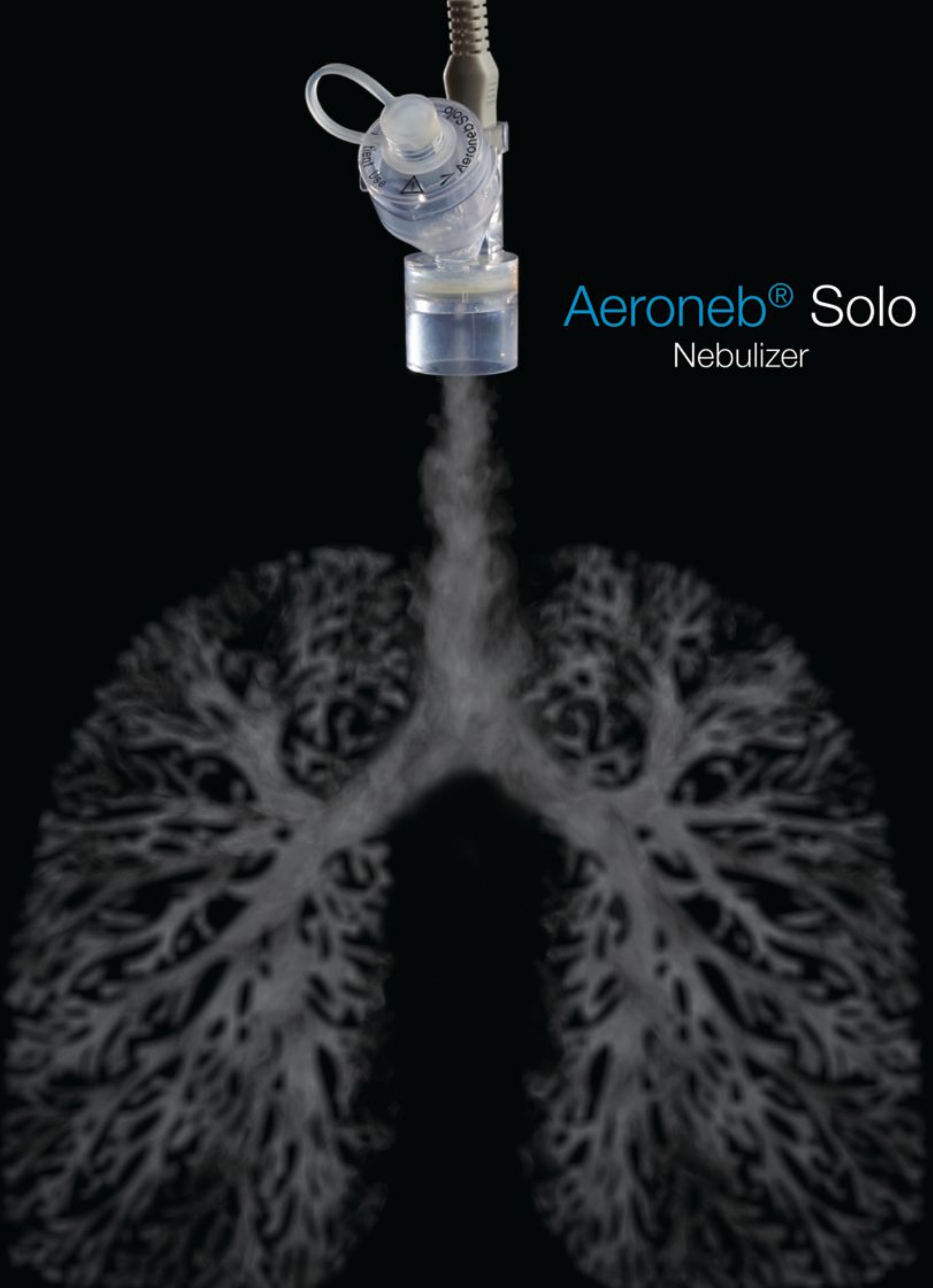
Meet the AARC Staff

Debbie Bunch
Writer
AARC Times
debbunch@aol.com

Steven B. Nelson
Associate Executive Director
nelson@aarc.org

Dale Griffiths
Director of Business Development
griffiths@aarc.org

Kris Kuykendall
Executive Administrative Assistant
kuykendall@aarc.org



We Love Lungs!

The Aeroneb® Solo is your trusted nebulizer for making your patients better.

We deliver more drug to the lungs than traditional MDI, Ultrasonic and Jet nebulizers. No added flow, no added pressure, no fuss. Find out why MDI, USN and Jet neb users are switching to the Aeroneb® Solo on www.aerogen.com

Aerogen | www.aerogen.com

AARConnection . . .
maximizing your membership

VAP Prevention
Empowering the Respiratory Therapist to be the VAP Expert

As a respiratory therapist, you play a vital role in the prevention of ventilator-associated pneumonia. And, a new AARC course helps you become a VAP expert. Learn more at http://www.aarc.org/education/vap_course/ Also check out Emerging Roles for the Respiratory Therapist in Alpha-1 Antitrypsin Deficiency at http://www.aarc.org/education/alpha1_course/

KNOWLEDGE
Free Continuing Education

This year, each Specialty Section will have a bonus webcast opportunity, meaning that the archived webcast and test will be offered free of charge to members of that section. Check it out at http://www.aarc.org/headlines/12/01/bonus_webcasts/

RESOURCE
Learn About Disease State Management

Learn from AARC members who have branched out successfully into disease state management. Learn More at http://www.aarc.org/members_area/resources/disease.asp

MANAGEMENT TOOL
AARC Benchmarking System

The AARC's web-based benchmarking system allows respiratory therapy departments to report and compare data with other departments. Start Comparing at http://www.aarc.org/resources/benchmarking/

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:
Commission 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. Copyright© 2012 by Daedalus Enterprises, Inc., 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706. All rights reserved. Reproduction in whole or part without the express written permission of Daedalus Enterprises, Inc., is prohibited. The opinions expressed in articles, departments, or editorials are those of the author and do not necessarily reflect the views of Daedalus Enterprises, Inc., or 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 AARC member contributions of feature articles and information for the regular departments. All materials should be submitted via email to Editor Marsha Cathcart at cathcart@aarc.org. Letters from members 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.

Considerations When Bringing the Home CPAP Machine to the Hospital

by Suzanne Bollig, RRT-SDS, RPSGT, FAARC

According to the U.S. Department of Health and Human Services (HHS) Centers for Disease Control and Prevention's "2006 National Hospital Discharge Survey" published July 30, 2008, the age distribution of inpatients changed dramatically from 1970 through 2006.[1] In 1970, 20% of inpatients were age 65 years and over, with those 75 years and over representing only 9% of all inpatients. By 2006, 38% of inpatients were age 65 years and over, with those age 75 years and over now comprising 24% of all inpatients (see Figure 1). This same survey showed that in 2006 there were 4.2 million admissions for heart disease, with congestive heart failure as the most common diagnosis. The changing demographics of the hospital inpatient population reflect not only the aging population but also the gradual shift from inpatient to outpatient care. These trends have significant implications for acute care respiratory therapists as they provide care for a more fragile population with an increased prevalence of chronic medical conditions.

Hospital environment and sleep

In general, studies have shown that the sleep of hospitalized patients, particularly an acutely ill patient who is septic or in the ICU, is disrupted and characterized by decreased total sleep time, with as little as 83 minutes of sleep in a 24-hour period and a decrease in slow wave and rapid-eye movement sleep.[2,3] The use of anesthesia, sedatives, and analgesics also significantly impact the quantity and quality of achievable sleep in the acute care environment and may be of particular importance when working with individuals who may have sleep-disordered breathing (SDB) in addition to their acute medical condition.

SDB prevalence in the inpatient population

It is estimated that 4% of men and 2% of women have overt obstructive sleep apnea (OSA), 50% of men and 25% of women snore, and up to 24% of middle-aged men and 9% of middle-aged women have SDB.[4] The presence of SDB increases with age, and numerous studies have shown that OSA is linked to a number of cardiovascular diseases including hypertension, heart failure, atrial fibrillation, metabolic syndrome, myocardial infarction, diabetes, stroke, and transient ischemic attacks.[5-7] Keeping in mind reasons for admission and ages of many inpatients, the prevalence of SDB in the inpatient population is likely much higher than in the general population. Dennis Auckley, MD, through Case Western Reserve University, Cleveland, OH, conducted a study using screening questionnaires for OSA on 311 inpatients admitted to general medicine departments over a four-month period. The study showed that 60.2% of those patients were positive for OSA by questionnaire, 81.8% had never been diagnosed with OSA, 40.2% of these same patients had orders for narcotics, and none had orders for supplementary respiratory monitoring.[8]

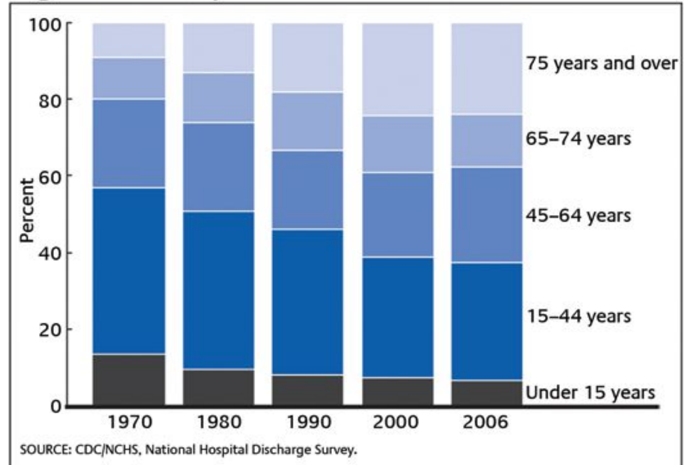
Screening inpatients for SDB

As a result of the current literature and information, a number of hospitals have instituted screening for SDB on inpatients, particularly of the pre-operative patient. A variety of screening tools have been described in the literature, including the Berlin and STOP-BANG questionnaires and the American Society of Anesthesiologists checklist. Each of these tools has been validated and can be read about in greater detail from

about the author…

Suzanne Bollig, RRT-SDS, RPSGT, FAARC, is the manager of the Sleep Disorder and Neurodiagnostic Institute, Center for Health Improvement at Hays Medical Center in Hays, KS.

Figure 1. Hospital Admission Trends



Percent distribution of hospital discharges by age: United States, selected years 1970–2006

sources listed under additional reading. The use of any screening tool will improve the likelihood of identifying OSA, and many hospitals have developed screening protocols as part of their admission data collection and are working on the development of alerting mechanisms, treatment algorithms, and management plans for those patients identified as at-risk for SDB.

Evans Castor, MBA, from Edward Hospital in Naperville, IL, conducted a study where an interdisciplinary team from medical staff, nursing, respiratory care, information systems, risk management, preadmission testing, and quality excellence was formed to develop a treatment/monitoring plan. Based on screening questions and physical assessment, medical and surgical patients received additional OSA-related care when warranted and the team was able to develop algorithms and standing-order sets to provide consistent patient care.[9] Despite identifying a significant number of patients with OSA, the study showed a reduction in morbidity and mortality, elimination of OSA-related adverse events, decreased unplanned ICU admissions and intubations, improved continuous positive airway pressure (CPAP) compliance, and a 7% decrease in average length of stay for CPAP patients.

Challenges in the hospital setting

The acute care hospital setting presents a number of challenges in the management of SDB including lack of diagnosis, failure to identify and adequately monitor high-risk patients, poor tolerance of CPAP therapy by the acutely ill or PAP-naïve patient, and need for adjustments in PAP settings during acute illness and recovery in the patient with prescribed therapy. Portable or limited channel sleep studies may have a role in certain patients, although confirmation of the diagnosis of OSA is essential after recovery. Other limitations to successful management include the sleep-disruptive hospital environment and the consequences of acute illness including pain, anxiety, patient care routines, and medications. Patients with prescribed PAP therapy are often encouraged to bring their home CPAP machine to the hospital to use during their stay in order to provide them with familiar equipment and known/prescribed machine settings. Using the home CPAP machine intuitively appears to be a good solution to OSA management, but it is important for the bedside respiratory therapist to closely monitor the patient to ensure that any necessary adjustments in settings are made during the acute illness and recovery period. The use of patient-owned medical equipment has advantages and disadvantages for both the patient and hospital (as shown in Table 1), although risk, liability issues, and patient safety concerns need to be addressed in hospital policies and procedures.

Hospital policies on use of home medical equipment

According to the ECRI Institute (a nonprofit organization that is a designated federal patient safety organiza-

Table 1. Patient-owned Equipment Advantages and Disadvantages

Patient Advantages

1. Familiar with equipment operation
2. Familiar/comfortable with mask
3. Machine preset to prescription

Patient Disadvantages

1. Medical condition may require changes in settings
2. May not be able to effectively use or apply therapy without assistance

Hospital Advantages

1. Reduce equipment inventory
2. Reduce cost of supplies/masks
3. Reduce equipment maintenance

Hospital Disadvantages

1. Staff unfamiliar with equipment
2. Equipment may be defective or poorly maintained
3. May not have parts or supplies available

Shear Points®

SKIN FRICTION PROTECTORS

FREE SAMPLES!
Available at www.birchlabs.com or 800-328-6156 ext. 7968

The ultra-thin and nearly invisible liquid-filled membranes of LiquiCell Shear Points provide a synthetic, external bursa that allows the body to glide or float with an object aiding in the reduction of shear and friction of the skin.

- **Self-adhesive Shear Points can be applied to the bridge of the nose, orbits of the eyes, ears or any other area at risk of skin breakdown due the presence of a respiratory device.**
- **Excellent for use with Oxygen Masks, Oxygen Tubing, CPAP Masks, Bilevel Masks or any other device that contacts the skin.**
- **Transparency allows for easy monitoring of skin condition without removal!**

How Supplied:

Size		Item Number	Box
X-Small	49 mm	94198	100-Ct (10x10-packs)
Small	56 mm	94201	100-Ct (10x10-packs)
Medium	70 mm	94204	100-Ct (10x10-packs)
Large	87 mm	94207	100-Ct (10x10-packs)

LiquiCell® is a medical technology that helps prevent skin tissues from being stretched or torn. The ultra-thin cells contain a liquid that is in constant motion allowing the body to glide or float with an object both reducing shear and friction of the skin and improving blood perfusion to the tissues.

www.birchlabs.com

LiquiCell and Shear Points are registered trademarks of Birchwood Laboratories, Inc., © 2012

Patent pending.

Table 2. ECRI Key Recommendations for Patient-supplied Equipment

1. Develop a policy statement on patient-owned medical and nonmedical equipment that clearly states restrictions and allowances.
2. Provide education and guidance to patients, providers, and staff on the policies.
3. Ensure that physician approval is obtained for the use of patient-supplied medical devices and that pertinent staff are knowledgeable about their operation.
4. Work with legal counsel to develop forms/waivers for patients regarding patient responsibility and liability.

Adapted from ECRI Institute Healthcare Risk Control Executive Summary, Vol. 3, May 2008.

tion by the HHS): "Healthcare organizations have a duty to ensure the safety of equipment and devices used in their institutions. When they allow the use of patient-supplied equipment, they may also assume the responsibility for the equipment's performance and safety."[10] Generally speaking, ECRI recommends that hospitals prohibit the use of patient-owned medical equipment except in well-defined circumstances as outlined in a hospital policy. In a Health Device Alert released December 2009, ECRI made reference to two patient deaths involving the use of patient-owned CPAP units while admitted to the hospital.[11] One of the patients died after the CPAP machine was seen to be misting or smoking. The second patient was unable to maintain the equipment, and cultures of the humidifier revealed the same infectious agent as was determined to be responsible for his postoperative infection. Hospitals must ensure that all medical equipment (including CPAP devices) are appropriately used and safe for the patient. Bedside caregivers and RTs need to be provided with education and informational resources about the safe and effective use of the equipment they are responsible for. A physician's order for use of the home equipment along with a prescription for machine settings is essential, as is an inspection of the equipment by biomedical staff before use. In most instances, legal council or risk management will develop a liability waiver for the patient to sign. Finally, ensure that the hospital has a policy in place that defines under what circumstances patient-owned medical equipment can or cannot be brought into the facility and outlines the steps the facility will take to ensure the appropriate education is provided to staff and that infection control, maintenance. and electrical patient safety issues are addressed, as shown in Table 2. ■

REFERENCES

1. DeFrances CJ, Lucas CA, Buie VC, Golosinskiy A. 2006 National Hospital Discharge Survey. Natl Health Stat Report 2008; 7(5):1-20.
2. Hilton BA. Quantity and quality of patients' sleep and sleep-disturbing factors in a respiratory intensive care unit. J Adv Nurs 1976; 1(6):453-468.
3. Aurell J, Elmqvist D. Sleep in the surgical intensive care unit: continuous polygraphic recording of sleep in nine patients receiving postoperative care. Br Med J (Clin Res Ed) 1985; 290(6474):1029-1032.
4. Young T, Evans L, Finn L, Palta M. Estimation of the clinically diagnosed proportion of sleep apnea syndrome in middle-aged men and women. Sleep 1997; 20(9):705-706.
5. Gottlieb DJ, Yenokyan G, Newman AB, et al. Prospective study of obstructive sleep apnea and incident coronary heart disease and heart failure: the sleep heart health study. Circulation 2010; 122(4):352-360.
6. Punjabi NM, Sorkin JD, Katzel LI, et al. Sleep-disordered breathing and insulin resistance in middle-aged and overweight men. Am J Respir Crit Care Med 2002; 165(5):677-682.
7. Kaneko Y, Hajek VE, Zivanovic V, et al. Relationship of sleep apnea to functional capacity and length of hospitalization following stroke. Sleep 2003; 26(3):293-297.
8. Sleep 2010: Associated Professional Sleep Societies 24th annual meeting (Abstract 0391). Presented June 7, 2010.
9. Chest 2008: American College of Chest Physicians meeting. Castor E. OSA screening: a team approach. Oct. 29, 2008; 134(4):0151003.
10. ECRI Institute website. Healthcare risk control: patient supplied equipment. Available at: https://www.ecri.org/Documents/RM/HRC_TOC/MedTech8ES.pdf *Accessed Nov. 23, 2011*
11. Hazard report. Using patient-supplied respiratory care equipment in hospitals requires careful assessment. Health Devices 2009; 38(12):417-418.

ADDITIONAL READING

American College of Chest Physicians website. Sleep-disordered breathing in hospitalized patients. PCCSU Article 09.01.10. Available at: www.chestnet.org/accp/pccsu/sleep-disordered-breathing-hospitalized-patients *Accessed Nov. 23, 2011*

Chung F, Yegneswaran B, Liao P, et al. STOP questionnaire: a tool to screen patients for obstructive sleep apnea. Anesthesiology 2008; 108(5):812-821.

Chung F, Yegneswaran B, Liao P, et al. Validation of the Berlin questionnaire and American Society of Anesthesiologists checklist as screening tools for obstructive sleep apnea in surgical patients. Anesthesiology 2008; 108(5):822-830.

Gali B, Whalen FX Jr, Gay PC, et al. Management plan to reduce risks in perioperative care of patients with presumed obstructive sleep apnea syndrome. J Clin Sleep Med 2007; 3(6):582-588.

Gay PC. Sleep and sleep-disordered breathing in the hospitalized patient. Respir Care 2010; 55(9):1240-1254.

Gross JB, Bachenberg KL, Benumof JL, et al. Practice guidelines for the perioperative management of patients with obstructive sleep apnea. Anesthesiology 2006; 104(5):1081-1093.

Kaw R, Michota F, Jaffer A, et al. Unrecognized sleep apnea in the surgical patient: implications for the perioperative setting. Chest 2006; 129(1):198-205.

Home Care and Elder Safety Issues in the Home

by Kimberly S. Wiles, BS, RRT, CPFT

As we enter into a new era of health care, demands are being placed on the health care industry to maintain a higher level of transition care from hospital to home. Not only are avoidable rehospitalizations under pressure, but innovative models of care such as "hospital at home" are emerging. Studies have shown that home care interventions are preferred by patients and can improve quality care and decrease unnecessary hospital admissions, thus saving health care systems billions of dollars.[1]

At Klingensmith HealthCare, for example, our Discharge + Assessment & Summary @ Home (or DASH) program reduced 30-day readmissions for patients requiring supplemental oxygen to 7.2%, which included multiple respiratory diagnoses.[2] That compares with an historical level of 25–30% in our community. At Roberts Home Medical in Maryland, a similar program reduced the 30-day readmission rate to 5.5% in a group of 128 COPD patients, comparing favorably to the 22.6% national average.[3]

Respiratory therapists play a significant role in both of these programs; and, indeed, if the patient is oxygen dependent, a respiratory therapist's expertise is essential in the management of his or her activities of daily living (ADLs). It is imperative that the patient be monitored with pulse oximetry and titrated accurately while performing these ADL functions. Separately, managing the patient's dyspnea is as critical to his or her independence as restoring oxygen saturations. The RT can ensure the patient's oxygen equipment promotes portability. Of course, RTs are essential to educating the patient and caregiver on their medication delivery devices, the need for smoking cessation, and proven strategies to manage the condition.

Kimberly S. Wiles, BS, RRT, CPFT, is vice president of respiratory services at Klingensmith HealthCare in Ford City, PA.

An uncontrolled environment

However, home care must go beyond the clinical needs of our respiratory patients. With the average life expectancy increasing, the number of seniors discharged into their home environment continues to grow. From both a cost and quality of life perspective, it is crucial to keep patients in their homes; but in order for them to remain there, it is essential for the health care team to adequately assess all of their needs and identify competent caregivers. Evidence suggests that seamless communication, transitions, and coordination of care among providers can improve outcomes.[4] As alluded to above, if there is a gap in the transition, a readmission to an acute care setting is likely, occurring with around 20% of patients in less than 30 days.[5]

Time spent prior to discharge on identifying risk, educating, and training improves transition; but until a member of the health care team assesses the home, the risk of readmission remains high. The patient's home is an uncontrolled environment and is unique to the care of the patient. After an acute care admission, the patient is often physically weak and the home may create new challenges to his or her recovery. There are multiple areas that need to be assessed to ensure that a safe and successful transition to home occurs.

Safety risks

The home health professional is the "eyes and ears" of the physician and must possess a keen eye for problem identification as well as critical thinking skills for problem resolution. According to "The State of Home Safety in America™" research report, unintentional home injury results in nearly 20,000 deaths per year in the United States.[6]

A home assessment by a health care professional is key to identifying immediate safety concerns as well as long-term functional needs required to achieve independence. Environmental factors, implicated in 40–50% of falls of older persons, include slippery surfaces, inadequate lighting, loose carpet, staircases without appropriate railings, badly arranged furniture, and poorly designed bathrooms.[7] The bathroom is an area that poses significant risk. Bathroom safety equipment should be used as an aid to eliminate unnecessary falls while bathing and showering.

A comprehensive assessment of gait, balance, mobility levels, and lower extremity function is also essential when determining a patient's risk of falls. The health care professional must request additional resources when needed, such as an occupational therapist (OT) consult. The OT specializes in assessing an individual's capability to remain independent while identifying home modifications that aid in the reduction of falls.

The ability to perform ADLs is a major component to maintaining independence. The OT's expertise lies in the ability to work with the patient while doing ADLs and the identification of physical and cognitive issues that interfere with the individual's ability to achieve independence. The OT is able to identify various types of adaptive equipment and mobility aids that will help to achieve the ultimate independence.

Another common area that poses a safety concern in the home is the lack of functioning smoke detectors and fire extinguishers. A fire escape route should be discussed with the patient and implemented. Due to obstacles such as furniture or blocked access to entryways, the elderly patient is placed at a considerable risk in the event a fire should occur. These safety concerns become particularly important when supplemental oxygen is being used in the home.

Medication management

Safe, appropriate, and effective medication usage is another major issue that exists within the home. It goes without saying that respiratory therapists should be involved in helping patients correctly use their inhaled medications. However, most of our patients are on other medications as well; and the more medications a person takes, the greater the risk for problems. One study found that 64% of the elderly receiving home care experienced medication errors.[8]

The patient/caregiver must understand how the patient's medications interact with one another, as well as the side effects that may occur. The transition process from an acute care setting to the home care setting can be overwhelming for elders. Very little time is spent in the discharge process. Nursing studies site that an average of eight minutes is devoted to discharge instruction.[9]

> As more and more patients are discharged to home, the health care team must extend into the home, not only to provide clinical care, but also to adequately address potential safety hazards and risk.

With financial burdens strapping the elderly patient, many of them choose to omit filling their prescription(s) or skip doses as well. Uncovering this issue and directing patients to assistance programs are important interventions for the home care team. Also, many manage multiple medications without a process to organize administration and are unsure of complications associated with missed doses as well as the effects of omitting them entirely. Providing organization tools and instructing patients on symptom identification and corresponding action steps are additional steps in the independence process.

Abuse

According to the best available estimates, between 1–2 million Americans age 65 years and older have been injured, exploited, or otherwise mistreated by someone on whom they depended for care or protection.[10] As elders become more physically frail due to their age or their illness, they are less able to stand up to bullying or mistreatment. Physical and emotional abuse are two forms of elder abuse. Emotional abuse can vary from yelling, humiliation, and intimidation to neglect and isolation. It is important for all health care professionals to be familiar with signs of elder abuse and intercede when these problems exist. Some common signs of elder abuse include:

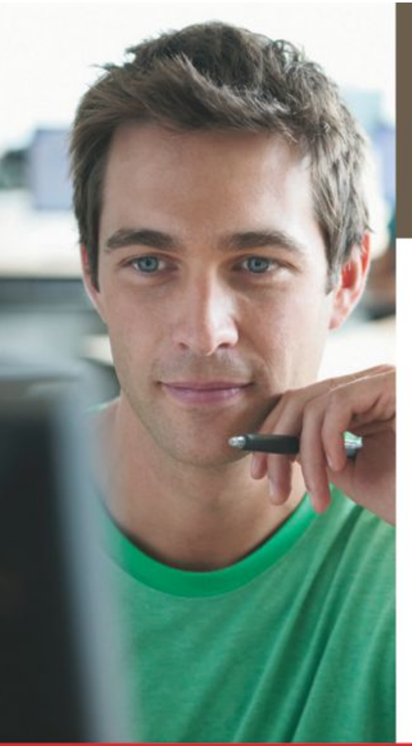
- Unexplained signs of broken bones, sprains, or bruises
- Signs of being restrained, such as rope marks on wrists
- Caregiver's refusal to allow you to see the elder alone
- Threatening or controlling caregiver behavior that you witness
- Behavior from the elder that mimics dementia.

Patient advocacy is job one

The demands placed on home health care to increase quality while decreasing cost, is the challenge for today; however, this is what drives the *value* of home care. One thing remains clear: As more and more patients are discharged to home, the health care team must extend into the home — not only to provide clinical care, but also to adequately address potential safety hazards and risk. Elder care in the home is dependent on professionals like respiratory therapists, who can interact with the patient and/or caregivers in the home. It is the responsibility of the health care team to be a patient advocate and utilize all systems to promote independence and self management. ■

REFERENCES

1. Barrett DL, Secic M, Borowske D. The Gatekeeper Program: proactive identification and case management of at-risk older adults prevents nursing home placement, saving healthcare dollars program evaluation. Home Healthc Nurse 2010; 28(3):191-197.
2. Carlin BW, Wiles K, Easley D, Rees N. Transition of care program and rehospitalization rates for patients with COPD who require home oxygen therapy following an exacerbation: an update (Abstract). Respir Care 2011; 56(10):1691.
3. Kaufman LM, Smith AP. Effect of a homecare respiratory therapist education program on 30 day hospital readmissions of COPD patients (Abstract). Respir Care 2011; 56(10):1691.
4. Spehar AM, Campbell RR, Cherrie C, et al. Seamless care: safe patient transitions from hospital to home. In: Henriksen K, Battles JB, Marks ES, et al, editors. Advances in patient safety: from research to implementation; Vol. 1: Research findings. Rockville MD: Agency for Healthcare Research and Quality (US); 2005.
5. 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.
6. Home Safety Council. The state of home safety in America, 2nd ed; 2004.
7. Clemson L, Cumming RG, Roland M. Case-control study of hazards in the home and risk of falls and hip fractures. Age Ageing 1996; 25(2):97-101.
8. Mager DD, Madigan EA. Medication use among older adults in a home care setting. Home Healthc Nurse 2010; 28(1):14-21.
9. American Medical Association, American Medical News. Reducing readmissions: how 3 hospitals found success. February 14, 2011.
10. National Research Council Panel to Review Risk and Prevalence of Elder Abuse and Neglect. Elder mistreatment: abuse, neglect, and exploitation in an aging America. Washington DC, 2003.



Educate. Manage. Lead.
Earn your Master of Science in Respiratory Care Leadership.

Created for practicing respiratory therapists, the **Master of Science in Respiratory Care Leadership** presents an action-learning approach that builds leadership competencies and advances your clinical knowledge. Core courses cover topics such as advanced cardiopulmonary physiology and research design. In addition, you may focus your studies in one of six areas:

- Adult and Organizational Learning
- Clinical Trial Design
- Health Management
- Higher Education Administration
- Nonprofit Management
- Regulatory Affairs

Interested in learning more?
Visit www.northeastern.edu/cps/respiratory or call 1.877.668.7727

• 100% Online
• Rolling Admissions
• Multiple Start Dates

Home Ventilatory Management of Patients with Neuromuscular Disease

by Joseph Lewarski, BS, RRT, FAARC, and Robert Messenger, BS, RRT, CPFT

For many years, the diagnosis of a progressive neuromuscular disorder (NMD) such as Duchenne muscular dystrophy (DMD) or amyotrophic lateral sclerosis (ALS) often led to a relatively predictable and often very tragic process of waiting… *waiting for a pulmonary infection and the subsequent onset of acute respiratory insufficiency, followed by respiratory failure*.

Approximately 90% of the patients with DMD who do not receive ventilator support die from pulmonary complications associated with progressive respiratory muscle weakness between 16–19 years of age.[1] Many acute episodes of respiratory insufficiency and failure in patients with progressive NMD can be the result of an otherwise modest event, such as an upper respiratory infection, mild pneumonia, or mild aspiration. In 1998, Bach and colleagues reported that 90% of episodes of pneumonia and acute respiratory failure requiring intubation occurred during an otherwise benign upper respiratory infection, primarily due to a weak/ineffective cough.[2] ALS can be rapidly deteriorating, and people diagnosed with ALS usually die from respiratory failure unless they use mechanical ventilation.[3]

Over the last 20–25 years, we have witnessed significant changes and improvements in the chronic care, management, and treatment of patients with NMD and associated respiratory compromise. The recognition of the need for early respiratory assessment and intervention(s), in conjunction with myriad ventilator and respiratory technology advancements and the growing use of homecare, have favorably impacted the life expectancy and quality of life for many patients diagnosed with a NMD.[4]

Joseph Lewarski, BS, RRT, FAARC, is vice president of clinical affairs for Invacare Corporation in Elyria, OH.

Robert Messenger, BS, RRT, CPFT, is a respiratory clinical education specialist for Invacare Corporation.

Comprehensive care planning

Progressive respiratory muscle weakness, a weak and ineffective cough, and (in ALS) bulbar impairment are predictable elements of disease progression, all of which typically lead to respiratory complications. Long before the decision to initiate any form of mechanical ventilation, it is essential that patients with progressive NMD and their families receive detailed prognostic information and fully understand how the progression of the disease will require the need for advanced planning. These important discussions should include comprehensive end-of-life advanced directives, specifically regarding the role that mechanical ventilation and palliative care will play in the management and treatment of their disease.[5] Historically, the decision to initiate any form of mechanical ventilation in patients with NMD, in particular to initiate invasive ventilation, often occurs during an episode of acute respiratory insufficiency observed in an emergency department setting.[3] A failure to fully understand and appreciate the disease progression and to develop a care plan may leave the patient, family, and caregivers in a difficult position, potentially choosing a treatment path that conflicts with the patient's wishes.

Mechanical ventilation and NMD

The modern era of mechanical ventilation, including noninvasive ventilation (iron lung), found its start in response to the poliomyelitis epidemics that erupted during the mid 20th century.[6] The impact of early ventilatory support, including *invasive* but especially *noninvasive ventilation* (NIV), as well as airway clearance and cough tech-

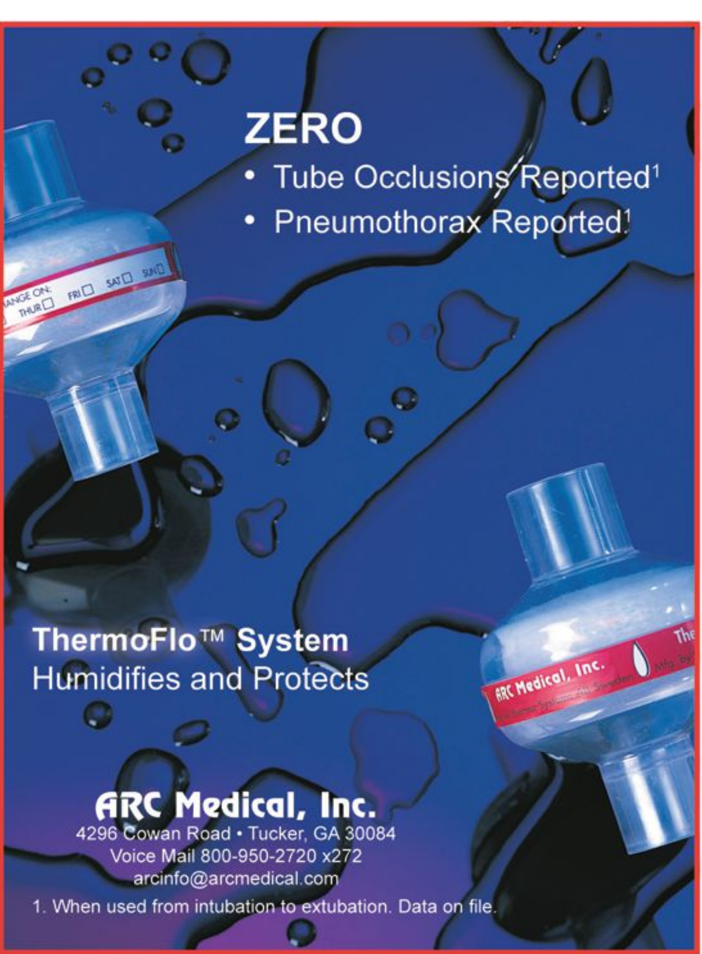
niques and adjuncts (i.e., in-exsufflator and intrapulmonary percussive ventilation) has significantly altered the disease course and life expectancy for many patients with NMD. It is commonly accepted today that NIV is a standard of care for the management of patients with NMD and hypoventilation.[6] With all of the technical tools and disease information we have available today, it may be argued that an unplanned and unwanted invasive ventilatory intervention may be the result of poor care planning versus rapid disease progression.

NIV allows some patients with non-progressive NMD to live to nearly normal life expectancy and has been demonstrated to extend life, often by many years for patients with progressive disease. In severe, rapidly deteriorating disease, survival may increase; but even when mortality is not reduced, symptoms can often be palliated.[4] The use of NIV in ALS patients can be complicated by bulbar impairment and its associated saliva/drooling; and this often becomes a decision point to terminate ventilation or transition to invasive, tracheostomy ventilation.

Although it seems logical that a significant loss of swallowing control and excessive saliva would be associated with an inability to tolerate NIV and a need for more aggressive intervention, there is still no single, evidenced-based recommendation or data to accurately determine what exact level of bulbar impairment leads to intolerance. There are a number of studies that suggest improved tolerance and survival of ALS patients with limited bulbar impairment who are being treated with NIV. Cazzolli et al recently presented an observational study of 157 ALS patients assessed for bulbar impairment using a 5-point saliva scale (4 = normal, 0 = constant drooling) and demonstrated statistical correlation to NIV tolerance, intolerance, and survival.[7] Patients with a saliva score of 4 remained on NIV three times longer than patients with a score of 1. In a randomized, controlled study by Bourke and colleagues, ALS patients

without severe bulbar impairment had a median survival of 205 days in comparison to the group with severe bulbar impairment, in which cases NIV did not extend survival compared to the control group.[8] Although NIV did not extend survival in the group with severe bulbar impairment, quality of life measures did improve, suggesting that even in the presence of bulbar impairment, patient-specific assessment and determination of benefit should be considered.

As previously noted, invasive mechanical ventilation (IMV) may be the result of an acute event or may be part of a planned course of treatment. The decision to initiate IMV, when possible, should be discussed very soon after diagnosis, as there is myriad data suggesting survival of NMD patients following initiation of IMV can be quite significant. As Cazzolli and Oppenheimer observed, numerous ALS patients using IMV experienced survival for many years including one patient who was still alive at the time of their study after 14 years of IMV.[3]



Over the last two decades there have been significant advances in portable mechanical ventilators. Modern portable ventilators intended for use in the home now include many of the desirable features of units designed for critical care and also include features that provide greater comfort and interaction.[9] Compared to prior generations of home ventilators, these new portable ventilators are small, lightweight, and have prolonged battery operation time, allowing patients extended freedom and mobility. These are important developments and play a major role in enhancing patient and family quality of life. The selection of a home ventilator that will best meet a specific patient's clinical and lifestyle needs is frequently a mix of both art and science. This process is often led by the home respiratory therapist working closely with the primary physician, facility respiratory team, and the discharge planning personnel.

Airway clearance

As previously noted, a weak and ineffective cough, even in the face of normal secretion production, can play a role in the development of respiratory complications associated with NMD. Bach has long been — and now others are strong proponents of — cough-assisting techniques and mechanical devices to aid in effective airway management.[10] Effective assisted-cough techniques and devices may include but not be limited to the use of a self-inflating resuscitation bag and manual cough assist, as well as mechanical insufflation-exsufflation devices.

Alveolar recruitment techniques also play a role in airway management and clearance in patients with NMD. Effective ventilation and inflation techniques are essential; but for some patients with NMD and restrictive elements such as scoliosis, there is risk for persistent and sometimes refractory atelectasis. Technologies such as intrapulmonary percussive ventilation (IPV) devices may be useful in managing some patients with NMD. Birnkrant and colleagues presented a case series of patients with NMD and persistent pulmonary consolidation that were effectively treated with IPV.[11] Three of four patients showed clinical and radiographic improvement within 48 hours of initiating treatment.

Much like selecting the ideal home ventilator, the decision to use the various airway clearance techniques and technologies is the blend of art, science, and the clinical needs of the specific patient. This process generally works best when there is collaboration and agreement of the home and facility clinical teams. It has been the authors' experience that airway clearance techniques are sometimes best determined through case-by-case trials

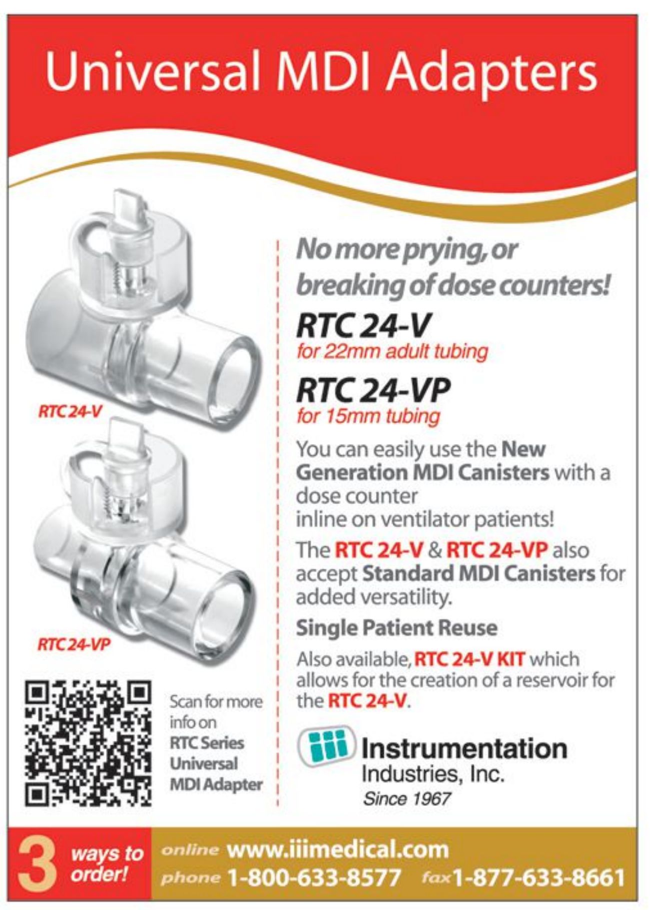
with the best results often achieved using a combination of techniques and devices.

Improving quality of life

The role of ventilation and effective airway management is essential in the management of patients diagnosed with NMD. The strong evidence of extended survival and quality of life associated with ventilatory intervention demands that all patients with NMD be informed and have the opportunity to choose a plan of care that best serves their wishes. In NMD, the use of ventilation provides a compelling opportunity to alter the outcome of a disease and change a patient's life. As Simonds so eloquently points out, "in the world of oncology, an extension in survival by many years in a previously lethal condition would be met with acclaim."[4] ■

REFERENCES

1. Bach JR, Martinez D. Duchenne muscular dystrophy: continuous noninvasive ventilatory support prolongs survival. Respir Care 2011; 56(6):744-750.
2. Bach JR, Rajaraman R, Ballanger F, et al. Neuromuscular ventilator insufficiency: the effect of home mechanical ventilator use v oxygen therapy on pneumonia and hospitalization rates. Am J Phys Med Rehabil 1998; 77(1):8-19.
3. Cazzolli PA, Oppenheimer EA. Home mechanical ventilation for amyotrophic lateral sclerosis: nasal compared to tracheostomy-intermittent positive pressure ventilation. J Neurol Sci 1996; 139 (Suppl):123-128.
4. Simonds AK. Recent advances in respiratory care for neuromuscular disease. Chest 2006; 130(6):1879-1886.
5. Finder JD, Birnkrant D, Carl J, et al. Respiratory care of the patient with Duchenne muscular dystrophy: ATS consensus statement. Am J Respir Crit Care Med 2004; 170(4):456-465.
6. Lewarski JS, Gay PC. Current issues in home mechanical ventilation. Chest 2007; 132(2):671-676.
7. Cazzolli PA, Brooks BR, Lewarski JS, et al. Oral secretion score in ALS patients is associated with tolerance of NPPV, need for hospice transition to TPPV and survival (Abstract & Poster). American Academy of Neurology Annual Conference, April 2010.
8. Bourke SC, Tomlinson M, Williams TL, et al. Effects of non-invasive ventilation on survival and quality of life in patients with amyotrophic lateral sclerosis: a randomized controlled trial. Lancet Neurol 2006; 5(2):140-147.
9. Blakeman TC, Rodriquez D Jr, Hanseman D, Branson RD. Bench evaluation of 7 home-care ventilators. Respir Care 2011; 56(11):1791-1798.
10. Bach JR. Mechanical insufflation-exsufflation. Comparison of peak expiratory flows with manually assisted and unassisted coughing techniques. Chest 1993; 104(5):1553-1562.
11. Birnkrant DJ, Pope JF, Lewarski J, et al. Persistent pulmonary consolidation treated with intrapulmonary percussive ventilation: a preliminary report. Pediatr Pulmonol 1996; 21(4):246-249.



Job Loss

by Anthony L. DeWitt, JD, RRT, FAARC

One of the most frequent questions I get concerns what rights an employee has when they are terminated from a job. There are so many misconceptions about wrongful discharge cases that it is difficult to address them all. But I will address the most common questions here.

The advice I give most of my clients who call with an issue related to their termination is this: Get out there, find another job, and don't look back. For the vast majority of people fired, this is good advice. The longer you dwell on how unfair your termination was, the longer you will be out of work. I've been fired twice. Neither time was pleasant. But both times were the best thing that could have happened to me. It just often takes some time to see that.

Employment at will

Most employees are employees "at will," meaning they can be fired for any reason, or no reason, but not for an unlawful reason. What this means is that your boss can fire you because you wore a yellow dress — but not because you are a woman and wear a dress. Your boss can fire you for being late, but not for being pregnant. He can give you a bad reason or no reason, but he cannot base discharge on age, race, gender, religion, or national origin. Neither federal nor state law requires managers to be smart or even good managers. Or to put it another way, no law protects you from an employer who acts stupidly in firing the best therapist they have.

Federal law protects classes of employees from discrimination based on the factors listed above. Most states have similar laws, and some of these provide more protection than federal law. But just because federal law or state law prohibits discrimination doesn't mean an employee discharged for an unlawful reason has a good chance in a lawsuit. This is because in most instances employers rarely put unlawful reasons in writing or confess their discriminatory practices. Instead, they offer up a "legitimate non-discriminatory reason" for termination.

Most employment cases get dismissed by a judge early on in the process because judges interpret the Civil Rights Act narrowly. This means in most cases the employee must show that discrimination was a motivating factor in the discharge, not merely a contributing factor. In other words, discrimination had to be, if not the only reason, certainly the major reason the employee was terminated. An example helps make this clear.

Julie works in a department where there are 10 men and two other women. She has sometimes been absent from work but has not missed a day in the last six months. She rarely gets an ICU assignment. She complains to the Human Resources department, but it does no good.

Bob also works in the department but has a drinking problem that causes him to miss an average of two shifts a month. A week after she complains about getting worse assignments than her male counterparts, her daughter gets sick and she calls in sick to take care of her. On her next day of work she is terminated for having an unexcused absence.

The unexcused absence is just plain wrong. Julie appeals to the hospital, but her termination stands. She is denied unemployment. It takes her two months to find another job, and she has to move to take it. What happens if she sues?

Her main problem will be proving that her gender motivated her discharge. The employer will stand on its assertion that her prior absences and her last absence are the true cause of her discharge. She must rely on proving

about the author...

Anthony L. DeWitt, JD, RRT, FAARC, is an attorney and a partner in the firm Bartimus, Frickleton, Robertson & Gorny, PC, and resides in Jefferson City, MO. He has also authored two books and numerous legal journal articles. This article is not a substitute for legal advice.

her case by showing the reasons offered are in fact pretextual. Pretext cases often turn on statistical evidence and evidence that other workers were treated differently. The fact that Bob is male, has more absences, and has not been disciplined will help; but it's far from a "slam dunk." This is because there is no direct evidence that her boss discriminated against her on the basis of gender.

Julie will need to call the other women in her case and may be able to show that women are under-represented in the department. But her co-workers may justifiably fear for their jobs and may take their employer's side. The employer will likely also find every nurse or physician who ever had a problem with her to show that her work was bad and that this result was inevitable. In the end, a judge or jury may side with the employer absent strong evidence of discriminatory motive.

Some cases are so egregious, however, that they cry out to jurors for justice. In *Lynn v. TNT*, our firm represented on appeal an African-American who was beaten with a belt and made to "dance" for her white boss in order to get her paycheck. In *Howard v. Kansas City*, our firm represented a candidate for judge who was passed over because even though she was qualified, she was white. Punitive damages were awarded in both cases. They were awarded because the evidence showed outrageous conduct. But these cases are few and far between.

Bad work must be documented

For managers with poor performing employees, the issue often frames itself as "how do I get rid of a bad employee?" The answer is "very carefully." Bad work must be documented. Procedures must be followed. And no exceptions should have been made for other employees at other times. While there is no requirement to go the extra mile and try to rehabilitate a poor-performing employee, doing so improves the chances of success if your termination is later challenged in court. And, of course, where an employee engages in unethical behavior (e.g., falsifying documentation), criminal behavior (substance abuse), or similar acts that cause concern for patients, then termination (and a report to the professional Board) is required to protect both the hospital and the patients.

The fact is most terminations arise out of either bad conduct by the employee or a fundamental personality conflict between the manager and the employee. True racial and sexual discrimination cases are rare. A bare inference of discrimination is not enough for liability. There needs to be strong and credible evidence showing a discriminatory motive. As long as there is no proof of real discrimination, the cases are very difficult. However, if you believe you have been discriminated against, in most situations you have a very short time (sometimes as short as 180 days) to file a complaint with the state or federal government. You should seek legal counsel early to advise you in that situation. ■

American Respiratory Care Foundation

Every year the American Respiratory Care Foundation (ARCF) joins with sponsors from the health industry to award up to $29,008 to respiratory therapists and physicians through its education recognition, fellowships, grants and awards programs.

Award Programs

For more information, or to apply for one of these awards, contact the ARCF Executive Office, 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706, (972) 243-2272, fax (972) 484-2720, email arcf@aarc.org.

ACCESS ARCF ONLINE AT WWW.ARCFOUNDATION.ORG

Grants, Awards, and Fellowships

Community Grants
Community grants are made from funds raised through the annual Ventilator 5K events. These support a wide variety of community events to raise awareness of lung diseases, educate the public and assist patients.

Undergraduate Student Awards
The ARCF has several award programs available to students currently enrolled in accredited respiratory care education programs.

Postgraduate Student Awards
Two award programs are available to respiratory therapists who hold a Baccalaureate degree and seek an advanced degree.

Research Fellowships/Abstract Awards
Fellowships are awarded to researchers having quality abstracts accepted for presentation at the AARC International Respiratory Convention & Exhibition.

Achievement Awards
The ARCF presents these prestigious awards to professionals in recognition of their dedication and commitment to respiratory care.

Literary Awards
All papers submitted in the science journal Respiratory Care are automatically considered for these awards.

Research Grants
Research funds are available to qualified investigators in the field of respiratory care.

Other Funding Sources
These are sources that we are aware of that also offer funds and grants to researchers and students.

Implications of Not Teaching Patients Proper Aerosol Use in the Hospital

by Thomas J. Kallstrom, MBA, RRT, FAARC

We all try our best to provide the best respiratory care we can to our patients, but our obligation to the well-being of the patient does not end after we complete a therapeutic intervention. In addition to optimal care for patients who are taking medicinal aerosols, we must also teach them how to use the device(s) correctly so that once they leave the hospital they will be able to administer the device(s) correctly.

More easily said than done

Of particular concern is the patient for whom was ordered a particular device — seemingly without forethought of whether the device is the most appropriate for them, given their age, limitations, and preferences. Because of the wide variety of inhalers available on the market, it can be a challenge to match the "right" inhaler to each patient. For an inhaler to be optimal, the patient has to be able to master the inhaler technique required for that specific inhaler. The patient-inhaler interfaces (mouthpieces or face masks) can add important challenges that further diminish the efficacy of the treatment.[1]

Other considerations for aerosol device selection include:

- Cognitive capability of the patient
- Availability of the medication[2]
- Availability of combined medications[2]
- Durability of the device
- Cost and reimbursement[2]
- Cleaning/disinfection process.[3]

Each patient has their own profile, and truly the only way to prescribe the most appropriate device is by assessing all of these factors.

about the author...

Thomas J. Kallstrom, MBA, RRT, FAARC, is associate executive director and chief operating officer of the AARC.

Ensuring competency

Once we match the right device to the patient, it will be important to ensure they are competent in its use. A number of studies indicate that incorrect use of inhalers is more common than you might think. Lavorini et al found that the most common errors patients make when using a dry-powder inhaler include failure to exhale before actuation, failure to maintain a breath-hold after inhalation, incorrect positioning of the inhaler, and failure to execute a forceful and deep inhalation.[4]

So what happens if we just let the patient coast while in the hospital? What if we just pass the device on to the patient without critiquing their technique and educating them on proper administration? The answer is obvious. The patient will not get the maximum benefit of the medication. If this happens, the patient may ascertain that the treatment is not worthwhile. Once patients get into this mindset, adherence will suffer. They may alter their medications or simply stop taking the aerosol therapy altogether. The result is adherence that at best is poor or even non-existent.

Unfortunately, non-adherence is common. Milgrom et al found that median compliance with inhaled corticosteroids among asthmatic children was 13.7% for those having exacerbations and 68.2% for those who did not.[5] Lareau and Yawn found that despite relief from taking their medication, patients do not always appreciate the fact that it was the medication that made the positive impact.[6] Both of these studies bring out the fact that unless the patient is feeling that the aerosol made a difference, they are less likely to be compliant.

Non-adherence actually can be defined in one of two ways. Unintentional non-adherence or non-intentional

It's about time.

The new Onyx® Vantage finger pulse oximeter.

Accuracy you can act on™.

With all of the different patients you see in a day, do you really have time for second guessing?

When it comes to finger pulse oximetry, accuracy does matter. That's because accurate data empowers you to make faster, more informed decisions. Decisions that can lead better outcomes for your patients. And improved productivity and job satisfaction for you.

Onyx is the only pulse oximeter brand with scientifically proven accuracy in the widest range of patients. From pediatric to adult. With good to low perfusion.

The Onyx Vantage 9590 — Accurate data for actionable decision making.

Isn't it about time you owned an Onyx?

For more information on the Onyx Vantage 9590, visit **www.onyxvantage.com**

For Hospital Purchases, please contact your supplier or one of the authorized distributors below. **Use Keyword: Onyx Vantage.**

800-TRI-ANIM (874-2646)

800-541-2071

non-adherence.[7] Breaking this down even further, there are patients who have erratic, unwitting, and intelligent non-adherence. Intelligent non-adherence is when the patient deliberately alters their therapy based on their own reasoned decision making and perceptions about the efficacy of the medication.[1] These are likely the Milgrom and Yawn populations of patients.[5,6]

> For an inhaler to be optimal, the patient has to be able to master the inhaler technique required for that specific inhaler.

Erratic non-adherence occurs when a patient understands the therapy but cannot consistently maintain following the treatment schedule. This population of patients often includes the elderly who may forget to take a medication or who have lower health care literacy. The third form of non-adherence is unwitting non-adherence. This is the patient who may be confused by the variety of devices they are using and who cannot master their technique. Cognitive impairment plays a role for these patients as well.

Assuming that we do take the time to teach the patient proper technique and they master the procedure, there are still other considerations that will impact the adherence of the patient. It is important to determine what the patient's perspective is in regards to fears or beliefs about the therapy.[8] This is a time for directing open-ended questions to the patient and caregivers. Sometimes a cultural belief or lore may need to be discussed. It could be an impediment.

Basics of patient education

It is not always as simple as just handing the patient their aerosol delivery device and assuming they are competent. Providing aerosol therapy by critiquing, educating, and having the patient demonstrate technique back will go a long way in preventing non-adherence. ■

REFERENCES

1. Nikander K. Challenges and opportunities in respiratory drug delivery devices. Expert Opin Drug Deliv 2010; 7(11):1235-1238.
2. Dolovich MB, Ahrens RC, Hess DR, et al. Device selection and outcomes of aerosol therapy: evidence-based guidelines. Chest 2005; 127(1):335-371.
3. Rubin BK. Nebulizer therapy for children: the device-patient interface. Respir Care 2002; 47(11):1314-1319.
4. Lavorini F, Magnan A, Dubus JC, et al. Effect of incorrect use of dry powder inhalers on management of patients with asthma and COPD. Respir Med 2008; 102(4):593-604.
5. Milgrom H, Bender B, Ackerson L, et al. Noncompliance and treatment failure in children with asthma. J Allergy Clin Immunol 1996; 98(6 Pt 1):1051-1057.
6. Lareau SC, Yawn BP. Improving adherence with inhaler therapy in COPD. Int J Chron Obstruct Pulmon Dis 2010; 5:401-406.
7. Restrepo RD, Alvarez MT, Wittnebel LD, et al. Medication adherence issues in patients treated for COPD. Int J Chron Obstruct Pulmon Dis 2008; 3(3):371-384.
8. Roter DL, Hall JA. Strategies for enhancing patient adherence to medical recommendations. JAMA 1994; 271(1):80.

Wear AARC!

The AARC Logo projects your professional image at work, presentations, meetings or any time.

The Respiratory Catalog

www.AARC.org/store.cfm

This $5 Device Saved a Leading Hospital $186,789

AeroEclipse® II Breath Actuated Nebulizer (BAN)

resulted in $186,789 annual savings for Forsyth Medical Center in Winston Salem, NC and an estimated potential savings of $475,411 across Novant Health facilities.[1]

To find out more about Forsyth Medical Center's success and how you can save your facility money while increasing clinical outcomes contact your Monaghan sales representative or visit us at monaghanmed.com

[1] Wilson, J. Reducing Total Costs of Aerosolized Medication Delivery Using the AeroEclipse II Breath Actuated Nebulizer. Resp Care 2011 Oct;56(10):1634.

monaghan™

Monaghan Medical Corporation, 5 Latour Ave., Suite 1600, Plattsburgh, NY 12901
Customer Service 800-833-9653 • www.monaghanmed.com

™ and ® are trademarks and registered trademarks of Monaghan Medical Corporation or an affiliate of Monaghan Medical Corporation © 2012 Monaghan Medical Corporation

Transport RTs… Bringing the RT Perspective to Other Organizations

by Steven E. Sittig, RRT-NPS, C-NPT, FAARC

The AARC participates in a variety of ways to further the respiratory therapy agenda and protect our patients and our profession. These efforts often take the form of addressing state and federal legislation and regulation. However, a key component to our public policy advocacy involves respiratory volunteers who will represent the profession in other organizations and associations. AARC participates with many organizations (both national and international) on policies and issues of mutual interest. One of these organizations is the Commission on Accreditation of Medical Transport Services (CAMTS).

CAMTS is an organization of non-profit organizations dedicated to improving the quality and safety of medical transport services. Each of the 20 current member organizations sends one representative to the CAMTS Board of Directors, including the American Academy of Pediatrics, Air & Surface Transport Nurses Association, National Association of EMS Physicians, and the American College of Surgeons. CAMTS offers transport programs a voluntary evaluation of compliance with the CAMTS standards demonstrating the ability to provide service of a specific quality. The commission believes that the two highest priorities of an air medical or ground transport service are patient care and safety of the transport environment.

The AARC has had a seat on the CAMTS Board of Directors since the organization was organized over 20 years ago. I have the privilege of representing the AARC on the commission's Board of Directors. By our active involvement in CAMTS we help assure that as accreditation standards are developed or transport issues arise that the role of the respiratory therapist is not forgotten.

Military transport accreditation

Recently, the CAMTS executive office was alerted to a decision by the U.S. Department of Defense (DOD) that could have a significant impact on the medical transport care of active military personnel and their dependents by civilian transport services.

When the DOD requires military personnel or military dependents to be transported for additional medical care by civilian services, certain guidelines and standards must be met by the transport providers. One requirement the DOD has utilized is that any transport provider involved in military personnel or military dependents' transportation must be accredited by CAMTS.

The DOD intended to contract with a new accreditation organization that would have accredited transport programs that would then be eligible to transport military personnel and their dependents. While CAMTS has no objection to other transport accreditation entities offering their services across the country, what CAMTS insists on is that any accreditation entity must demand that transport providers meet industry-wide accepted standards and requirements. The DOD, CAMTS believed, was about to award contracts to an accrediting entity that did not meet these high standards. For example, all CAMTS accrediting standards are drafted and reviewed by the members of the CAMTS Board of Directors, all of whom represent associations that are directly involved in medical transport. However,

about the author…

Steven E. Sittig, RRT-NPS, C-NPT, FAARC, is a pediatric clinical transport specialist at Mayo Clinic in Rochester, MN. He also serves the AARC as chair of both the Surface to Air Transport Section and the Disaster Response Roundtable and is the AARC representative to the CAMTS board of directors.

this new accrediting provider sets standards that are not vetted by medical transport professionals.

As the AARC representative to the CAMTS Board of Directors, I was asked to contact the AARC leadership requesting that the AARC send a letter to the DOD leadership voicing concern that this new accrediting entity would potentially lower the standards that transport providers would have to meet when servicing the military personnel and their dependents.

As chair of the Surface and Air Transport Section, I worked with AARC President Karen Stewart, MS, RRT, FAARC, to draft a letter to the DOD addressing the issue. Our letter laid out our concerns as a professional association involved in transport issues as well as an association concerned about our patients.

The AARC letter, along with similarly drafted letters from the other 20 member organizations of CAMTS, was sent on to the DOD. The DOD has acknowledged the submitted letters; and while the issue has yet to be resolved, CAMTS is actively working with the DOD on this issue.

Crossing state lines

On an issue "closer to home," you may be aware that the AARC and the members of the transport section are also advocating for transport exemptions to be included in state respiratory therapy license laws and regulations. These specific "transport" exemptions would ease the seemingly increasing problems with license requirements when crossing state lines while on a patient transport. In some states and for some teams, the transport RTs are required to carry multiple state respiratory therapy licenses to complete assigned transports. This added expense and paperwork of multiple state respiratory therapy licenses could result in the removal or preclusion of RTs on transport teams. The AARC's transport section is compiling a complete list of states where this issue needs to be addressed. With the help of Cheryl West in the AARC Government Affairs office, we are working to remove this as an issue of concern for transport RTs across the country.

While the Surface and Air Transport Section is not a large specialty section, we strive to help improve the care our patients may receive. ■

Remembering Fred

by Sam P. Giordano, MBA, RRT, FAARC

As you may recall, on Jan. 9, 2012, the respiratory care community lost one of its greatest heroes, H. Frederic Helmholz, MD. Dr. Helmholz had recently hit the 100-year mark about 10 days prior to his passing. Indeed, many of his friends felt that Dr. Helmholz — or just "Fred," as some were privileged to call him — was holding out for membership in the "centurion club" to cap off an incredible life of service to his country, the sick, and many of us on the health care provider side of the equation regardless of whether we were physicians, nurses, physical therapists, or respiratory therapists.

Dr. Fred's many contributions

I'm sure that many of you may not be aware of some of the contributions Dr. Fred made, not just to advancing the art and science of respiratory care, but also helping our profession evolve through years of commitment to develop a national respiratory therapy school system throughout the United States.

If we push the clock back about 45–50 years and take a peek back at our profession, what we'd find would be a few thousand respiratory therapists trained on the job and making their best effort to pass both the written and oral registry exams. This was not an easy challenge to meet when on-the-job training by definition varies with the types of patients, clinical interventions, and equipment that one would use at a specific facility. Indeed, in most cases skills acquired at one institution were not portable. Remember, there was no such thing as licensure, nor were there adequate numbers of respiratory therapists qualified to attempt the registry examinations at that time. Even more concerning was the incredibly low pass rate for candidates attempting to earn what we now refer to as the RRT credential (recall there was no certification credential at this time).

about the author...

Sam P. Giordano, MBA, RRT, FAARC, serves as AARC executive director. He can be reached at (972) 243-2272 or giordano@aarc.org.

Dr. Fred and many of colleagues, especially in the upper Midwest, took an interest in making sure that respiratory therapists were adequately trained and educated to follow physician's orders for respiratory care. Dr. Fred assumed the chairmanship of what was then known as the Board of Schools, which over the years developed into the Commission on Accreditation for Respiratory Care (CoARC). There were a few schools back in the late 1960s — some were a few weeks long, others a few months, and perhaps one or two were 12 months. It could be hospital based or based in a vocational technical institution, college, or community college. In other words, respiratory care education could be anything you wanted to make it — from a glorified on-the-job-training program to a more traditional educational experience affiliated with a post-secondary institution.

As technology and our knowledge of the respiratory system, diseases, and clinical interventions grew, so did the need to organize a national curriculum under the auspices of a formal respiratory care accrediting organization. While the Board of Schools was a good start — ironing out the variability and, in some cases, the intransigents of people to change the education system to better position respiratory therapists to contribute value to their patients — somebody had to "herd all those cats" if we were going to move forward and realize our potential as professional health care providers.

Dr. Fred took on the challenge. It has exceeded brilliantly. He provided many of us who were involved in clinical practice at the time with some new bit of wisdom every time we touched base with him. Some of us were privileged to participate as surveyors of respiratory care education programs, which was, and continues to be, an important part of the accreditation process. Many of us

were blessed in a special way to sometimes be on the same survey team as Dr. Fred. I, for one, enjoyed these activities the best. As most know, Dr. Fred was a Mayo physician through and through. Indeed, he even married a member of the Mayo family and proudly displayed Will Mayo's chair in his house. We would sometimes end a day of surveying in Minnesota in the wintertime at his house; and if we had worked hard, Dr. Fred would permit you to sit in Dr. Mayo's chair and have a sip of whiskey to help you forget it was 10 below zero that day in Minnesota.

Commitment and sacrifice

It is people like Dr. Fred who have built the infrastructure of our profession; and now, even though we often take for granted the existence of our nationally accredited respiratory care education system, we simply could not have such a system without the commitment and sacrifices made by Dr. Fred. His vision to prepare respiratory therapists for broader clinical responsibilities and to optimize their value to patients has and continues to be realized every day — as all you graduates go to work and provide care for your patients.

We will miss Dr. Fred, who mentored so many of us and never stopped caring about our patients and our profession. Thank you, Fred. ■

Dr. Helmholz has been a mentor and a teacher for many AARC members.

Shown (right) is the cover of the March 1978 issue of *AART Times* displaying the cockpit of one of the planes in which Dr. Helmholz conducted his experiments during World War II. You can read the entire article on him from this issue by clicking on the link **"Those Daring Young Men in WWII Aviation (Medicine That Is)"** in *AARC Times Online* under the "More of the Story" section.

"Speak Up" To Prevent Medical Errors

by Frank Sandusky, HCMBA, RRT

Is anyone trying to curb the rising cost of health care? Outside of the tangible costs such as employee salaries and benefits, expensive equipment, and physical plant maintenance, what does drive up health care costs?

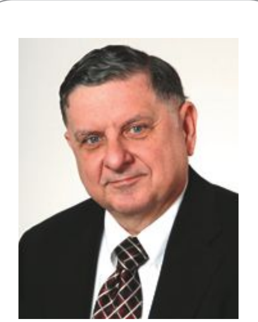
The major contributor to rising health care costs is medical errors.[1] Medical errors result in millions of injuries, which in turn result in longer hospital recovery times and billions of dollars annually in increased health costs.[1,2] This does not include costs associated with the loss of wages or productivity.

The Institute of Medicine has estimated that 98,000 hospital patients are killed every year as a direct result of medical errors.[1-3] The number of medical errors is equal to six jumbo jet crashes every day.[4] Additionally, the Institute for Healthcare Improvement has indicated that between 2004 and 2006, 238,000 Medicare patients died due to preventable causes.[5]

Ten essential medical errors account for these statistics:[1]

1. **Medication Errors:** The National Academies of Science has indicated medication errors are the most common medical errors, harming an estimated 1.5 million people every year.[6]
2. **Poor Communication:** Communication breakdown among health care workers affects their ability to properly care for patients.
3. **Infection:** Hospital-acquired infections can result in serious complications for patients.
4. **Falls:** Surprisingly, the majority of falls are related to the inability to predict how new drugs will affect patients.[1]
5. **Surgical Errors:** It is vital to prevent errors before, during, and after surgery. Even with "time outs" in place, wrong site, wrong procedure, and even wrong patient surgeries occur.
6. **Pharmacy Errors:** With dozens of prescriptions to fill each day, pharmacies can make errors on patient medication.
7. **Lab Errors:** Given the volume of patients and tests, medical errors can occur. Some of these can be devastating, resulting in wrong diagnosis, wrong treatment, and diseases left untreated.
8. **Treatment Errors:** Many physicians have been in practice for decades, and some do not adopt current best practices.
9. **Follow-up Care:** Without clear instructions and patient education at discharge from the hospital/clinic to home, patients can become confused about follow-up care. That confusion can lead to a costly readmission.
10. **Birth Injuries:** Medical errors at birth can lead to serious injuries such as cerebral palsy and paralysis.[1,4,5]

about the author...



Frank Sandusky, HCMBA, RRT, is manager of respiratory care services at the Fairview Hospital, a Cleveland Clinic hospital in Cleveland, OH.

Speak up

This brings us back to the original question. Is anyone trying to curb the rising cost of health care? When it comes to preventing medical errors, the answer is yes. The Joint Commission, in cooperation with the Centers for Medicare and Medicaid Services, started the Speak Up™ initiative in March of 2002. This program endeavors to make the patient an active, involved, and informed participant in his or her health care. The program urges patients to take a role in preventing medical errors by "speaking up" when they have concerns about their care.

Respiratory therapists are familiar with the acronym:

Speak up if you have questions or concerns. If you still don't understand, ask again. It's your body and you have a right to know.
Pay attention to the care you get. Always make sure you're getting the right treatments and medications by the right health care professionals. Don't assume anything.
Educate yourself about your illness. Learn about medical tests you get and about your treatment.
Ask a trusted family member or friend to be your advocate (advisor or supporter).
Know what medicines you take and why you take them. Medicine errors are the most common health care mistakes.
Use a hospital, clinic, surgery center, or other type of health care organization that has been carefully checked out. For example, The Joint Commission visits hospitals to see if they are meeting The Joint Commission's quality standards.
Participate in all decisions about your treatment. You are the center of the health care team.[7]

A wealth of resources

As a part of the Speak Up program, The Joint Commission has developed a series of brochures and posters. Speak Up posters include:

- Universal Protocol
- Speak Up: Five Things You Can Do To Prevent Infection
- Speak Up: Help Prevent Errors in Your Care
- Speak Up: Help Avoid Mistakes With Your Medicines

The program also offers brochures for patients receiving services in specific settings, including hospitals, ambulatory care, laboratory, long-term care, behavioral health care, and home care. A total of 18 brochures are available:

1. What You Need To Know About Breastfeeding
2. Dialysis — Five Ways To Be Active in Your Care at the Hospital
3. Help Prevent Errors in Your Care
4. Five Things You Can Do To Prevent Infection
5. Tips for Your Doctors Visit
6. Reduce Your Risk of Falling
7. Diabetes — Five Ways To Be Active in Your Care at the Hospital
8. Prevent Errors in Your Child's Care
9. What You Should Know about Pain Management
10. Help Avoid Mistakes With Your Medicines
11. Help Prevent Medical Test Mistakes
12. Help Avoid Mistakes in Your Surgery
13. Planning Your Follow-up Care
14. Understanding Your Doctors and Other Caregivers
15. Know Your Rights
16. Information for Living Organ Donors
17. What You Should Know about Research Studies
18. Stay Well and Keep Others Well (Coloring Book)

Speak Up brochures for accreditation programs include:

- Speak Up: Ambulatory Care
- Speak Up: Laboratory
- Speak Up: Long Term Care
- Speak Up: Behavioral Health Care
- Speak Up: Home Care

All of these resources can be downloaded for free from the Joint Commission website at www.jointcommission.org/speakup.aspx.

As we celebrate the 10th anniversary of the Speak Up initiatives this month, The Joint Commission is not resting on past accomplishments. Rather, they have developed six animated Speak Up videos in English and Spanish that cover reducing the risk of falling, helping kids speak up about their care, speaking up at the physician's office, taking medication safely, and preventing the spread of infections. The videos are available at the above website as well.

Many hospitals have adopted the Speak Up program or incorporated Speak Up as part of their safety program. Over 2,500 hospitals have already utilized the Speak Up videos. While there is very little hard evidence reported as to improvements in patient safety as a direct result of the program, those who have published have indicated higher scores on the Press Ganey safety culture survey for employee and patient satisfaction and for patient safety results.[8] Additional outcome reporting needs to be provided in abstracts or published articles.

We can do more

The Speak Up initiatives certainly have the potential to improve patient safety in our facilities. What else can we, as respiratory care departments and individual respiratory therapists, do to ensure safe care for all our patients?

Many respiratory therapists have already adopted concepts like Time Outs, SBAR (Situation-Background-Assessment-Recommendation), Read Back, and Learn Back in an effort to improve patient safety. Additionally, some respiratory therapy departments have instructed their staff to be proactive by providing patients with a list of their breathing medications that explains what the medications do, what time to expect the respiratory therapist, and what adverse effects might be experienced.

Some departments have taken a page from the airline pilots' safety manual as well: They have developed a safety checklist. The checklist is utilized when the patient transitions from critical care to patient care units or from the hospital to home. As a tool for discharge planning, these checklists provide a valuable asset for patients.

In order to provide turnkey checklists for respiratory care departments, the AARC recently embarked on a project to develop a series of respiratory care-related checklists. The first two address oxygenation for adult/pediatric patients and neonates/premature infants during intra-hospital transports. (See "**Patient Safety Checklists Take Aim at Reducing Medical Errors**" in this issue for more on these checklists.)

It starts with you

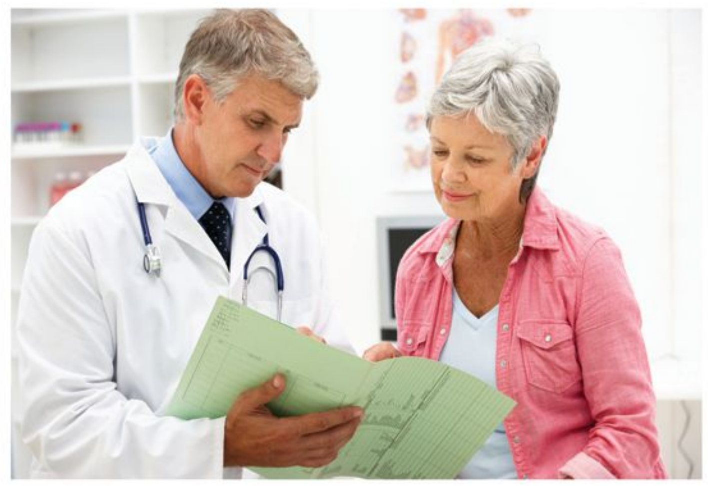
Statistics show 42% of the U.S. population has directly experienced or been affected by a medical procedure or medication error.[4] Eighty-four percent of the U.S. population has friends or family who have been victims of a medical error.[4] You can be an active participant in medical error prevention. ■

REFERENCES

1. Online Nurse Practitioner Schools website. 10 common medical errors everyone should know about. Available at: http://onlinenursepractitionerschools.com/10-common-medical-errors-everyone-should-know-about/ *Accessed Nov. 21, 2011*

2. Institute of Medicine (IOM) website. Errors in health care: a leading cause of death and injury. In: To err is human: building a safer health system. Available at: www.nap.edu/openbook.php?record_id=9728&

page=26 *Accessed Dec. 19, 2011*
3. Brennan TA, Leape LL, Laird NM, et al. Incidence of adverse events and negligence in hospitalized patients. Results of the Harvard Medical Practice Study I. N Engl J Med 1991; 324(6):370-376.
4. Blendon RJ, DesRoches CM, Brodie M, et al. Views of practicing physicians and the public on medical errors. N Engl J Med 2002; 347(24):1933-1940.
5. Pharmacy Technician Certification website. 12 most common medical errors (and how to prevent them). Available at: http://pharmacytechniciancertification.net/12-most-common-medical-errors-and-how-to-prevent-them/ *Accessed Nov. 21, 2011*
6. The National Academies website. Medication errors injure 1.5 million people and cost billions of dollars annually; report offers comprehensive strategies for reducing drug-related mistakes. Available at: http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=11623 *Accessed Dec. 19, 2011*
7. The Joint Commission website. Facts about Speak Up™ initiatives. Available at: www.jointcommission.org/assets/1/18/Speak_Up_8_2011.pdf *Accessed Nov. 21, 2011*
8. American Hospital Association website. Empowering patients to improve safety: patient Speak Up Ambassador Program. Available at: www.hpoe.org/case-studies/4050008258 *Accessed Dec. 19, 2011*



Be Our Guest!

If you provide respiratory care outside of the United States, and would like to share and expand your knowledge, please consider applying for our International Fellowship Program.

The **International Fellowship Program** is a sponsored activity of the American Association for Respiratory Care (AARC). Since 1990, health professionals from more than 50 countries have shared experiences, knowledge and developed lasting friendships through this exceptional program.

The three-week program takes each participant to two host cities in the United States and concludes with attendance and acknowledgement at the AARC's International Respiratory Convention & Exhibition.

Learn more and apply at: **www.aarc.org/resources/international_fellows/**

APPLICATIONS ACCEPTED JANUARY 1—JUNE 1

American Association for Respiratory Care
International Fellowship Program

with AARC President Karen Stewart

In this issue, President Karen Stewart, MSc, RRT, FAARC, shares her vision for her final year as president of the AARC.

1

The top goal on your 2012 list of objectives is to promote patient advocacy. What are some of the ways AARC is speaking up for respiratory patients?

Many of the patients we treat are patients who have no real advocate. For example, although COPD is the third leading cause of death, it has not been promoted like heart disease or cancer. We know the disease is under-diagnosed and that there are many with COPD who would benefit from earlier intervention and treatment. Our work with patient advocacy organizations like the COPD Foundation and others is helping many patients. Other ongoing efforts we are participating in, such as DRIVE4COPD, may help more at-risk people get the treatment and care they need.

COPD is now the third leading cause of death, but it has not received the attention of heart disease or cancer. We are working to change that.

2

The AARC's influence with related groups and organizations has grown markedly over the past few years. How will that continue this year?

The AARC will continue to support patient advocacy groups and work with other organizations to promote safety and improve outcomes for the care of patients with pulmonary diseases. One exciting project in the works is the in-hospital COPD management protocol, which we're working on with the American College of Chest Physicians, Society of Hospital Medicine, American Academy of Nurse Practitioners, and American College of Emergency Physicians. When completed, the protocol will include a care bundle designed to guide care for patients hospitalized with an exacerbation of COPD.

3

The AARC also plans to promote patient access to qualified respiratory therapists across all care settings. Tell us more about this effort and what it will mean to AARC members to be able to more easily widen their scope of practice to include sites outside of the acute care hospital.

We will continue to push to get the Medicare Respiratory Therapy Initiative (H.R. 941) passed in Congress so that a respiratory therapist can work and get recognized by Medicare for their services in a physician's office as an extender. We continue to reach out to patients with pulmonary needs, and this would be especially helpful in underserved communities and rural areas. Education programs such as the AARC COPD Educator Course and Asthma Educator Certification Preparation Course will assist in preparing respiratory therapists to extend their roles beyond the acute care hospital.

4

There will be a continued effort this year to conclude the AARC's visionary "2015 and Beyond" project. What are the next steps, and how could they impact respiratory therapists going forward?

"2015 and Beyond" is a project that will help our profession be a frontrunner in the delivery of care to patients with pulmonary disease without regard to the location of the patient. It is identifying the kinds of competencies that the respiratory therapist will need in future years. Projections suggest more patient care will take place in the home, and it will be delivered by protocols. Our goal is to ensure all respiratory therapists have the skill set necessary to be a vital player in the health care delivery team in this new environment. We are far from having all the answers, but we have a dedicated group of individuals reviewing the information that we have already collected and will be collecting over the next several months.

5

We know that international respiratory care continues to be on your radar screen, as well. What's going on in that area this year, and what should U.S. therapists understand about growing our professional connections abroad?

We are finding that the education system for respiratory therapists in the United States is being sought after and becoming the example for many countries. Therapists in the United States should be proud that the respiratory care profession is being developed in other nations. The more development that takes place around the world, the more heightened the respiratory care profession becomes. This activity helps us in being accepted and becoming more recognizable as a standalone and necessary profession.

6

Continuing education opportunities are very important to therapists who need continuing education credits to maintain their licenses to practice. Can you give us an overview of some of the new opportunities available from the AARC in 2012?

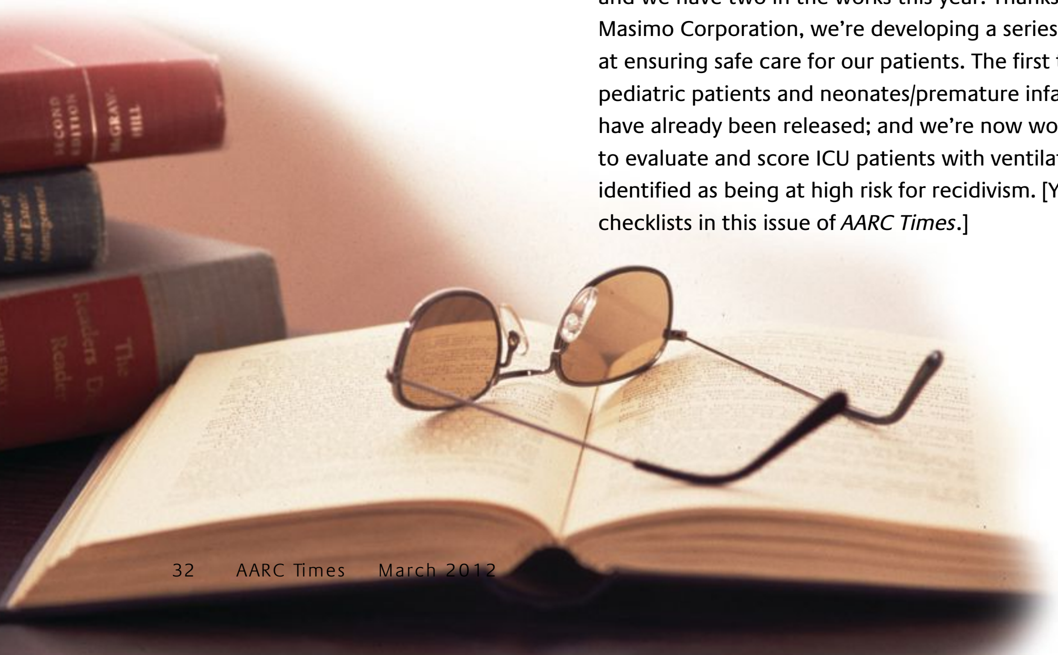
Two new programs for 2012 that we are very excited about are "Emerging Roles for the Respiratory Therapist in Alpha-1 Antitrypsin Deficiency" and "Empowering the Respiratory Therapist To Be the VAP Expert." These online programs, which were launched earlier this year, join the "COPD Educator" and "Asthma Educator Certification Preparation" courses in preparing RTs to meet the needs of their patients and to become the expert and a resource for others. We will continue to develop courses that assist in providing skills to respiratory therapists that enhance their positions in the care of the patient. And of course, the AARC's popular Webcast Central, which allows AARC members to participate in free live webcasts, continues to offer new CRCEs on a regular basis.

> The sophistication of respiratory care is growing around the globe, and the U.S. respiratory therapy model is becoming the example for many countries.

7

To move forward, the respiratory care profession needs to continually shore up its scientific basis. Do we have any new research activities to report for 2012?

We are always looking for grants to further research pertaining to respiratory care, and we have two in the works this year. Thanks to an unrestricted grant from Masimo Corporation, we're developing a series of evidence-based checklists aimed at ensuring safe care for our patients. The first two, on the oxygenation of adult/pediatric patients and neonates/premature infants during intrahospital transports, have already been released; and we're now working on a third that will enable RTs to evaluate and score ICU patients with ventilatory compromise so they may be identified as being at high risk for recidivism. [You can read an article about the checklists in this issue of *AARC Times*.]



8 We're increasing activities to enhance public awareness of the valuable role respiratory therapists play in the prevention and treatment of respiratory disorders.

What plans do you have to grow the AARC membership this year, and also, how will you continue to raise awareness of RTs in the general public?

As always, we continue to focus on making membership better. We do have some new information regarding marketing, and we are using that information — with a refreshed Membership Committee led by Frank Salvatore, Jr., MBA, RRT, FAARC — to grow the membership.

As for raising awareness of the valuable role respiratory therapists play in health care among the general public, I would say that our work with DRIVE4COPD and other patient advocacy initiatives is getting that job done. When we reach out to the public to advocate for our patients, the public just naturally walks away with knowledge about RTs and what we do for our patients, as well. ■

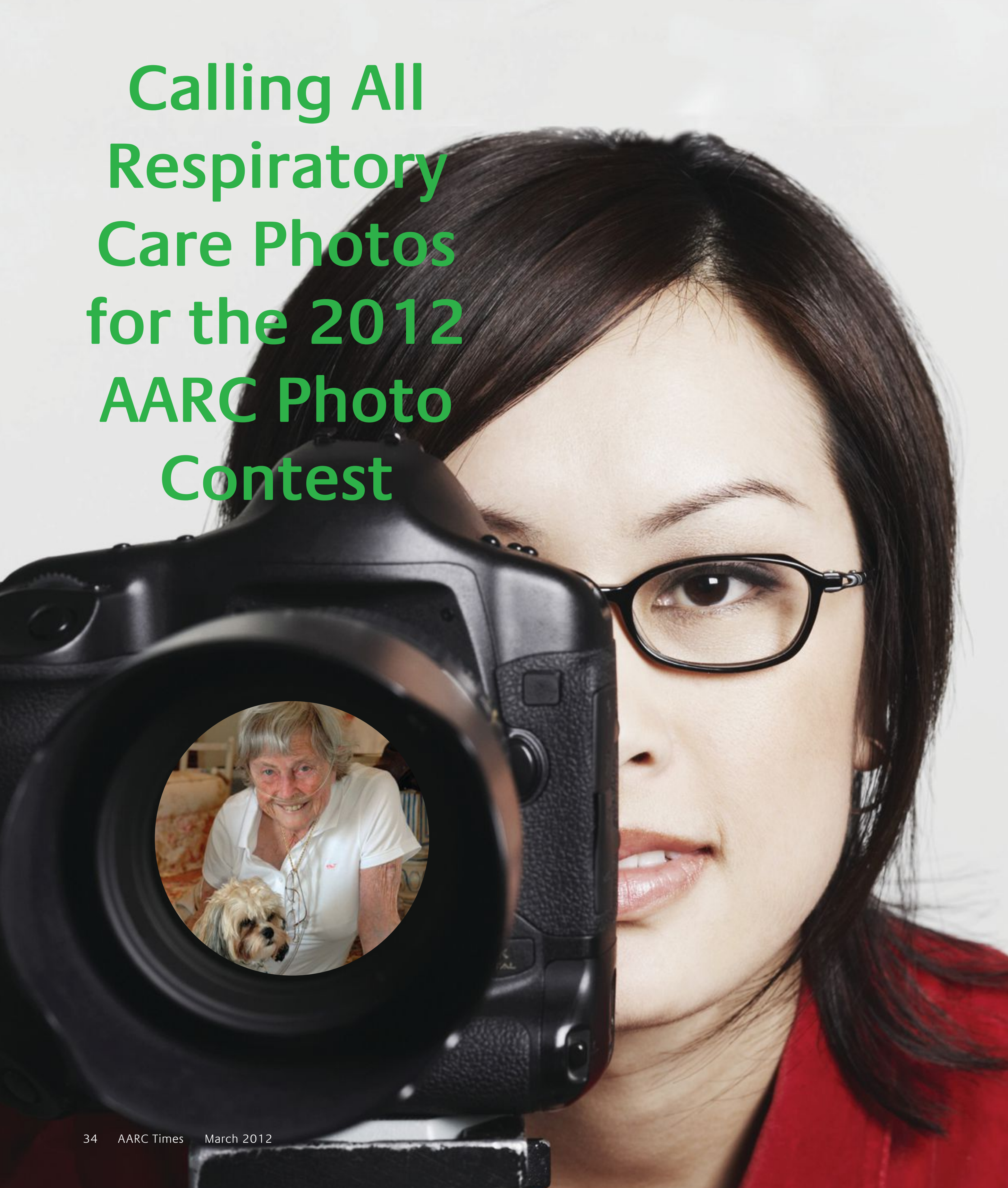
The guidance you want with the control you need – for the care your patient deserves.

Make clinical decisions based on real-time ventilation data with the Philips VentAssist for the Respironics NM3 monitor.

VentAssist monitors your patient and suggests changes to enhance each patient's care. NM3 with VentAssist is portable and can easily be used with any ventilator.

www.philips.com/NM3

Calling All Respiratory Care Photos for the 2012 AARC Photo Contest



The AARC is looking for creative members to enter our monthly Photo Contest.

AARC Times will collect photo entries from the membership, and finalists will receive free dues for one year upon membership renewal and automatically will be entered into the publication's Photo-of-the-Year Contest, scheduled to take place in the December 2012 issue of *AARC Times*.

Members: Send us your photos of what makes respiratory care so great!

Once members see the December issue featuring the finalists, they will have the opportunity to cast their votes for the winning photo for the Photo-of-the-Year Contest using an online survey.

The AARC member whose photo wins the most votes in the survey will see his or her photo on the front cover of the February 2013 issue of *AARC Times*. In addition, the AARC will enlarge the winning photo to poster size and prominently display it in a place of honor in our AARC Executive Office in Irving, TX.

What kinds of photos?

We are looking for heartwarming photos of you with your patients, who rely on your care and guidance and who inspire you to be the best respiratory care professional possible. Send us your photos of patients working out in pulmonary rehab, receiving treatments or education from you, working with you to improve their respiratory health, and any other respiratory-related situation that you feel would make a good photo.

If your photo has a great background story about a patient or group photographed, it will become all the more interesting because we always like to tell great heartwarming stories about the patients respiratory therapists serve.

All high-resolution photos that have good photographic content and subject matter will be considered. Please review the specifications so that you will submit your photo in a format that can be reproduced on the cover of the printed magazine. All photos chosen as finalists in the contest must be clear enough to be enlarged to fit our *AARC Times* cover size.

All contest entrants must be Association members. Be sure to include your AARC member number, full address, phone number, and email address when entering your photo in our contest. Also, submit a photo release form signed by each patient and/or co-worker pictured in your photos. The form is available online at www.AARC.org/members_area/aarc_times/index.asp.

Adhering to the following specifications

will help you meet the photography requirements for publication in the magazine. A good, interesting photo produced at the wrong setting will render it unsuitable for reproduction in *AARC Times* magazine, so be sure to pay attention to your camera settings.

- Set your digital camera for the *highest setting possible* — e.g., 10 megapixels (MP) — and save the photo as a JPEG. Photos taken at low settings will not be accepted for the contest; only color JPEGs or color prints will be approved for contest entry.
- Since the photo is for the magazine cover, all pictures submitted must be in a vertical format and must be of sufficient resolution to be enlarged to cover size.
- We prefer that you mail a CD of your high-resolution photo to us since the amount of megapixels of the photo could render it too large to email. Mail your color prints to: Photo Contest, AARC, 9425 N. MacArthur Blvd., Ste. 100, Irving, TX 75063-4706. If you do try to email a photo, please send it directly to the Production Department at knauf@aarc.org and place "2012 AARC Photo Contest" in the subject line of your email.

All photos in the contest will automatically become the property of the AARC and will not be returned.

We hope to see lots of great, heartwarming photos of respiratory care from AARC members this year! ■

Log on to
www.AARC.org/members_area/aarc_times/index.asp.
and get your photo release form today.

AARC Photo Contest 2012

The Basics for Getting the Best Photo Possible

Most photographers will tell you there are certain key elements for producing a great photo:

Composition

Try to tell a story or evoke an emotion by choosing your subject wisely. Think like a photojournalist — look for that coveted "cover shot," and frame your subject in the vertical format rather than the traditional horizontal one. If you want to be in the picture with a patient or co-worker, set up the camera and compose the picture, then ask a colleague to take the photos for you. Photos taken in this way are acceptable as long as the AARC member officially submits the photo for the contest.

Exposure

Exposure, which is the measure and balance of light, is important for defining your photo and giving it the right depth of field. Setting your exposure gives you more control and allows for effects you can't achieve by using your camera's auto-focus setting alone. Refer to your camera's operational manual to see how to set it.

Lighting

Be sure you have just the right amount of light to ensure a good photo. Harsh lighting could cast shadows on your subjects and ruin the shot. Also, fluorescent lighting can cast a green tint on everything, so look for filters to alleviate this problem and take lots of pictures to experiment.

Resolution

Resolution correlates to the settings available on your digital camera and the amount of memory required for the photo. What looks good on your camera's small screen or even on your computer may not look sharp when enlarged to cover size. Be sure you have the camera set at the highest setting for the best print quality.

Focus, Focus, Focus!

If your digital camera is set to automatically focus on the center object but the main subject of your photo is to the side, the photo may be blurry. Set your focus settings accordingly to ensure you get a pristine shot of your subject. ■

A Salute to our 2012 Corporate Partners

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.

monaghan

Patient Safety Checklists Take Aim at Reducing Medical Errors

by Douglas S. Laher, MBA, RRT

Ensuring adequate oxygenation for your patients is fairly easy while they're safe and sound in their rooms. But hospital patients don't stay put for long — and as soon as they head out the door for tests and other procedures, the risk for a medical error increases. New checklists from the AARC will help keep those risks in check.

AARC releases two checklists designed especially for respiratory care

In the May 2011 edition of *AARC Times*, AARC member Patrick J. Dunne, MEd, RRT, FAARC, spoke at length about the increased propensity of medical errors in health care.[1] According to the Institute of Medicine, somewhere between 44,000–98,000 deaths occur each year because of medical errors.[2] While many nationally recognized regulatory agencies have implemented patient safety programs, there is still much work to be done. After all, when it comes to the safety and well being of patients, is there really such a thing as "too much awareness" or "too much attention to detail" when implementing processes to improve patient safety or reduce mortality?

First up: intra-hospital transports

As Dunne highlighted in his article, the AARC has launched a new project designed to develop a series of patient safety checklists that can be used to minimize the chance of a medical error involving respiratory care. Checklists of this nature are becoming increasingly popular in other areas of health care, and the AARC believes they can assist respiratory therapists by serving as a reminder to take evidence-based action when the situation warrants.

The checklists are being developed by an AARC committee chaired by Dunne that has delved into the reasons for respiratory-related medical errors and how checklists can help. After performing a comprehensive systematic review, our team of experts identified that intra-hospital transports are one source for errors. "The more frequently patients are transferred from point A to point B within the hospital, and the longer they're away from their bed space, there is a significant increase in the likelihood of an adverse event," says Charles G. Durbin, Jr., MD, FAARC, FCCM, professor of anesthesiology and surgery at the University of Virginia Health System in Charlottesville and member of the AARC committee. "The most likely source for errors takes place with the patient's oxygenation status."

With that in mind, the AARC's initial patient safety checklists are designed to assist the respiratory therapist, nurse, or other health care provider in making sure the pulse oximeter is working properly, alarms are appropriately set, leads and connections are secure, and perhaps most importantly, the oxygen supply is adequate for the duration of the transport.

The lists are shown in this article, and RTs and other interested caregivers can download copies for free via the AARC website (www.aarc.org/resources/safety_checklist/). "Two versions are available," says AARC COO Thomas J. Kallstrom, MBA, RRT, FAARC, "one for adult and pediatric patients, the other for neonates and premature infants. We acknowledge that oxygenation requirements for these patient populations are dramatically different and that respiratory therapists can't take a 'one size fits all' approach. Hence the reason for multiple checklists."

When it comes to the safety and wellbeing of patients, is there really such a thing as "too much awareness" or "too much attention to detail" when implementing processes to improve patient safety or reduce mortality?

Patient Safety Checklist

Oxygenation Monitoring During In-Hospital Transport For Pediatrics and Adults

Patient Name:________________________________ Date:______________

Pt.floor/Rm #:____________ Destination: ______________________ Time:__________ AM/PM

PATIENT READINESS FOR TRANSPORT

- Respiratory Rate: __________ Heart Rate: __________
- Observed SpO_2 level at outset: __________________ %
- If applicable, target SpO_2 set @ __________________ %
- If applicable, supplemental oxygen @ _______ L/min via:
  - ☐ Nasal cannula ☐ Air-entrainment mask (FiO_2 @____)
  - ☐ Other _________
- Breathing pattern:
  - ☐ Regular ☐ Irregular ☐ Shallow ☐ Rapid

MONITORING EQUIPMENT – DEVICE READINESS

- Alarm parameters
  - ☐ Low SpO_2 alarm set @ ______ %
  - ☐ High SpO_2 alarm set @ ______ %
- Pulse Oximeter:
  - ☐ Monitor, sensor and connecting cables in good physical condition
  - ☐ All controls operate as intended
  - ☐ All audio and visual alarms functional
- Battery charge: ☐ Full ☐ 75% ☐ 50% ☐ ≤ 50%
- Sensor placement: Circle location
  - ☐ Earlobe: ☐ right ☐ left
  - ☐ Forehead ☐ Other: __________________
  - ☐ Sensor is attached to patient and secured for transport

OXYGEN SUPPLY

- Estimated duration of transport:
  - ☐ < ½ hr ☐ ½ - 1 hr ☐ > 1 hr
  - ☐ Sufficient oxygen for duration of transport

E Cylinder Duration Guide

FLOW Liters per minute	500 PSIG 1/4 Full 155 liters	1000 PSIG 1/2 Full 310 liters	1500 PSIG 3/4 Full 465 liters	2000 PSIG Full 620 liters
0.5	5 hr.	10 hr.	15 hr.	20 hr.
1	2.5 hr.	5 hr.	7 hr. 45 min.	10 hr.
1.5	1 hr. 45 min.	3.4 hr.	5 hr.	6 hr. 45 min.
2	1 hr. 17 min.	2.5 hr.	3 hr. 50 min.	5 hr.
2.5	1 hr.	2 hr.	3 hr.	4 hr.
3	51 min.	1 hr. 50 min.	2.5 hr.	3 hr. 20 min.
4	38 min.	1 hr. 15 min.	1 hr. 55 min.	2.5 hr.
5	31 min.	1 hr.	1.5 hr.	2 hr.
6	25 min.	50 min.	1 hr. 17 min.	1hr. 40 min.
10	15 min.	30 min.	46 min.	1 hr.
15	10 min.	20 min.	30 min.	40 min.

- Circle estimated cylinder duration on chart
- Time oxygen cylinder started: ____________ AM/PM
- Estimated time of cylinder depletion: _______ AM/PM

References

Jensen LA, Onyskiw JE, et al. Meta-analysis of arterial oxygen saturation monitoring by pulse oximetry in adults. Heart Lung 1998; Nov-Dec;27(6):387-408.

Sinex JE. Pulse oximetry: Principles and limitations. Am J Emerg Med 1999; Jan (1):59-67.

Barratt CW, Vyas H, et al. Selection of pulse oximetry equipment for ambulatory monitoring. J Med Eng Technol 2001; Jan-Feb 25(1):17-24.

Walters TP. Pulse oximetry knowledge and its effects on clinical practice. Br J Nurs 2007; Nov 22-Dec 12;16(21):1332-40.

Valdez-Lowe C, Ghareeb SA, et al. Pulse oximetry in adults. Am J Nurs. 2009; Jun;109(6):52-9.

Winter MW. Intrahospital transfer of critically ill patients: a prospective audit within Flinders Medical Centre. Anaesth Intensive Care 2010; May;38(3):545-9.

Dunne P, Durbin C, Jones W, Kallstrom T, Laher D, McDonald T, Shuke J. Oxgenation Patient Safety Checklist. American Association for Respiratory Care. Nov 2011

Patient Safety Checklist

Oxygenation Monitoring During In-Hospital Transport For Neonates and Infants

Patient Name:_______________________________ Date:_______________

Pt.floor/Rm #:______________ Destination: ______________________________ Time:__________ AM/PM

PATIENT READINESS FOR TRANSPORT

- Respiratory Rate: __________ Heart Rate: __________
- Observed SpO_2 level at outset: ____________________ %
- Target SpO_2 range ________________
  - < 32 wks GA SpO_2 range 85–92%
  - 33–38 wks GA SpO_2 range 86–94%
  - > 38 wks GA SpO_2 range 92–97%
- If applicable, supplemental oxygen @ _______ L/min (FiO_2 @__________) via:
  - ☐ Nasal cannula ☐ Incubator ☐ Oxyhood
- Breathing pattern:
  - ☐ Regular ☐ Irregular ☐ Shallow ☐ Rapid
  - Retractions: ☐ Yes ☐ No Nasal Flaring: ☐ Yes ☐ No
- Color: ☐ Pink ☐ Pale ☐ Dusky ☐ Cyanotic

MONITORING EQUIPMENT – DEVICE READINESS

- Alarm parameters
  - ☐ Low SpO_2 alarm set @ ______ %
  - ☐ High SpO_2 alarm set @ ______ %
- Pulse Oximeter:
  - ☐ Monitor, sensor and connecting cables in good physical condition
  - ☐ All controls operate as intended
  - ☐ All audio and visual alarms functional
- Battery charge: ☐ Full ☐ 75% ☐ 50% ☐ ≤ 50%
- Sensor placement: Circle location
  - ☐ Earlobe: ☐ right ☐ left
  - ☐ Forehead ☐ Other: ________________
  - ☐ Sensor is attached to patient and secured for transport

OXYGEN SUPPLY

- Estimated duration of transport:
  - ☐ < ½ hr ☐ ½ - 1 hr ☐ > 1 hr
  - ☐ Sufficient oxygen for duration of transport

E Cylinder Duration Guide

FLOW Liters per minute	500 PSIG 1/4 Full 155 liters	1000 PSIG 1/2 Full 310 liters	1500 PSIG 3/4 Full 465 liters	2000 PSIG Full 620 liters
0.5	5 hr.	10 hr.	15 hr.	20 hr.
1	2.5 hr.	5 hr.	7 hr. 45 min.	10 hr.
1.5	1 hr. 45 min.	3.4 hr.	5 hr.	6 hr. 45 min.
2	1 hr. 17 min.	2.5 hr.	3 hr. 50 min.	5 hr.
2.5	1 hr.	2 hr.	3 hr.	4 hr.
3	51 min.	1 hr. 50 min.	2.5 hr.	3 hr. 20 min.
4	38 min.	1 hr. 15 min.	1 hr. 55 min.	2.5 hr.
5	31 min.	1 hr.	1.5 hr.	2 hr.
6	25 min.	50 min.	1 hr. 17 min.	1hr. 40 min.
10	15 min.	30 min.	46 min.	1 hr.
15	10 min.	20 min.	30 min.	40 min.

- Circle estimated cylinder duration on chart
- Time oxygen cylinder started ________________ AM/PM
- Estimated time of cylinder depletion: __________ AM/PM

References

Finer N, Leone T. Oxygen saturation monitoring for the pre-term infant: the evidence base for current practice. Pediatr Res 2009; Vol 65, No 4: 375-80.

Shiao SY, Ou CN. Validation of oxygen saturation monitoring in neonates. Am J Crit Care 2007; Vol 16, No 2; 168-78.

Tin W, Walker S, Lacamp C. Oxygen monitoring in preterm babies: too high, too low? Paediatr Respir Rev 2003; Vol 4, No 1; 9-14.

Sahni R, Gupta A, Ohira-Kist K, Rosen TS. Motion resistant pulse oximeters in neonates. Arch Dis Child Fetal Neonatal Ed 2003; Vol 88, No 6; F 505-08.

Sedaghat-Yazdi F, Torres A, Fortuna R, Geiss DM. Pulse oximetry accuracy and precision affected by sensor location in cyanotic children. Pediatr Crit Care Med 2008; Vol 9, No 4; 393-97.

Tlucek PS, et al. Effect of decreasing target oxygen saturation on retinopathy of prematurity. J AAPOS 2010. Oct; 14(5):406-11

Dunne P, Durbin C, Jones W, Kallstrom T, Laher D, McDonald T, Shuke J. Oxgenation Patient Safety Checklist. American Association for Respiratory Care. Nov 2011

More to come

Patrick Dunne will present an educational AARC webcast on the new checklists on March 15 in which he will provide an overview of checklists and how they're used in other industries, along with their applications in health care. Dunne will also speak to the importance of oxygenation monitoring and understanding the conditions that affect the accuracy of pulse oximetry readings, and will review the literature on how oxygenation monitoring is impacted by patient transports. AARC members can go to Webcast Central on www.AARC.org to sign up for the free webcast. Attendees of the live session will earn one free CRCE for participating, and the webcast will also be archived for those who are unable to attend the live session.

Scheduled for release later in the year will be another evidence-based checklist on respiration and ventilation monitoring. Serving as a triage tool, this checklist will allow RTs to evaluate and score ICU patients with ventilatory compromise so they may be easily identified as patients who are at high risk for recidivism. Once these patients are identified, RTs would then be encouraged to establish protocols that allow for closer monitoring and delivery of evidence-based treatment strategies that minimize the likelihood of critical care readmissions.

Getting it right

"The Checklist Manifesto: How To Get Things Right" by bestselling author and Harvard Medical School professor, Atul Gawande, MD, is an excellent read to acquire more information on checklists, as well as their uses and applications in health care and other industries.[3] Dr. Gawande reminds us that today's medicine is entirely too complex to be left to the memory of any one person and convincingly argues that "checklists catch mental flaws inherent in all of us — flaws of memory, attention, and thoroughness." ■

ABOUT THE AUTHOR

Douglas S. Laher, MBA, RRT, is associate executive director of the AARC.

EDITOR'S NOTE

This checklist project is being supported through an unrestricted grant from the Masimo Corporation©.

REFERENCES

1. Dunne PJ. Safety checklists: coming soon to a patient hand-off near you. AARC Times 2011; 35(5): 28-29, 69.
2. Committee on Quality of Health Care in America, Institute of Medicine. Kohn LT, Corrigan JM, Donaldson MS, editors. To err is human: building a safer health system. Washington, DC: National Academy Press, 1999.
3. Gawande A. The checklist manifesto: how to get things right. New York: Henry Hold and Company; 2009.

NEW ORLEANS
Join us for the 58th International Respiratory Convention & Exhibition
AARC CONGRESS 2012
Save the Dates
November 10-13, 2012
New Orleans, LA
(Saturday through Tuesday)

Applying for the NBRC's RRT Examination

by Lori M. Tinkler, MBA

The Registry Examination System was developed to objectively measure essential knowledge, skills, and abilities required of advanced respiratory therapists. The Certified Respiratory Therapist (CRT) credential is a prerequisite for admission to the Registry Examination and represents a minimum level of competence. An increasing number of CRTs have applied for admission to the Registry Examination. While those advanced-level graduates who are subject to the RRT three-year time limit for eligibility have a more clear-cut deadline and application process, those RRT candidates who are not subject to this deadline have several options for applying via the "CRT-to-registry" route of eligibility.

NBRC approved a policy on Jan. 1, 2005, that requires graduates of advanced-level programs to complete the CRT and RRT Examinations within three years of graduation. For those CRTs subject to this deadline, the application process begins by selecting the admission route detailed in Figure 1.

Candidates have until the three-year deadline to pass both parts of the RRT Examination and earn the credential. If candidates have recently taken the CRT Examination prior to applying for the RRT Examination, transcripts may not be required. However, if he/she is not successful in earning the RRT credential prior to their deadline, the candidate must retake and pass the CRT Examination to regain eligibility to take the RRT Examination, and a completed application with transcripts must be submitted. Should practitioners not pass the CRT Examination to regain RRT Eligibility, they do not lose their credential. They will simply be required to pass the CRT Examination prior to being found eligible to take the RRT Examination. NBRC Exam candidates applying under this option cannot be found eligible under any other admission provision.

about the author...

Lori M. Tinkler, MBA, is the associate executive director of the National Board for Respiratory Care in Olathe, KS.

For CRTs who are not subject to this policy, the NBRC's CRT-to-registry provision provides a route of eligibility for candidates to incorporate their experience and earlier education without having earned an associate degree in respiratory therapy from an advanced-level accredited educational program.

This article serves to address some of the questions that NBRC examination candidates exploring this route of admission eligibility might have before taking the next step of applying for the RRT Examination.

Understanding the CRT-to-registry provision

As employers support the efforts of their practitioners to earn the RRT credential, an increasing number of CRTs have become interested in achieving the RRT credential under the CRT-to-registry provision. For those whose education did not come from an advanced-level accredited respiratory therapy program, this provision recognizes the achievement of other accredited respiratory therapy education and the professional experience many longtime CRTs have acquired.

The CRT-to-registry provision of the admission policies for the RRT Examination states that all applicants shall:

"Be a therapist certified (CRT) by the NBRC who has four years of full-time clinical experience in respiratory therapy under licensed medical supervision following certification and prior to applying for the Registry Examination. In addition, the applicant shall have at least 62 semester hours of college credit from a college or university accredited by its regional association or its equivalent. The 62 semester hours of college credit*

* Individuals certified (CRT) prior to Jan. 1, 1983, are required to complete only three years of clinical experience.

Figure 1

B. RRT Examination Eligibility — For *New* Applicants Only (check only one box)

☐ I am a CRT having earned a minimum of an associate degree from an accredited advanced-level respiratory therapist education program.

☐ I am a CRT having been awarded a special certificate of completion approved by the CoARC from an accredited respiratory therapy education program in an institution offering a baccalaureate degree.

must include the following courses: anatomy and physiology, chemistry, microbiology, physics and mathematics."

OR

"Be a CRT with a baccalaureate degree in an area other than respiratory therapy, including college-level courses in anatomy and physiology, chemistry, microbiology, physics and mathematics. In addition, the applicant shall have two years of full-time clinical experience in respiratory therapy under licensed medical supervision following Certification and before applying for the examination."

OR

"Be a CRT with two years of full-time clinical experience in respiratory therapy under licensed medical supervision following certification and prior to applying for the Registry Examination and hold a minimum of an associate degree in respiratory therapy from an accredited entry-level respiratory therapy education program."

Clinical experience for each of the above categories is interpreted as a minimum of 21 hours per week following certification. Clinical experience must be completed before applying for the Registry Examination.

Making your education work for you

While the eligibility requirements for the NBRC Registry Examination are clear to include accredited education and significant experience, many CRTs are not clear as to how one's earlier education meets the criteria for admission. The NBRC offers a free transcript evaluation prior to the application process to help examination candidates determine if their education meets the admission requirements and what they can do to complete their requirements if it does not. Candidates who apply for the RRT Examination through the CRT-to-registry route of eligibility come to the table with a wide variety of education, thus creating many questions. Before completing the examination application, candidates are encouraged to have the NBRC review their transcripts to ensure compliance with the admission policies prior to actually submitting an application for testing. This checklist is available on the NBRC website.

A first step is to make certain your education counts — do the transcripts show that the institution has awarded semester or quarter hours? If the courses reflect only class grades or clock hours, they cannot be evaluated and will not be counted toward meeting the requirements. A minimum of one college-level course in anatomy and physiology, chemistry, microbiology, mathematics, and physics must appear by name on the official transcript. It must be apparent from the transcript that these courses have been completed.

Coursework that indicates work in progress cannot be included in the transcript evaluation. Additionally, if any of the courses do not appear on the transcript by these names, the applicant must obtain a course description from the year the course was taken and submit such a course description to the NBRC for final determination.

Those who gained their respiratory care education through programs that are no longer in existence may have a difficult time obtaining official transcripts and may not be certain how to proceed. The NBRC does not indefinitely retain transcripts that are received. However, if examination candidates are experiencing difficulty with obtaining their transcripts from a school no longer in operation, they may be able to obtain records from their state's Board of Higher Education. When a program closes and the institution is no longer in operation, available educational records may be sent to the State Board for retention. The second step is to verify whether it was from an accredited educational institution. Credit from a college or university that is not accredited by its regional association or its equivalent cannot be counted toward fulfillment of the CRT-to-registry admission requirements. This also means that foreign education cannot be accepted.

Some candidates who have achieved the CRT credential choose to demonstrate completion of 62 semester hours of college credit along with the required science and math courses to meet the eligibility requirements. Courses taken at a foreign college or university do not sat-

Strengthen Your Role in the Prevention of Ventilator-Associated Pneumonia (VAP)

You already know that ventilator-associated pneumonia (VAP) is responsible for increased morbidity and mortality and adds thousands of dollars to the health care system. Preventing VAP is key to improving those patient outcomes and lowering costs. As respiratory therapists, you have a unique opportunity to play a vital role in meeting this challenge as members or even leaders of the VAP team. This online course from the AARC is aimed at enhancing your knowledge of proven strategies to minimize the occurrence of ventilator-associated pneumonia.

NEW ONLINE COURSE FROM THE AARC!

Empowering the Respiratory Therapist to be the VAP Expert

Earn 2.5 CRCE® credits when you complete this online course and pass the accompanying test.

This course includes:

- Definition & Diagnosis of VAP
- Epidemiology, Pathophysiology, Detection, and Risk Factors
- Current Prevention Strategies
  - General Prophylaxis
  - Intubation and Mechanical Ventilation
  - Aspiration, body position, and enteral feeding
  - Modulation of colonization: oral antiseptics and antibiotics
  - Stress bleeding prophylaxis, transfusion, and hyperglycemia
- VAP prevention efforts in non-ICU settings such as LTACs, SNFs, home
- Review of the national imperative to reduce/ prevent healthcare-associated infections (HAIs), specifically ventilator-associated pneumonia (VAP)
- Essential elements required for launching and sustaining an effective VAP Prevention program
- Why it is important for RTs to understand, treat, and "own" VAP prevention

Presenters:
Patrick J Dunne, MEd RRT FAARC
Roger D. Seheult, MD

Empowering the Respiratory Therapist to be the VAP Expert – Online Course

Nonmember Price $50.00 MEMBER PRICE $25.00

NEW IN 2012! *For a limited time, AARC members will save even more through March 2012 with the Members Only Introductory Price of $15.00.*

Visit www.aarc.org/education/aarc_crce/ for more information.

Presented by the American Association for Respiratory Care

Sponsored in part by an unrestricted educational grant from Kimberly-Clark

Kimberly-Clark

NOT AN AARC MEMBER YET? | Join the AARC now through March 2012, to receive the Members Only Introductory Rate! | See www.aarc.org for details.

Figure 2

1. Anatomy
Human anatomy with specific emphasis on respiratory physiology and pathophysiology. Courses offered for paramedical personnel are desirable.

2. Physiology
Human physiology with specific emphasis on respiratory physiology and pathophysiology. Courses offered for paramedical personnel are desirable.

3. Microbiology
Principles of microbial life: cell structure anatomy, metabolism, genetics, disease transmission, principles of sterilization and disinfection, and function of antibiotics with respect to microbial life, bacteriology and immunology. Courses offered for paramedical personnel are desirable.

4. Chemistry
Principles of atomic theory: mole concept, elements, chemical calculations, ions and solutions and acid-base theory.

5. Mathematics
Math courses above a remedial college level: including functions, linear equations, word problems, inequalities, logarithms, scientific and complex numbers. Algebra is desirable.

6. Physics
Basic principles: including forces, inertia, levers, weight, fluids and gas behavior and kinetic theory of matter, pressure, and temperature. A physics course for paramedical personnel is desirable.

isfy the NBRC's requirement of 62 semester hours of college credit because foreign programs are not "accredited by their regional association or its equivalent." However, the NBRC will accept transfer credit for foreign courses if an accredited U.S.-based college or university is willing to award transfer credit on an official transcript. Additionally, the NBRC will not accept coursework completed at a hospital-based nursing or other non-accredited educational program unless transfer credit for the courses is awarded from an accredited college or university.

The final step is ensuring the transcripts have arrived at the NBRC in a timely manner coinciding with your request for the NBRC to evaluate your eligibility. For purposes of the evaluation, candidates may mail or fax clear copies of transcripts to be reviewed. Official transcripts or notarized copies of transcripts are not required for a preliminary CRT-to-registry eligibility evaluation. It is important that the request for evaluation is clear and that a full name, current address, and social security or ID number also be provided so that records may be matched to the request. The NBRC recommends that if only an evaluation of transcripts is requested, do not send an application with your request. This will help avoid confusion and potential delay in processing the request.

Understanding your transcript evaluation

Within about three-to-four weeks, the NBRC will evaluate the transcripts and the practitioner will receive a letter outlining the results and next steps. The evaluation letter will either indicate what required coursework is missing or confirm that all the educational requirements have been met. The NBRC's evaluation of educational documents is provided as a free service to credentialed members and is not the final determination of eligibility for the Registry Examination. Eligibility for the Registry Examination cannot be officially confirmed until a practitioner actually applies for the examination and the NBRC accepts the application.

The Admissions Committee has developed examples of course content that meets the basic science and math requirements of the CRT-to-registry provision. If additional coursework needs to be completed, the information in Figure 2 may be helpful.

Investing in your future as a respiratory care professional

The American Association for Respiratory Care (AARC), Commission on Accreditation for Respiratory Care (CoARC), and NBRC have unanimously agreed that the RRT credential is the standard of excellence in respiratory care. The RRT designation denotes an *advanced respiratory therapist* who has demonstrated knowledge, skill, and ability beyond that required at entry into the profession. The RRT credential is nationally recognized as the highest credential that can be achieved in respiratory care and signifies that the individuals who hold it have passed rigorous competency assessment examinations that measure advanced or "expert" practice.

A Registered Respiratory Therapist is one who has demonstrated professional abilities far beyond the minimum competence required by the CRT Examination and most state licensure laws. Applications for the RRT Examination may be completed online at www.nbrc.org.

To schedule a testing appointment

After an application is accepted by the NBRC, testing appointments can be scheduled as soon as three days after visiting the NBRC's website or calling the NBRC's Candidate Support Center. Both parts of the RRT Exami-

nation — the Written Registry and Clinical Simulation Examinations — are available daily, Monday through Saturday, at all test center locations. Candidates may choose to take one or both parts on the same day and may select the order in which the tests are attempted. When the examinations have been completed, score reports are produced at the Assessment Centers, so there is no waiting for test results! Instructions for rescheduling are provided on the score reports issued at the test centers.

Contact the NBRC

If you have other questions about becoming a Registered Respiratory Therapist (RRT) or the CRT-to-registry admissions provision, please contact the NBRC Executive Office at (888) 341-4811 or nbrc-info@nbrc.org. If you are eligible for the RRT Examination, please visit www.nbrc.org to apply and schedule your testing appointment online today. ■

Topics For Professor's Rounds 2012

■ **The Mandate to Reduce Hospital Readmissions - How Respiratory Therapists Can Help**
John R. Walton, MBA RRT FAARC
Sam Giordano, MBA RRT FAARC
Item # PR20121

monaghan

■ **Medical-Legal Implications of the Changing Healthcare System for Respiratory Therapists**
Anthony L DeWitt, JD RRT FAARC
Doug Laher, MBA RRT
Item # PR20122

■ **Reducing Cost While Adding Value - Critical Roles for Respiratory Therapists**
Rick Ford, BS RRT FAARC
Doug Laher, MBA RRT
Item # PR20123

■ **Managing the Chronically Ill Pediatric Respiratory Patient**
Bruce K Rubin, MD MEngr MBA FAARC
Timothy R. Myers, BS RRT-NPS
Item # PR20124

■ **Educating Patients with Chronic Respiratory Disease – RTs Make the Difference**
Timothy R. Myers, BS RRT-NPS
Tom Kallstrom, MBA RRT FAARC
Item # PR20125

■ **Palliative and End-of-Life Care: What Respiratory Therapists Need to Know**
J.Randall Curtis, MD MPH
Dean Hess, PhD RRT FAARC
Item # PR20126

■ **Get 'Em Movin' - Early Mobility for Ventilator-Dependent Patients**
Eddy Fan, MD FRCPC
Dean Hess, PhD RRT FAARC
Item # PR20127

■ **Improving Patient Safety - How Respiratory Therapists Can Contribute**
Item # PR20128

BONUS
Effectively Treating Tobacco Dependence: We Can Move the Mountain
Michael Fiore, MD MPH MBA
Sam Giordano, MBA RRT FAARC
PR2012B

As shown above, some topics are sponsored in part by unrestricted educational grants.

We would like to thank our Sponsors for supporting Professor's Rounds through unrestricted educational grants. The AARC has the sole responsibility of assuring appropriate educational content of Professor's Rounds.

PLEASE NOTE: One topic is released each month beginning in April 2012 and will be shipped automatically to series purchasers. Topics and presenters are subject to change.

RESPIRATORY THERAPISTS ADDING VALUE IN THE CHANGING HEALTHCARE SYSTEM

Improve Patient Safety to Improve Patient Care

THE AARC PROFESSOR'S ROUNDS FOR 2012 PROVIDES:
Eight [8] lectures on topics associated with patient safety and the role of the respiratory therapist

BONUS! WITH SERIES PURCHASE
Tobacco Cessation Program
Michael C. Fiore, MD MPH MBA
– a $320 value!

- ✔ Provides 8 in-service training lectures for your entire facility
- ✔ Presented by recognized leaders and specialists in the trends and practices featured
- ✔ Approved for 1 CRCE per topic per participant for your entire facility
- ✔ Includes complete Proctor Guide, Course Materials, Attendance Logs, and Completion Certificates
- ✔ Adjusts to flexible schedules with the DVD that can be viewed at any time
- ✔ Eliminates travel expense and time, allowing faster return to patient care
- ✔ Invite other health care colleagues in your institution to view these programs

AARC Professor's Rounds 2012 – The Series includes 8 scheduled lectures + 1 bonus lecture

ITEM # PR2012S
Nonmember Price $1,605
MEMBER PRICE $1,420

Single Programs
Order by Individual Item Number
Nonmember Price $295
MEMBER PRICE $265

Bonus Program
Nonmember Price $320
MEMBER PRICE $290

Visit www.aarc.org/education for more information.

Industry Watch

Bionor Pharma presents data on universal flu vaccine

Researchers from Bionor Pharma presented new data on the company's universal influenza vaccine candidate, Vacc-Flu, at the recent Influenza Congress USA in Arlington, VA. The vaccine, which targets conserved domains, the "Achilles' heel" common to all known influenza A viruses, could provide protection over several years against seasonal flu and other pandemic influenzas like swine flu. In the study, mice vaccinated with Vacc-Flu showed 25% better protection against the most serious effects of influenza virus infection than a standard influenza vaccine. The study was conducted in collaboration with St. Georges, University of London, and the Norwegian Institute of Public Health.

Kimberly-Clark receives ethics award

The Foundation for Financial Service Professionals recently named Kimberly-Clark Corporation as the large company recipient of the 2011 American Business Ethics Award (ABEA). Kimberly-Clark was recognized at a special award ceremony held in its headquarters in Dallas, TX. In making the announcement, Foundation Chair R. Clifford Berg, Jr., CLU, ChFC, AEP, noted, "We hope that in honoring companies, such as Kimberly-Clark, that adhere to the highest ethical standards in their dealings with employees, customers, and stakeholders, the ABEA provides a beacon that guides others to choose the high road in all their business practices."

Philips Respironics launches compliance site

Philips Respironics has launched a new website for health care team members responsible for the compliance management of their sleep apnea patients. The site, www.sleepapnea.com/picm, centralizes all of the videos and tutorials, detailed product literature, reimbursement guideline documents, webinars, and interactive tools (e.g., the recently released modem calculator), in one easy-to-access online resource. According to the company, the information is housed in three user-friendly sections: Resource Center, Best Practices and Protocols, and Training. New therapy compliance tools and materials will be posted to the site as they become available.

New book addresses parent concerns

"Take a Deep Breath: Clear the Air for the Health of Your Child," by Dr. Nina L. Shapiro, director of the pediatric ear, nose and throat department at Mattel Children's Hospital UCLA, is a new guide for parents that explains the often distressing breathing patterns children experience throughout development. Each of the book's age-based sections (newborn–three months; three months–one year; and one year–five years) includes chapters on specific respiratory tract locations and potential problems for each age group. It also includes a "to-do" list offering successful preventions and home treatments.

Peregrine Pharmaceuticals reports good results from Phase II trial of NSCLC treatment

According to Peregrine Pharmaceuticals Inc., preliminary results from a randomized Phase II trial showed a 50% improvement in overall tumor response rates (ORR) in non-small cell lung cancer (NSCLC) patients treated with bavituximab plus carboplatin and paclitaxel. The ORR for treated patients was 39% versus 26% in patients treated with carboplatin and paclitaxel alone. This preliminary analysis using RECIST guidelines included 86 front-line, Stage IV NSCLC patients. Peregrine plans to report secondary endpoints, including median progression-free survival and overall survival, this year. Bavituximab's therapeutic potential is also being evaluated in three randomized Phase II trials in front-line NSCLC, second-line NSCLC, and front-line pancreatic cancer, as well as in four investigator-sponsored trials.

Center for Acute Respiratory Failure opens

New York-Presbyterian Hospital/Columbia University Medical Center has opened the Center for Acute Respiratory Failure to provide expert-

ise in using lung bypass technology to help adult patients whose lungs are rapidly shutting down. The center offers ECMO and embolectomy. "The evidence is accumulating that… referring patients with severe respiratory failure to a center capable of performing ECMO is beneficial for these patients," says Dr. Daniel Brodie, an assistant professor of medicine at Columbia University College of Physicians and Surgeons.

Monitoring study presented

According to Masimo, a new clinical study found the company's Acoustic Respiration Rate (RRa™) technology had higher sensitivity for detecting respiratory pause events compared to capnography. The study, which was conducted among 34 post-surgical patients who were monitored for an average of 109 minutes, concluded that RRa provided "acceptable respiration rate accuracy" compared to capnography. But only RRa had the additional advantage of providing "superior sensitivity for detecting respiratory-pause events," defined as no inspiration or expiration activity for more than 30 seconds. The study was conducted at Baylor University Medical Center in Dallas, TX, and presented at the New York State Society of Anesthesiologists' Annual Post Graduate Assembly Meeting in New York City.

Covidien plc to spin off pharmaceuticals business

Covidien plc plans to spin off its pharmaceuticals business into a standalone public company, according to a recent company news release from Dublin. The pharmaceuticals business is one of the world's largest producers of bulk acetaminophen and the largest U.S. supplier of opioid pain medications; it is also among the top 10 generic pharmaceutical manufacturers in the United States based on prescriptions, according to the company. Since 2008, the pharmaceuticals business has received FDA approval for eight new products, including two branded pain products launched in 2010.

Survey: Teen smoking is down

Cigarette and alcohol use by 8th, 10th, and 12th graders were at their lowest points last year since the federally funded Monitoring the Future (MTF) survey began polling teenagers in 1975. However, the rate of decline in teen smoking appeared to be slowing, and continued high rates of abuse were seen for other tobacco products such as hookahs, small cigars, and smokeless tobacco. Marijuana and prescription drug use remained high, as well. The survey found more teens continued to abuse marijuana than cigarettes, and alcohol was still the drug of choice among all three age groups. MTF is conducted annually by researchers at the University of Michigan, Ann Arbor, under a grant from the National Institute on Drug Abuse.

HRSA promotes organ donation

Eight organizations, including the American Hospital Association, have teamed up to share information and encourage hospitals and health systems nationwide to promote organ and tissue donation by joining with the HHS Health Resources and Services Administration (HRSA) as partners in the Workplace Partnership for Life Hospital Campaign. "If we are going to increase the number of organ and tissue donors, we need partners across the country willing to deliver the message about the importance of donation," says HRSA Administrator Mary Wakefield. More than 100 million Americans are currently on registries to become organ and tissue donors; but with more than 112,000 people currently on waiting lists, more public participation is needed.

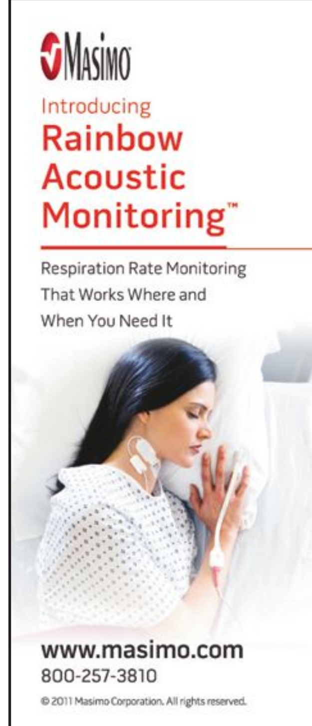
Getting rid of bad tests and procedures

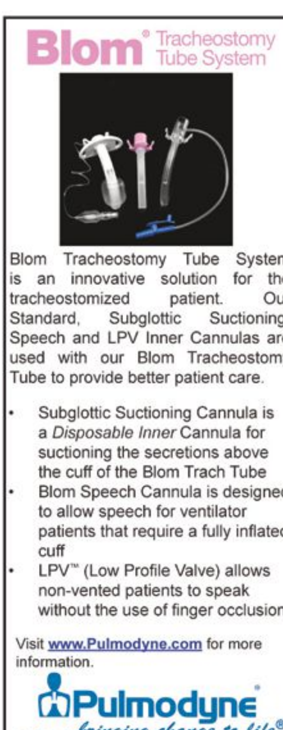
The American Board of Internal Medicine Foundation has joined nine medical specialty societies in a campaign called Choosing Wisely™ that will develop evidence-based lists of tests and procedures that patients and physicians should question. "Consumer Reports" has also signed on to provide resources consumers and physicians can use. As part of Choosing Wisely, each specialty society will identify its own list of five common tests or procedures whose use in their profession should be discussed or questioned. The societies are looking at these parameters: Each item should be within the specialty's purview and control; procedures should be used frequently or carry a significant cost; and evidence must exist to support each recommendation. The lists will be unveiled in April.

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

Marketplace

Featuring information on products and equipment from manufacturers





Oxygen Therapy Devices

Invacare Corporation's HomeFill DS Oxygen System is lightweight and quiet and requires low power — and its streamlined design allows the system to rest on the Perfecto2 DS Concentrator without the need for a ready rack. The same cylinder offerings seen with the current Home Fill System, including integrated conservers, regulators, and post-valve cylinders, are available as well. The Perfecto2 DS Concentrator features a reliable 40,000-hour compressor and is also lightweight and quiet and requires low power consumption. www.invacare.com

Advanced CPAP

REMstar Pro with AutoIQ from Philips Respironics is an intelligent solution that allows providers and physicians to deliver exceptional care while helping their patients take control of their sleep therapy. The new AutoIQ mode has the ability to track a patient's progress over several nights, establish or readjust to an ideal therapy pressure, and check back periodically to reassess and adjust treatment as needed — all without requiring the provider to visit the patient's home. Throughout the entire process, AutoIQ keeps the care team informed with key compliance information. www.philips.com

New Gel Mask

The TrueBlue gel nasal mask from Philips Respironics Inc. brings together a number of breakthroughs in mask design for OSA patients. A freeform spring provides exceptional flexibility and a reliable seal; an intuitive forehead pad with a distinctly soft premium blue gel delivers comfort as the freeform spring adjusts; angled exhalation micro ports rotate 360° and redirect air away from a bed partner; and Respironics' premium blue gel is thinner and lighter than ever before. www.philips.com

▶ Press releases and photos on new products are welcome. Send to Marsha Cathcart, *AARC Times* editor, at cathcart@aarc.org.

New Members

Welcome to the AARC

U.S. Members

Brown, Janice, Horton, Al*

Bates, Shekeva, West Memphis, Ar
Calloway, Karen, Holly Grove, Ar*
Cleveland, Donna, McRae, Ar*
Johnson, Lauren, North Little Rock, Ar*
Pierce, Karen, Conway, Ar*
Sanderson, Bettie, Bryant, Ar*

Cobb, Jill, Glendale, Az*
Eckhoff, Alexandrea, Tucson, Az*
Lofton, Timmy, Phoenix, Az*
Miranda, Christian, Gilbert, Az
Rolon, Manuel, Chandler, Az*
Swenson, Rochelle, Surprise, Az*
Villalobos, Gilberto, Tucson, Az*
West, Nicklaus, Chandler, Az*

Bartlett, Erin, Cameron Park, Ca*
Bergmann, Jason, Sunset Beach, Ca
Bishop, Liquorri, Fresno, Ca*
Bragg, Marla, Citrus Heights, Ca*
Cameron, Debbie, Lemoore, Ca*
Campbell, Thomas, Coarsegold, Ca*
Card, Geraldine, Exeter, Ca
Cardinez, Wilfredo, Long Beach, Ca*
Chikosi, Norah, Hayward, Ca*
Cisneros, Kimberly, Bakersfield, Ca*
Diaz, Maria, Fullerton, Ca
Ferriera, Larry, Catheys Valley, Ca*
Foster, Avery, Villa Park, Ca*
Gospodnetich, Scott, Clovis, Ca
Hansen, Julie, Lemoore, Ca
Harrison, Jammal, Hayward, Ca*
Hodges, Jerry, Colfax, Ca*
Hook, Megan, Lemon Grove, Ca
Hughes, Catherine, Modesto, Ca*
Hurzel, Jaimie, Diamond Springs, Ca
Iskandar, Michael, Upland, Ca*
Jones, David, Suisun City, Ca*
Kriss, Trevor, San Mateo, Ca*
Kuser, Joseph, Tulare, Ca
Macanas, Benny, Los Angeles, Ca
Martin, Jeffrey, Los Angeles, Ca*
McCausland, Elizabeth, Encinitas, Ca*
Mendoza, Denise, Brentwood, Ca*
Mitchell, Shaniqua, Sacramento, Ca*
Mitchell, Stephanie, Ivanhoe, Ca*
Montano, Christina, Huntington Beach, Ca*
Muolic, Mallory, Citrus Heights, Ca
Nkwenji, Juliana, Winnetka, Ca*
Ortiz-Luis, Paul, Corona, Ca*
Parker, Otis, Benicia, Ca
Perez, Benidicto, San Leandro, Ca*
Prybylla, Carmen, Ontario, Ca*
Robinson, Susan, Torrance, Ca*
Sabale, Caroleen, South San Francisco, Ca*
Sato, Nicole, Santa Cruz, Ca*
Shen, Harn-Jen, Rowland Heights, Ca*
Sidabutar, Winner, Redlands, Ca*
Smith, Gary, Carpinteria, Ca*
Smith, Kimberly, Oakdale, Ca*
Smyth, Susan, Roseville, Ca*
Terry, Andrew, Carlsbad, Ca
Thornton, Chris, Plumas Lake, Ca
Tran, Steve, Fresno, Ca*
Vatakis, Louie, Buena Park, Ca
Vo, Jennifer, San Jose, Ca
Wangsadipura, Johannes, Hacienda Heights, Ca*
Zohdi, Hamed, Fremont, Ca*

Barnes, Carissa, Pueblo, Co*
Chacon, Brandon, Pueblo, Co
Cordova Beach, Chrisitna, Pueblo, Co*
Durazo, Julie, Brighton, Co*
Eberhart, Diana, Arvada, Co*
Fanning, Jamie, Lakewood, Co*
Hatcher, Jennifer, Arvada, Co*
Houser, Ruth, Englewood, Co*
Lemoine, Danelle, Denver, Co*
Martinez, Michelle, Denver, Co*
Mustonen, Arthur, Arvada, Co*
Porter, Sarah, Idaho Springs, Co*
Rahm, Cara, Westminster, Co*
Rossman, Manuela, Greeley, Co*
Stewart, Nora, Denver, Co*
Vigil, Noemi, Brighton, Co*
Whitcomb, Andrew, Clifton, Co
Wilson, Lydia, Broomfield, Co*

Leno, Erica, Vernon, Ct*

Clough, Kevin, Wilmington, De*
Foster, Stephan, New Castle, De*
Newsham, Michael, Lewes, De*
Owens, James, Lewes, De*
Reyes, Jorge, Bear, De*

Barnes, Lisa, Sanford, Fl*
Duncan, Latasha, Jacksonville, Fl*
Edwards, Quintin, Jacksonville, Fl*
Jones, Lashawndra, Panama City, Fl*
Pupo, Frank, Miami, Fl*
Zimmerman, Patileann, Cape Coral, Fl*

Bell, Melinda, Dacula, Ga
Bonner, Ashley, Augusta, Ga*
Carringer, Mindy, Hiawassee, Ga*
Colon, Valerie, Milledgeville, Ga*
Crider, Ken, Young Harris, Ga*
Dempsey, Peggy, Dallas, Ga*
Edjidjimo, Bina, Snellville, Ga*
Fordham, Lisa, Gray, Ga*
Graham, Jamie, Evans, Ga*
Hardeman, Abigail, Mount Vernon, Ga*
Harris, Jamie, Brunswick, Ga*
Holcomb, Jodeph, Commerce, Ga*
La Belle, Laura, Lawrenceville, Ga*
Lowen, Charmaine, Villa Rica, Ga*
Mason, Amanda, Leesburg, Ga*
McCurry, Julie, Toccoa, Ga*
Murray, Kathy, Savannah, Ga*
Ortiz, Elliot, Hahira, Ga*
Park, Eun, Suwanee, Ga*
Redmond, Jillian, Springfield, Ga*
Sellazzo, Pam, Milton, Ga
Sherrod, Dana, Midway, Ga*
Walton, Charles, Atlanta, Ga*
Ware, Jessica, Lawrenceville, Ga*

Kim, Lisa, Honoululu, Hi*

Emerson, Roberta, Waterloo, Ia*
Johnson, Loren, Dallas Center, Ia*

Vance, Elsbeth, Caldwell, Id*
Wilson, Sheryl, Post Falls, Id*

Buckner, Brock, Anna, Il
Jackson, Chad, Northbrook, Il*
Palm, Charles, Normal, Il*
Rauch, Brooke, Newton, Il
Sukhotski, Stanislau, Chicago, Il

Ikerd, Michelle, Bedford, In
Stephens, Holly, Indianapolis, In*
Weber, Brittany, Franklin, In

Armstrong, Ryan, Derby, Ks
Cruz, Kenyuta, Fort Riley, Ks*
Moon, Jody, Manhattan, Ks

Barrick, Amber, Smiths Grove, Ky*
Beets, Mary, Louisville, Ky*
Blair, Catherine, Paducah, Ky*
Branson, Jackie, Dixon, Ky*
Brown, Natasha, Danville, Ky
Cinnamon, Pamela, Louisville, Ky*
Esterday, Barbara, Louisville, Ky*
Gibbons, Jeremy, Richmond, Ky*
Johnson, Tammy, Georgetown, Ky*
Kennard, Robert, Russell, Ky*

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

New Members

Linn, Dana, Prestonsburg, Ky*
McIntire Garza, Judy, Louisville, Ky*
Mullins, Cody, Lick Creek, Ky*
Oldham, Sharon, Morehead, Ky*
Schaber, Cheryl, Covington, Ky*
Taylor, Beckie, Eubank, Ky*

Gilbert, Sandy, Bossier City, La*
Harrington, Christopher, New Iberia, La*
Reed, Curry, New Orleans, La*
Shelton, Robert, Keithville, La*

Kemp, Alan, Middleboro, Ma*
Murphy, Cecelia, Walpole, Ma
Powers, Margaret, Middleton, Ma*
Weeden, Paul, Greenfield, Ma*

Blue, Cheryl, Hyattsville, Md*
Lennon, Linda, Rockville, Md*
Saunders, Marissa, Pasadena, Md*
Small, Dalonne, Lanham, Md*
Toogood, Wendy, District Heights, Md*

Terwilliger, Elizabeth, Portland, Me*

Adams, Mark, Three Rivers, Mi*
Biagas, Suzanne, Detroit, Mi*
Featherston, Kelly, Dearborn, Mi*
Griffiths, Elizabeth, Hazel Park, Mi*
Hilton, Jesse, Kalamazoo, Mi*
Minnick Loweke, Kelly, Grand Rapids, Mi*
Rivard, Bradley, Grand Rapids, Mi*
Shemanski, Sheila, Warren, Mi*
Sullivan, Christine, Belmont, Mi*
Tedhams, Vicki, Grand Rapids, Mi*
Tiffany, Jill, Greenville, Mi*
Wetherby, Erin, Jerome, Mi*

Blaise, Joshua, Rochester, Mn*
Loewe, Tiffany, Le Sueur, Mn*

Allen, Kelli, Leopold, Mo
Bates, John, Cape Girardeau, Mo
Boatright, Cynthia, Farmington, Mo
Buxton, Menzise, Sikeston, Mo
Collom, Candy, Chaffee, Mo
Copeland, Carrie, Cape Girardeau, Mo*
Copeland, Kent, Union, Mo*
Cora, Marie, Jackson, Mo
Denning, Marci, Perryville, Mo
Ellsworth, Lacie, Perryville, Mo
Fee, Sarah, Cape Girardeau, Mo
Flynn, Randi, Perryville, Mo
Fortner, Amber, Cape Girardeau, Mo
Hayden, Miranda, Perryville, Mo
Hente, Elena, Cape Girardeau, Mo
Hupp, Jessica, Benton, Mo
Johnson, Jeffrey, Jackson, Mo
Jones, Katelyn, Millersville, Mo
King, Linda, Cape Girardeau, Mo
Kline, KC, Kansas City, Mo
Martinez, Amanda, Cape Girardeau, Mo
McGuire, Patrick, Bethany, Mo*
Monroe, Laura, Cape Girardeau, Mo
Nanney, Heather, Cape Girardeau, Mo
Neighbors, Sara, Jackson, Mo
Stairs, Sherri, Millersville, Mo
Suderman, Curtis, Jackson, Mo
Theobald, Rebecca, Perryville, Mo

Filtz, Carrie, Southaven, Ms*
Howell, Jessica, Holly Springs, Ms
Midgett, Amie, Olive Branch, Ms
Morales, Beatriz, Olive Branch, Ms

Staszel, Wayne, Miles City, Mt*

Hochstetler, Johnetta, Creedmoor, NC*
Howard, Anita, Kill Devil Hills, NC*
Smith, Kristy, Mount Airy, NC*
White Perry, Jason, Fayetteville, NC
Willis, Brigitte, Clemmons, NC*

Clark, Chelsey, Omaha, Ne
Dasilva, Nicole, Omaha, Ne
Herfel, Lindsay, Omaha, Ne
Kaisi, Japhet, Omaha, Ne
Kollasch, Brennan, Omaha, Ne
Lane, Rachel, Omaha, Ne
Meehan, Heather, Omaha, Ne*
Rose, Sandra, Omaha, Ne

Bender, Patricia, Hackettstown, NJ*
Chando, Morgan, Phillipsburg, NJ
Costello, Kevin, Mays Landing, NJ*
Dimaculangan, Ann Megan, Nutley, NJ*
Harris, Daphne, Montclair, NJ*
Momplaisr, Myriam, Rahway, NJ*
Murray, Catherine, Barnegat, NJ*
O'Reilly, Paul, Clarksburg, NJ*
Squillante, Michael, Stanhope, NJ*
Williams, Lisa, Pennsville, NJ*

Banuelas, Alonso, Roswell, NM
Boeke, Ashley, Carlsbad, NM
Cereceres, Jessica, Roswell, NM
Crowson, Leslie, Roswell, NM
Deherrera, Alyssa, Albuquerque, NM*
Duran, Malorey, Roswell, NM
Harelson, Jonathan, Hagerman, NM
Hendricks, Kelsey, Roswell, NM
Herrington, Destinee, Dexter, NM
Irving, Shanna, Roswell, NM
James, Amber, Roswell, NM
Kenyon, Stacey, Roswell, NM
Matthews, Jennifer, Roswell, NM
Melendrez, Melissa, Carlsbad, NM
Navarrette, Elizabeth, Roswell, NM
Pharis, Jeanetta, Dexter, NM
Raney, Teresa, Roswell, NM
Saenz, Sergio, Roswell, NM
Smith, Stephanie, Grants, NM*
Whitford, Herschal, Los Lunas, NM*
Wilson, Brianna, Dexter, NM

Bermudez, Brittaney, Las Vegas, Nv
Comeaux, Candice, Las Vegas, Nv
Cruto, Gizelle, Las Vegas, Nv
Deperio, Jovannie, Las Vegas, Nv
Holloway, Amber, Las Vegas, Nv
Ilaban, Aaron, Las Vegas, Nv
Jiongco, Marlon, Las Vegas, Nv
Nnaji, Millicent, Las Vegas, Nv
Phillips, Candice, Las Vegas, Nv
Pinera, Melannie, Las Vegas, Nv
Scozia, Patricia, Las Vegas, Nv
Sumaoang, Jhasmine, Las Vegas, Nv

Abdullayev, Vakil, Jamesville, NY*
Assad, Wassim, Brooklyn, NY*
Besong-Tambe, Besong, Huntington, NY*
Bryan, Scott, Hilton, NY
Ferrett, David, Rochester, NY*
Fitzgerald, Sean, Bainbridge, NY
Fullerton, Brian, Mahopac, NY*
Jacob, Jobson, Wappingers Falls, NY
Keeley, James, Granville, NY*
Koranteng, Esther, Bronx, NY*
Martinez, Fernanda, Valley Stream, NY*
O'Brien, Michael, Port Jervis, NY*
Olsen, Bruce, Glenmont, NY
Parks, Russell, Liverpool, NY*
Sally, Abdelal, Nesconset, NY*
Torres, Benjamin, Coram, NY*
Tulipano, Jacklyn, Bronx, NY*

Burnette, Robert, Hamilton, Oh*
Campbell, Whitney, Cincinnati, Oh*
Farah, Ahmed, Columbus, Oh*
Ghory, Chris, Cincinnati, Oh*
Gross, Raenee Carolynne, Powell, Oh*
Malone, Nancy, Medina, Oh
McClure, Tonia, Elyria, Oh
Preisler, Lisa, Richmond Heights, Oh*
Svoboda, Leslie, Parma, Oh*
Walker, Lorraine, Kettering, Oh*
Welch, Lindsay, North Canton, Oh*

Adams, Kelli, Midwest City, Ok
Bailey, Natalie, Norman, Ok
Belshe, Cori, Shawnee, Ok
Bliss, Viola Renee, Choctaw, Ok
Bowron, Gregory, Oklahoma City, Ok
Bui, Katie, Oklahoma City, Ok
Coberley, Erin, Oklahoma City, Ok
Gardner, Ashley, Oklahoma City, Ok
Hanson, Amber, Moore, Ok
Hartfelder, Morgan, Moore, Ok
Hernandez, Julia, Oklahoma City, Ok
Jweid, Derek, Oklahoma City, Ok
Larson, Thomas, Oklahoma City, Ok
Moore, Tiffany, Mill Creek, Ok
Neal, Roy Evan, Edmond, Ok
Nelson, Kent, Wellston, Ok
Priddy, Bobby, Milburn, Ok*
Robeson, Pamela, Blanchard, Ok
Rowley, Jason, Midwest City, Ok
Sinko, Kyle, Meeker, Ok
Swayze, Brittany, Oklahoma City, Ok
Thompson, Alvina, Cashion, Ok
Thompson, Carrie, Edmond, Ok
Wade, Gregg, Oklahoma City, Ok*
Willimason, Kimberly, Choctaw, Ok
Womack, Michael Chance, Midwest City, Ok
Wright, Megan, Choctaw, Ok

Dolby, Vanessa, Springfield, Or*
Johnson, Robert, Brownsville, Or*
Kincaid, Craig, Clackamas, Or
McGee, Shannon, Eagle Point, Or*
Nelesen, Laurie, Portland, Or*
Nissen, Janna, Lebanon, Or
Roulet, Jennifer, Elgin, Or

Bercosky, Heather, Beallsville, Pa*
Brookhart, Kimberly, Mechanicsburg, Pa
Corbett, Michael, Erie, Pa
Coryer, Carrie, Palmyra, Pa*
Kiessling, Kenneth, Littlestown, Pa*
Laxton, Shannon, Philadelphia, Pa
Long, Beth, Yardley, Pa*
MacVicar, Donna, Atglen, Pa*
Samuel, Jensy, Philadelphia, Pa*
Semick, Victor, Pottsville, Pa*
Thankappan, Syambab, Philadelphia, Pa
Thomas, Benson, Philadelphia, Pa*
Vrablic, Hugh, Jim Thorpe, Pa*

Davis, Kimberly, Simpsonville, SC*
Graham, Stephanie, Barnwell, SC*
Mitchell, Angelia, Ridgeville, SC*
Paterek, Daniel, Lexington, SC*
Riley, Howard, West Columbia, SC
Williams, Michael, Winnsboro, SC*

Hoelzen, Stephen, Sturgis, SD*

Bailey, Tairetha, Memphis, Tn*
Birdsong, Megan, Bartlett, Tn
Booker, Laneeca, Bartlett, Tn
Carroll, Brittni, Michie, Tn*
Davis, Megan, Bartlett, Tn
Fowler, Angelina, Memphis, Tn
Goodlow, Carla, Savannah, Tn*
Hicks, Kimberly, Bartlett, Tn
Hobson, Nina, Bartlett, Tn*
McCain, Tomeka, Memphis, Tn*
McDonald, Amy, Munford, Tn
Morrison, Crane, Blountville, Tn*
Murphee, Nicole, Oakland, Tn
Rahim, Taheerah, Memphis, Tn
Sears, Lauren, Memphis, Tn
Sterling, Marvin, Bartlett, Tn*
Thompson, Jason, Memphis, Tn
White, Latonya, Memphis, Tn
Williams, Sabrina, Memphis, Tn
Wilson, Latrice, Memphis, Tn
Wright, Derek, Rogersville, Tn

Andrews, Brooke, Mineral Wells, Tx*
Batty, Anita, San Antonio, Tx*
Bharathi, Usha, Missouri City, Tx*
Ellington, Dennis, San Antonio, Tx
Estes, Stacy, McKinney, Tx*
Fan, Xian, San Antonio, Tx
Lucas, Brenda, Galveston, Tx*
Mabins, M G, San Antonio, Tx
MacLauchlan, Matthew, Converse, Tx
Malkowsky, Sarah, Dickinson, Tx*
Miller, Lovier, San Antonio, Tx
Mohorne, Damien, San Antonio, Tx
Moran, Heather, Austin, Tx*
Reed, Richard, Corinth, Tx*
Richardson, Wendy, San Antonio, Tx
Scott, Linda, Katy, Tx*
Sigafoos, Kevin, San Antonio, Tx
Speight, Justin, San Antonio, Tx
Stroud, Lori, Lubbock, Tx*
Vernon, Krista, San Antonio, Tx
Zimmerman, Daniel, San Antonio, Tx

Galpin, Kristina, Virginia Beach, Va*
Mullins, Melanie, Wise, Va*
Wyatt, Christina, Amissville, Va*

Logan, Sharon, Jamaica, Vt*

Cossette, Paul, Wenatchee, Wa*
Hill, Jose, Seattle, Wa*
McFarland, Sherri, Spokane, Wa*
Neal, Kelly, Bellevue, Wa*
Truitt, Brandon, Lacey, Wa

Kaz, Amy, Jim Falls, Wi*
Pirrung, Ryan, Beaver Dam, Wi*

Mullenix, Ann, Hedgesville, WV*
Parks, Heather, South Charleston, WV*
Ryan, Wanda, Fairmont, WV*
Vance, Robert Arlie, Fairmont, WV*

International Members

Bol, Bas, Rotteroam, Netherlands
Crivelli, Diego, Ligornetto, Switzerland
Forgiarini Jr., Luiz Albert, Porto Alegre, Brazil
Phillips, Richard, Abu Dhabi, United Arab Emirates

AARC The Respiratory Catalog

www.AARC.org/store.cfm

Order online
with your Visa®, MasterCard® or American Express®

Shop online and then order by fax, mail or phone
with your credit card, purchase order*, or check/money order

ONLINE
www.AARC.org/store.cfm

FAX
972-484-2720

MAIL
AARC Order Desk
9425 N. MacArthur Blvd.
Suite 100
Irving, TX 75063-4706

PHONE
972-243-2272
Mon – Fri, 8am – 5pm CT

*Hard copy or fax is required for purchase orders.

Shipping & Handling
to domestic U.S. addresses (other than AK, HI)

FOR EACH ORDER	
IF TOTAL PURCHASE IS:	ADD SHIPPING CHARGE OF:
$10 or less	$4.50
$10.01 – $15	$5.75
$15.01 – $25	$7.00
$25.01 – $40	$8.00
$40.01 – $60	$9.00
$60.01 – $80	$10.00
$80.01 – $100	$11.00
Over $100	See website

- For shipments to AK, HI, PR and international locations, check the details online at www.AARC.org/store.cfm
- For shipments to Texas locations, add sales tax of 8.25% to purchase amount.

Be sure to include your AARC Member Number to receive the discounted prices!

The AARC Respiratory Catalog is your online source for respiratory-themed gifts and educational products.

All sales revenues are used by the AARC to develop and support educational programs, public relations efforts for growth & awareness of the profession, advocacy at the national and state level, the website that is loaded with information, and much more.

RC Currents

IN THE NEWS

In Memoriam: H. Frederic Helmholz, MD — 1911–2012

Respiratory therapists far and wide are mourning the death of one of our profession's most respected names. H. Frederic Helmholz, MD, passed away on Saturday in Rochester, MN, just a little over a week after celebrating his 100th birthday with family, friends, and colleagues.

"Dr. Helmholz was a great friend to the AARC and the entire respiratory care profession," says AARC President Karen Stewart, MSc, RRT, FAARC. "He will long be remembered for making some of the most significant advancements we've seen in clinical respiratory care and in the development of respiratory care as a separate professional entity."

A graduate of Dartmouth College and Johns Hopkins University, Dr. Helmholz's long association with respiratory care began during World War II when the Surgeon General of the Army Air Force asked him to take over the helm of a high-altitude laboratory in San Diego, CA, aimed at studying personnel and aeronautical systems to be used during combat. A physiology fellow at the Mayo Clinic Graduate School in Rochester, MN, at the time, Dr. Helmholz answered the call and was soon immersed in research on decompression chambers and aviator bends.

About a year later, he returned to Mayo, assuming responsibility for the Clinic's own aeromedical laboratory after the director, Dr. Walter Boothby, co-inventor of the BLB mask, fell ill. The job there centered around oxygen therapy and the development of oxygen masks that could be used both clinically and militarily, and further piqued his interest in the growing field of respiratory care. For awhile, he commuted between San Diego and Rochester, helping both labs fulfill their wartime purposes and building knowledge that would soon play a major role in peacetime medicine as well.

Following the war, Dr. Helmholz returned to Mayo full time, moving up the academic ranks at the medical school and continuing his research on the lungs. He also got involved in studies on mechanical ventilation and even participated in the first open heart surgery to take place at the Clinic. His interest in oxygen therapy flourished as well, and he set up a pulmonary function laboratory where some of the first pulmonary function tests were developed.

The latter activity caught the attention of fellow physicians in Chicago who were busy working with the American Medical Association to organize formal education for the newly emerging profession of "inhalation therapy." Dr. Helmholz was introduced to the late Albert H. Andrews, Jr., MD, one of the founders of the AARC, who asked him to serve on the Board of Schools — the initial group responsible for overseeing respiratory care education. Dr. Helmholz agreed, marking the beginning of what was to become a lifetime of service to the respiratory care profession.

Dr. Helmholz is widely credited with placing the profession on firm educational ground. Through his service on the Board of Schools, he demanded high standards, and he persevered in that philosophy throughout the formative years of the profession. When respiratory care leaders decided to transition their educational accreditation program from the Board of Schools to the Joint Review Committee on Respiratory Therapy Education (JRCRTE) — the group that governed respiratory therapy educational programs until the formation of the current Commission on Accreditation for Respiratory Care — Dr. Helmholz stepped up to serve as its first chair, running the organization out of his own offices at the Mayo Clinic for the first six or seven years, often at his own expense.

Along the way he also started an RC educational program of his own at the Mayo Clinic, doing most of the teaching himself.

Although he retired from both the Mayo Clinic and JRCRTE in 1976, Dr. Helmholz remained active in respiratory care for many years to come, maintaining an office at the Clinic, attending

weekly briefings held by the pulmonary/physiology staff, and participating as an instructor in the RC program.

He also continued his service to the respiratory care profession, serving on the National Board for Respiratory Care's Board of Trustees from 1976–1988 and as president in 1985. The NBRC honored Dr. Helmholz with its Albert H. Andrews, Jr., MD, Award in 1988; and he received the Board's second Sister Mary Yvonne Jenn, RRT Lifetime Achievement Award in 2004. He was the first Board member to achieve Trustee Emeritus status.

The AARC honored Dr. Helmholz with Honorary Member status, and he won the prestigious Jimmy A. Young Medal for his lifetime of service in 1993.

For many years, Dr. Helmholz was a major presence at the annual Sputum Bowl as well, where he served as a judge, introducing new generations of respiratory therapists to his wisdom and wit. Indeed, many RTs will remember him best as the distinguished gentleman at the finals competition, where he often appeared decked out as anything from Santa Claus to an antebellum Southern gentleman.

View and share comments or remembrances of Dr. Helmholz to honor his legacy for our profession at www.aarc.org/headlines/12/01/helmholz/. ■

AARC Leadership Announces the Retirement of Its Executive Director

The leadership of the American Association for Respiratory Care announces the impending retirement of its Executive Director, Saverio (Sam) Giordano in June of 2012.

The AARC's Executive Committee, under current President Karen Stewart, MSc, RRT, FAARC, and Immediate Past President Timothy B. Myers, BSRT, RRT-NPS, has been working with Giordano since February 2010 to prepare the Association for its first change in the executive director position in over 30 years of inspiring and visionary leadership.

More detailed announcements and information are provided on the web as to the criteria and timelines for the new AARC Executive Director search under the guidance of President Stewart and her appointed search committee. ■

National Health Observances

- **National Sleep Awareness Week;** March 5–11; National Sleep Foundation; (703) 243-1697; www.sleepfoundation.org
- **World Tuberculosis Day;** March 24; World Health Organization; www.stoptb.org/events/world_tb_day
- **World Health Day;** April 7; Pan American Health Organization; (202) 974-3000; www.who.int/world-health-day/en/

AARC Leaders Attend Meetings

Throughout the year, AARC leaders and members of the Executive Office staff attend meetings of the Association's state societies as well as other special meetings. In addition to making AARC representatives available for speaking engagements at meetings, the Association funds a special program to help some state societies partially pay for the travel costs of the speakers. Below are some activities AARC representatives are involved in:

Timothy R. Myers, AARC Past President
- Presenting an Asthma-COPD Educator Course & Workshop as a postgraduate course at the Gulf Thoracic Society meeting in Dubai, United Arab Emirates

Sam Giordano, AARC Executive Director
- Presenting an Asthma-COPD Educator Course & Workshop as a postgraduate course at the Gulf Thoracic Society meeting in Dubai, United Arab Emirates

Thomas J. Kallstrom, AARC COO and Associate Executive Director
- Presenting an Asthma-COPD Educator Course & Workshop as a postgraduate course at the Gulf Thoracic Society meeting in Dubai, United Arab Emirates
- Speaking at the Louisiana Society for Respiratory Care in Baton Rouge, LA

Dean Hess, Editor in Chief of Respiratory Care Journal
- Presenting an Asthma-COPD Educator Course & Workshop as a postgraduate course at the Gulf Thoracic Society meeting in Dubai, United Arab Emirates

Jerome Sullivan, ICRC President
- Presenting an Asthma-COPD Educator Course & Workshop as a postgraduate course at the Gulf Thoracic Society meeting in Dubai, United Arab Emirates

William Dubbs, AARC Education/ Management Director
- Speaking on "Preparing Allied Health Professions for the Future" at the meeting of the Health Professions Network in Portland, OR

Patient's Incredible Journey Inspires New Jersey Students

by Amy Ceconi, PhD, RRT

For the past seven years, the Respiratory Therapy Club at Bergen Community College in Paramus, NJ, has been very lucky to be a recipient of the "Gift of Life" from Cheryl Schiess, a patient who received a bilateral lung transplant in 2002. Since then, she has been coming to speak to our respiratory therapy students about her ordeal. The annual event is open to the entire college community as well so everyone can hear about her incredible journey.

Cheryl had a sister who died from cystic fibrosis at a young age and was herself diagnosed with alpha-1 antitrypsin deficiency at the age of 40. Research has shown the two diseases may be linked within a family. Her story is mesmerizing and captivates everyone with each passing year. She has explained how difficult her life became as the disease progressed through her lungs and deteriorated her body. Just prior to the lung transplant, she weighed a mere 80 pounds.

We teach our students how much energy it takes just to breathe, and Cheryl says she became that true-to-life "pink puffer." She has related how she was literally "living in her kitchen" in a reclining chair, permanently attached to her 100 feet of oxygen tubing. No longer could she even take a daily bath or get dressed, and she was eating just enough food to barely survive. Her former life as a country club manager, a job she held for 20 years, had now become reduced to simply surviving every hour of each passing day.

Respiratory therapy students get a first-hand account of surviving a lung transplant from Cheryl Schiess (pictured).

Then her life took an incredible turn with the announcement of the "phone call." Transplant patients who are on the waiting list know all too well what phone call this is. She was home alone that day at her house in northwest New Jersey. An ambulance quickly took her to Newark airport to await the arrival of the helicopter ride to the Hospital of the University of Pennsylvania. She knew nothing of her lung donor, only that this person was to bless her with the "gift of life."

Cheryl tells the audience about the entire procedure, from the helicopter transport to rushing down to the operating room with lights, nurses, physicians, and respiratory therapists alongside. She provides highlights of the post-operative phase, including the pulmonary rehabilitation that she still participates in to this day. Specifically, she always reiterates to the students the importance of their future roles as therapists and how to be "caring, encouraging professionals who go the extra mile to get their patients to succeed."

When Cheryl gives these presentations, she also provides examples of what not to do when dealing with patients. Fortunately, her encounters with respiratory therapists have been very positive. Our students are lucky to be able to hear directly from a patient about how important it is to be caring, encouraging, kind, and thoughtful, and to "go the extra mile" to meet individual goals. The students leave her presentation feeling inspired about the profession.

Cheryl now lives a very active, healthy, and productive life. She was recently ordained as a minister in her church. She has run in several marathons, and she is a very busy grandmother who enjoyed a water park in Pennsylvania last July with her grandchildren. She speaks several times a year regarding lung transplant on behalf of the Hospital of the University of Pennsylvania. Our educational program, the Respiratory Therapy Club, our students, and the entire college community at Bergen Community College feel so lucky to share in the life of Cheryl Schiess. ■

Amy Ceconi is the academic chair and program director of the respiratory therapy program at Bergen Community College in Paramus, NJ.

65th AARC Anniversary Contest!

Believe it or not, the AARC will turn 65 on April 15, and we have a new contest in the works that will give everyone the chance not only to take part in the celebration but to win some terrific prizes as well! Check www.AARC.org for the details to find out how you and your colleagues can enter. ■

Enter the 2012 AARC Photo Contest

AARC Times is looking for creative members to enter our AARC Photo Contest. Winners will receive a free one-year membership renewal and have their photo entered into our Photo-of-the-Year Contest with the chance of it being chosen to appear on the February 2013 *AARC Times* cover. For instructions and guidelines, select the *AARC Times* icon on www.AARC.org and click on the "Photo-of-the-Year Contest" link. Entry deadline is Oct. 1, 2012. ■

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. ■

Education Section Calling for Abstracts for Santa Fe, NM, Summer Meetings

The 2012 AARC Summer Forum, scheduled for July 13–15 in Santa Fe, NM, offers an excellent opportunity for participants to share their scholarly activities with education colleagues through a research abstract. The submission deadline is March 15, 2012. 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: MDeSilva@massasoit.mass.edu, (508) 922-2996. ■

Request for Open Forum Abstracts at AARC Congress 2012

The AARC invites you to submit abstracts for the Open Forum at AARC Congress 2012. Considered by many to be the premier event at the AARC Congress, the Open Forum is your opportunity to gain national and international recognition for your research in cardiorespiratory care by submitting an original abstract for presentation at the Congress and having it published in Respiratory Care. The deadline to submit abstracts for the Open Forum is June 1 at http://aarc2012.abstractcentral.com/. ■

Wedding Bells Ring at St. Elizabeth's

The big church wedding being planned by a young couple from Kentucky took an unexpected turn last fall when the mother of the bride, Barbara Fry, was hospitalized with lung cancer and her physicians at St. Elizabeth Healthcare in Edgewood decided her oxygen needs were too high for her to leave the facility to attend the ceremony.

Julia Fry figured there had to be a way for her mom to see her tie the knot and wondered whether a small ceremony in the hospital chapel would be a possibility. Administrators agreed, and her mom's team of respiratory therapists and nurses took it from there, planning the entire event, from decorations in the chapel to ensuring her mom's medical needs would be met throughout the event.

"We had about one week to prepare, and a lot depended on the health status of Mrs. Fry because we did not know what her oxygen requirements would be on the day of the wedding," says Nicole Glockner, RRT, who worked closely with colleague Shirley Scheid, CRT, on the arrangements. "We were on pins and needles all week."

The respiratory therapists came up with a plan to ensure full support without having to use noninvasive positive pressure ventilation. "We used a heated high-flow nasal cannula system with a blender at 100%," says Glockner. Initially they planned to use H tanks to power the blender but decided E cylinders would be more convenient. "There were a bunch of E cylinders in the chapel and reception area that day!"

Barbara Fry (center) was surrounded by caring hands on the day of her daughter's wedding. From left in the back are Jenna Davis, RN, and Nicole Glockner, RRT. Left of Mrs. Fry is Nicole Rapier, RN; and Shirley Scheid, CRT, is on her right.

She and Scheid also had to deliver some hand-held nebulizer treatments during the event, and nurses administered morphine to keep Mrs. Fry comfortable. "During the entire ceremony and even the transports to and from, Mrs. Fry was very receptive to everything that all of us did for her. She never once complained," says Schied. She told the RTs and nurses, "if it weren't for you, all this never would have happened."

The wedding and small reception that followed went off without a hitch and proved to be a heartwarming experience not just for the wedding party and guests, but for the RTs and nurses as well. "The family was more than gracious for all the time and effort that was given to them to make this day happen," says Glockner. "We were all just sitting around during the reception, right by Mrs. Fry's side, her own little medical team, and family members would come up to us in tears and say thank you so much for doing this for her. Her husband referred to us as her 'St. E Angels.'"

AARC member Mark Vargas, RRT, who serves as clinical education coordinator at the hospital, applauded the ingenuity Glockner and Scheid put into the event. "They thought of every possible scenario and planned for it. It was time consuming but worth every minute as they watched Mrs. Fry rejoice in her daughter's wedding." He says other therapists played an indirect role as well, picking up Glockner and Scheid's workload during that week so they could devote time to planning the wedding.

Barbara Fry was transferred to hospice shortly after the wedding and lost her battle with lung cancer on Dec. 18. But Vargas had a chance to visit her before she died to let her know her story would be appearing in *AARC Times* (an article appeared in a local newspaper as well). "Mrs. Fry was weak and in obvious pain; however, it was a joy to see her so excited about something so small as this," Vargas says. "Her family was extremely thankful over and over again about how our respiratory therapists helped her." ■

COPD Awareness on the Upswing

Are the COPD awareness programs being supported by the AARC and other groups paying off in greater awareness of the condition?

Yes, report researchers from the National Heart, Lung, and Blood Institute (NHLBI) who surveyed 4,161 Americans on their knowledge of COPD last summer. They found the percentage of people who said they were aware of COPD grew from 65% in 2008 to 71% in 2011. What's more, awareness among smokers rose from 69% to 78%.

But it's not time to rest on our laurels. While 27% of current smokers reported symptoms suggestive of COPD, 40% said they had not talked to a physician or other health care provider about their breathing problems.

"COPD is surpassing other diseases as a major killer in this country. We want to reverse this trend by educating people about the symptoms so they can get proper treatment as early as possible," James P. Kiley, PhD, director of the NHLBI Division of Lung Diseases was quoted as saying. "It is not enough to have heard of COPD. Those at risk need to know the signs so they can talk to their health care provider about any breathing problems they are having and, hopefully, find relief."

The AARC's DRIVE4COPD Adopt-a-Company Campaign is a great way to achieve that goal in your community, so log on to www.AARC.org to learn more about how you can get involved. ■

▶ Strange But True…

Post Mortem: British researchers believe full-body computed tomography (or MRI) could replace the need for an autopsy in up to half of the cases referred for autopsy. CT scans agreed with autopsy findings 68% of the time, and MRIs agreed 57% of the time, in a study involving 182 deceased people.

A Really Squirrely Day: At Robert Wood Johnson University Hospital in New Jersey, staff had to deal with not one but two flying squirrels last fall. The first took over a 15 x 15 foot trauma room. The second invaded the emergency department. Both were safely relocated to a nearby wooded area by firefighters called to the scene. The hospital believes the squirrels may have a nest somewhere in the building. ■

Employers Saying "Quit Smoking or Pay Up"

Employers are getting serious about penalizing employees who engage in unhealthy habits. According to a recent article in the *New York Times*, companies are proving increasingly willing to hit these employees in the pocketbook, charging them more for their health insurance or imposing a surcharge for certain behaviors.

Wal-Mart, for example, has added a $2,000 per year surcharge on employees who smoke; and two recent surveys show other companies are taking similar actions. In a poll involving 248 major American employers, benefits consultant Towers Watson found the percentage of companies with 1,000 employees or more who penalize employees for things like smoking has risen to 19% and is expected to rise again. Another survey conducted by Mercer found about a third of employers with 500 employees or more are enticing their employees into wellness programs with incentives like insurance discounts.

These moves are being fueled in part by the new health care law, which will raise the amount employers can charge employees who engage in unhealthy habits from 20% of a company insurance policy today to 30% in 2014 — and ultimately, to as much as half the cost of the policy. ■

90 Is the New 85

It used to be that you were old at 60. Then it was 70. Then it was 80. Officially, the government classifies people in the "oldest-old" category at age 85 — but a new report from the U.S. Census Bureau suggests that figure should be changed to 90.

Their statistics show the number of Americans age 90 or older grew from 720,000 in 1980 to 1.9 million in 2010, and projections suggest it could stand at 9 million by 2050. ■

Transitions

Dominic P. Coppolo, MBA, RRT, FAARC, has been named vice president of clinical strategy and development at Monaghan Medical Corporation. During his 16-year tenure with Monaghan he has initiated collaborations with clinicians and scientists and contributed to numerous abstracts and published research papers. He began his career as an RRT at Ellis Hospital in Schenectady, NY, then moved to Basset Hospital in Cooperstown, NY, where he served as director of respiratory care. Prior to joining Monaghan, he was assistant director of research and outreach development at the New York Center for Agricultural Medicine and Health in Cooperstown.

Jacqueline Smith, BS, RRT-NPS, passed away after suffering an asthma attack last November. She worked as the NICU supervisor at Children's National Medical Center in Washington, DC, from 1987–1992 and as an agency therapist for many of the local respiratory therapy agencies. From 1995–2011, she worked at Georgetown University Hospital, serving as a staff therapist, clinical educator, and interim acting director.

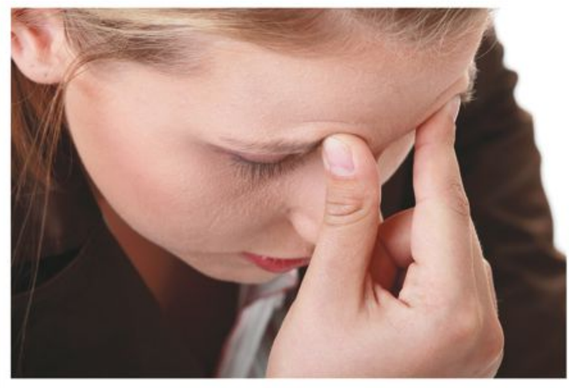
We welcome news about AARC members. Submit job changes, awards, and death notices online at www.AARC.org/transitions. ■

Battling Alarm Fatigue in the ICU

Taking a page from the airline industry, Johns Hopkins is working with Lockheed Martin to develop a next-generation ICU aimed at ensuring all the components in the unit work in concert with one another. Chief among the goals is to reduce the "alarm fatigue" often seen in busy ICUs. According to the developers, a single ICU system could prioritize patient alarms based on individual risk of cardiac or respiratory arrest, preventing the chorus of competing alarms commonly heard in the typical ICU.

"When an airline needs a new plane, they don't individually select the control systems, seats, and other components, and then try to build it themselves," Peter Pronovost, MD, PhD, senior vice president for patient safety and quality at Johns Hopkins Medicine was quoted as saying. "The piecemeal approach by which hospitals currently assemble ICUs is inefficient and prone to error, adding risk to an already intricate environment. Lockheed Martin has the expertise to integrate complex systems to help us build a safer and more efficient ICU model not just for Johns Hopkins but for patients around the world."

Hopkins researchers will test alternative approaches to ICU care in a learning laboratory with a virtual simulation theater, an engineering workshop, and testing area with human patient simulators. Johns Hopkins announced the plan last December. ■



New Discovery Challenges Lung Growth Assumptions

Conventional wisdom holds that the human lungs are fully formed by age three. British researchers publishing in a recent issue of the *American Journal of Respiratory and Critical Care Medicine* say not so fast. Their study of more than 100 healthy volunteers between the ages of 7–21 finds new alveoli are formed constantly.

The subjects all underwent a series of breathing tests and also had special magnetic resonance scans wherein they inhaled hyperpolarized helium. The test allowed the investigators to measure how the magnetism decays, a process that depends on the size of the alveoli containing the helium. Results showed little difference in the size of the alveoli across the age groups, leading the researchers to conclude that new alveoli grow as the lungs increase in size. ■

AARC Times Correction

There was an error printed on page 6 of the February 2012 issue of *AARC Times* in the Ventilation for Life column on "Evidence-based Management of the Obese Ventilator Patient" by Rory A. Mullin, BS, RRT.

The third sentence in the second column read: "In addition, obesity *hyperventilation* syndrome, formerly known as pickwickian syndrome, increases blood carbon dioxide levels and adds strain to the heart." It should read: "In addition, obesity *hypoventilation* syndrome, formerly known as pickwickian syndrome, increases blood carbon dioxide levels and adds strain to the heart."

We regret the error and have now taken measures to eliminate this type of misprint in future articles. ■

THE NEXT BEST THING
TO NATURAL BREATHING

MAQUET
GETINGE GROUP

SERVO-i® with NAVA® provides assist based on the patient's own drive to breathe.

NAVA (Neurally Adjusted Ventilatory Assist) is MAQUET's exclusive neurally closed loop technology that promotes synchronous harmony between the patient and ventilator. With NAVA, diaphragmatic activity is monitored during all modes of ventilation providing clinicians a new vital sign to help evaluate and correct dyssynchrony, and interpret effects of treatment. Non-invasive NAVA, NIV NAVA®, provides assist levels capable of matching the patient's neural demands regardless of leakage or user interface.

Neural-driven support — the essence of natural breathing.

NAVA, NIV NAVA, and SERVO-i are registered trademarks of MAQUET Critical Care AB.

MAQUET, Inc., 45 Barbour Pond Drive, Wayne, NJ 07470 Phone: 888-627-8383 Fax: 973-709-7651 www.maquetusa.com

Classifieds

ADVERTISING SECTION

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 website for one month after publication. Ad may only be placed on the website with an insertion order for placement in an AARC publication. Ad is noncancelable after placement on the website. 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 March 17. Blind ads available. **For Recruitment Advertising Information, Contact Classified Advertisement** Andrea Conté • 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/recruitment_12.pdf, or contact Tim Goldsbury and Associates, Alhambra Plaza, 725 N. Highway A1A, Suite C-106, Jupiter, FL 33477, (561) 745-6793, Fax (561) 745-6795

Choose the Proven Way

Upgrade to RRT or Earn Your Degree, Online 24/7!

You could advance your career and increase your earning potential in a fast, flexible way.

Proven online healthcare degree programs put you in control — you can complete your coursework anytime, anywhere. Our online student services make your studies available to you 24 hours a day, 7 days a week.

- The only ASRT distance education program accredited by the Commission on Accreditation for Respiratory Care (CoARC)
- The leader in RT distance education for over 30 years
- **Employer Reimbursement Accepted** Call for more details
- Approved for GI Bill/VA Education benefits

NOW OFFERING BSRC Program in Advanced Clinical Practice

Associate's Degrees: Allied Health, Business, Respiratory Therapy, Medical Specialties (AOS)

Bachelor's Degrees: Business, Nursing*, Respiratory Therapy

Master's Degrees: Business Administration, Nursing Administration*, Healthcare Administration, Public Health, Health Services-Health Promotion

*RN Required

INDEPENDENCE UNIVERSITY® 855-477-1022

5295 S. Commerce Drive, Salt Lake City, UT 84107 • www.independence.edu

For more information about our graduation rates, the median debt of students who completed the program and other important information, please visit our website at www.independence.edu/student-information. Independence University is a branch of Stevens-Henager College Ogden/West Haven.

RESPIRATORY DIRECTORS / SUPERVISORS / HUMAN RESOURCE MANAGERS

FIND PROFESSIONAL, EXPERIENCED, AND SKILLED RTS AT THE AARC

- **AARC Members save money** with lower recruitment rates than non members.
- **The lowest recruitment rates** in respiratory care.
- **Immediate Internet Exposure** with every recruitment ad insertion on line in the AARC Career page *(posted online within 24 hours of receipt)* – seen by 2.2 million visitors annually.
- **Reach candidates** in all specialties and care settings.
- *AARC Times* **magazine** and RESPIRATORY CARE Journal are the only official publications of the AARC.

SUBSCRIBER LOYALTY Gives You MORE EXPERIENCED CANDIDATES

44% of *AARC Times* subscribers have been reading *AARC Times* magazine for more than 15 years. Long-time subscribers are more likely to read publications regularly and respond to advertisements at higher rates. SOURCE: READEX 2003 RESPIRATORY CARE COMPANION SURVEY

CALL **JAMES** FOR SOLUTIONS FOR YOUR RECRUITMENT ADVERTISING.

CALL: (561) 745-6793
EMAIL: james@aarc.org

Everyone is looking for respiratory therapists, but there is only one place to find professional, experienced, and highly skilled respiratory therapists. You'll find them reading the AARC's *AARC Times* magazine. Unlike other magazines, our readers have demonstrated their professionalism by joining the American Association for Respiratory Care.

AMERICAN ASSOCIATION FOR RESPIRATORY CARE AARC

National Park Community College, Hot Springs Arkansas is seeking faculty for two positions for **Respiratory Therapy Program:**

Program Director, starts July 1, 2012
Director of Clinical Education, starts June 1, 2012

Applicants must meet COARC standards and are responsible for meeting classroom, clinical and lab learning activities, student advising, and committee work.

Initial funding for this program is provided by the Title III grant Strengthening Initiative with an ongoing commitment from the College.

Applicants should submit a letter of interest, resume, transcripts and the names, addresses, and telephone numbers of at least three professional references to: Respiratory Therapy Faculty Search Committee, National Park Community College, Office of Human Resources, 101 College Drive, Hot Springs, AR 71913. Visit our website, www.npcc.edu.

Applications received by March 15, 2012, are guaranteed consideration. AA/EOE

NPCC, located in Hot Springs National Park, affords varied recreational activities, outstanding health care facilities, and cultural events…a great place to call home.

National Park Community College
Learning is our focus; student success is our goal!

Clinical Associate/ Assistant Professor

The University of Kansas Medical Center is searching for a Clinical Assistant /Associate Professor (possibility of tenure track depending on credentials/qualifications) in our Respiratory Care Education department. The successful candidate will be expected to teach in the classroom and online for the subjects of cardiopulmonary physiology, pulmonary pathology, research and pharmacology. Qualified applicants will be a graduate of a CoARC accredited RRT program and hold the NBRC RRT credential; the candidate has or is qualified for licensure from the Kansas Board of Healing Arts in Respiratory Care; has a Master's degree with at least 3 years clinical experience and at least 2 years teaching experience. Prefer PhD in a related field and research experience. To be considered for this exciting opportunity, please apply at http://jobs.kumc.edu, position # M0204174. AA/EEO.

An exceptional Executive Director opportunity

exists with the American Association for Respiratory Care (AARC), a not-for-profit healthcare association, located in Dallas, Texas.

The Executive Director position reports to the AARC's President and its Board of Directors and is responsible along with a staff of 45+ for executing its Mission, Strategic Vision and Goals of this 50,000 plus member organization.

This Executive Director position requires the following qualifications:

- Registered Respiratory Therapist credential with a Master's degree in Administration, Management, Healthcare or a related field;
- 10 years in senior/executive level management role;
- Leadership characteristics necessary include: a clinical background; proven success as a leader; ability to develop and foster positive relationships with all constituents both internal and external to the association;
- Strong work ethic and excellent interpersonal and communication skills;
- Ability to build and sustain positive working relationships with association partners both domestically and internationally.

Scope of responsibility:

- Promoting high performance to achieve organizational goals and objectives;
- Directing and overseeing financial stewardship with an emphasis on efficient utilization of resources;
- Maintaining a culture of service excellence;
- Developing and maintaining positive relations within the membership, corporate partners and healthcare communities served by the association.

Qualified candidates for this position will be required to submit a 5-10 (no more than 10) page personal viewpoint on their Vision, Perspective and Personal Fit for the Executive Director position of the AARC, along with a cover letter and a resume.

Candidates, please submit your resume, cover letter and personal viewpoint by March 15 to:

American Association for Respiratory Care
ATTN: Search Committee
9425 N. MacArthur Blvd.
Suite 100
Irving, TX 75063-4706

Or

Email your documents to Karen.stewart@aarc.org

American Association for Respiratory Care

Calendar of Events

AARC & State Society Programs

April 17–19
Great Falls, MT
Montana State Respiratory Conference
Contact Bill Carmichael at williamcarmichael@benefis.org or (406) 455-5239

May 23–25
Austin, TX
Texas Society for Respiratory Care's 41st Annual Convention and Exhibition
Contact TSRC at (972) 495-9200 or www.tsrc.org

May 30 – June 1
Oak Brook Terrace, IL
Illinois Society for Respiratory Care's 44th Conference and Exposition
Contact www.isrc.org or Kelli DeBerry at deberryk@Alexian.net or (847) 981-3581

July 13–15
Santa Fe, NM
AARC Summer Meetings
Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

October 21–27
Respiratory Care Week
Contact AARC, (972) 243-2272, www.aarc.org

October 24
Lung Health Day
Contact AARC, (972) 243-2272, www.aarc.org

November 10–13
New Orleans, LA
AARC Congress 2012
Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

Other Meetings

February 26 – March 1
Keystone, CO
28th Annual Children's National Medical Center ECMO Symposium
Contact Lisa Williams at LiWillia@cnmc.org or www.ecmomeeting.com

Submissions for the next available issue are due March 17.

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 Email binkley@aarc.org

Advertiser Index

Company Name . . . . Pg #

Aerogen 3
www.aerogen.com

American Association for Respiratory Care 63
Karen.Stewart@aarc.org

ARC Medical, Inc. 14
(800) 950-2720 arcinfo@arcmedical.com

Birchwood Laboratories, Inc 7
(800) 328-6156 www.birchlabs.com

Covidien C2
www.respiratorysolutions.covidien.com

Dräger Medical 13
(800) 437-2437 www.draeger.com/respiratorycare

Electromed, Inc. 23
(800) 462-1045 www.SmartVest.com

General Biomedical 15
(800) 558-9449 www.GeneralBiomedical.com

Independence University 62
(855) 477-1022 www.independence.edu

Instrumentation Industries, Inc. 15
(800) 633-8577 (877) 633-8661 Fax
www.iiimedical.com

Maquet 61
(888) 627-8383 (973) 709-7651 Fax
www.maquetusa.com

Masimo C4
(800) 257-3810 www.masimo.com

Monaghan Medical 21
(800) 833-9653 www.monaghanmed.com

National Park Community College 63
www.npcc.edu

Nonin Medical, Inc 19
(800) 541-2071 www.onyxvantage.com

Northeastern University 11
(877) 668-7727 www.northeastern.edu/cps/respiratory

Philips Respironics 33
www.philips.com/NM3

Teleflex C3
(866) 246-6990 www.gibeck-humidflo.com

University of Kansas Medical Center 63
http://jobs.kumc.edu

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

THE 72-HOUR SHIFT

3 days of uninterrupted mechanical ventilation

Studies have shown that minimizing circuit breaks reduces VAP.[1,2] This integrated kit reduces the frequency of ventilator circuit breaks so all components, including the HME, can remain in-line during the first 3 days of mechanical ventilation, maintaining PEEP and maximizing patient outcomes.

Time to protect

gibeck-humidflo.com | 866-246-6990

References: 1. Han J, Liu Y. Effect of ventilator circuit changes on ventilator-associated pneumonia: a systematic review and meta-analysis. *Respiratory Care.* 2010;55:467-474. **2.** Coffin S MD, MPH, Klompas M MD, Classen D MD, et al. Strategies to Prevent Ventilator-Associated Pneumonia in Acute Care Hospitals. *Infect Control Hosp Epidemiol.* 2008;29:S31-S40.

Gibeck, Humid-Flo and Teleflex are registered trademarks of Teleflex Incorporated or its affiliates.
©2011 Teleflex Incorporated. All rights reserved. Lit. No. 2011-0462 v1.

Acoustic Respiration Rate

Accurate > Easy to Use > Patient-Tolerant

Introducing rainbow Acoustic Monitoring™

Masimo rainbow® Acoustic Monitoring noninvasively and continuously measures respiration rate (RRa™) using an adhesive acoustic sensor. After the sensor is easily and comfortably applied to the patient's neck, RRa helps clinicians continually assess the patient's respiratory rate.

rainbow Acoustic Sensor™

www.masimo.com

1-800-257-3810

© 2011 Masimo Corporation. All rights reserved.