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AARC Strategic Plan

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

AARC Strategic Objectives

- Validate the science of respiratory care and the value of the respiratory therapist (RT) in providing respiratory care by supporting, conducting, and publishing research information.
- Promote respiratory therapists as the best providers of respiratory care by assuring that the science that clarifies the value and role of the RT is provided to those stakeholders whose decisions and actions need to be guided by that information.
- Promote respiratory therapists and the American Association for Respiratory Care by developing and implementing promotion and marketing campaigns targeted to unique audiences.
- Assure the Association has the resources to meet the needs of its members and that the AARC has the needed financial, volunteer, and staff resources needed to accomplish the implementation of the strategic plan of the Association.

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

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Developing an Emergency Department Asthma Clinical Protocol

by Timothy B. Op't Holt, EdD, RRT, AE-C

It is well known that asthma is a major cause of morbidity, emergency department (ED) visits (nearly 2 million visits per year), hospitalization, and lost school and work days. It is reasonable to have a mechanism whereby the emergency department can treat individuals with evidenced-based asthma care efficiently and help prevent further ED visits. With this in mind, this article will explore the concept and practice of a protocol for asthma care in the ED. The questions to resolve are: what is the evidence for an emergency department asthma clinical protocol (EDACP), what are the guidelines for developing an EDACP, how are a protocol's outcomes evaluated, and what resources are available for developing an EDACP?

The evidence for an EDACP

In an excellent review of EDACPs, Self et al reported on 11 published studies.[1] His team reported that there were improved outcomes and greater evidence-based care with the use of an EDACP:

- Increased use of inhaled corticosteroids (61% vs. 36% in the control group)
- Increased use of systemic corticosteroids, either 80 mg oral prednisone or 125 mg IV methylprednisolone (82% vs. 50% in the control group)
- Reduced indiscriminant use of oxygen
- Increased use of metered dose inhalers with spacers (by 64% compared to control)
- Decreased indiscriminant orders for arterial blood gases and chest radiographs
- Increased use of serial peak expiratory flow
- Repeated doses of beta agonist in the ED (84% vs. 31% in the control group)
- Decreased hospital admission rate (36.4% vs. 23.3% in the control group)
- Decreased length of stay in the ED (3.6 vs. 2.8 hrs.)
- Saved $395,000 at one institution during the protocol period.

Self et al summarized their findings by noting that while utilizing an EDACP, there was an increase in objective assessments with FEV_1 or peak expiratory flow, there was effective therapy per national guidelines (the *Expert Panel Report 2, Guidelines for the Diagnosis and Management of Asthma* or EPR-2 at the time), cost-effective management, and reduced hospital admission rates. In a 2007 *Cochrane Review*, Tapp et al reported on the effects of mixed educational interventions in the ED.[2] The interventions they reported included use of written self-management plans, education on symptom and trigger control, provision of an information booklet, teaching medication and device use, and emphasis on the importance of follow-up. Their study revealed a clinically and statistically significant decrease in subsequent hospital admissions in the educational intervention groups (risk ratio 0.5 95% CI 0.27–0.91), improved likelihood of scheduled clinic follow-up, and decreased cost of asthma care. There were, however, no differences with education programs in lung function, quality of life, days of work or school lost, and number of patients experiencing symptoms. Unlike the Self study, the Tapp study looked at educational interventions only. Further, in a study of the use of an integrated clinical pathway in a pediatric ED, Cunningham and colleagues reported that use of the pathway resulted in a modest decrease in ED

about the author...

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Figure 1. Formal evaluation of asthma exacerbation severity in the urgent or emergency care setting.

	Mild	Moderate	Severe	Subset: Respiratory Arrest Imminent
Symptoms				
Breathlessness	While Walking Can lie down	While at rest (infant—softer, shorter cry, difficulty feeding) Prefers sitting	While at rest (infant—stops feeding) Sits upright	
Talks in	Sentences	Phrases	Words	
Alertness	May be agitated	Usually agitated	Usually agitated	Drowsy or confused
Signs				
Respiratory rate	Increased	Increased Guide to rates of breathing in awake children: *Age* < 2 months 2–12 months 1–5 years 6–8 years	Often > 30/minute *Normal rate* < 60/minute < 50/minute < 40/minute < 30/minute	
Use of accessory muscles; suprasternal retractions	Usually not	Commonly	Usually	Paradoxical thoracoabdominal movement
Wheeze	Moderate, often only end expiratory	Loud; throughout exhalation	Usually loud; throughout inhalation and exhalation	Absence of wheeze
Pulse/minute	< 100	100–120 Guide to normal pulse rates in children: *Age* 2–12 months 1–2 years 2–8 years	> 120 *Normal rate* < 160/minute < 120/minute < 110/minute	Bradycardia
Pulsus paradoxus	Absent < 10 mm Hg	May be present 10–25 mm Hg	Often present > 25 mm Hg (adult) 20–40 mm Hg (child)	Absence suggests respiratory muscle fatigue
Functional Assessment				
PEF percent predicted or percent personal best	≥ 70 percent	Approx. 40–69 percent or response lasts < 2 hours	< 40 percent	< 25 percent Note: PEF testing may not be needed in very severe attacks
PaO_2 (on air)	Normal (test not usually necessary)	≥ 60 mm Hg (test not usually necessary)	< 60 mm Hg: possible cyanosis	
and/or PCO_2	< 42 mm Hg (test not usually necessary)	< 42 mm Hg (test not usually necessary)	≥ 42 mm Hg: possible respiratory failure (See pages 393–394, 399 of referenced document.)	
SaO_2 percent (on air) at sea level	> 95 percent (test not usually necessary) Hypercapnia (hypoventilation) develops more readily in young children than in adults and adolescents.	90–95 percent (test not usually necessary)	≤ 90 percent	

Key: PaO_2, arterial oxygen pressure; PCO_2, partial pressure of carbon dioxide; PEF, peak expiratory flow; SaO_2, oxygen saturation

Notes:

- The presence of several parameters, but not necessarily all, indicates the general classification of the exacerbation.
- Many of these parameters have not been systematically studied, especially as they correlate with each other. Thus, they serve only as general guides (Cham et al. 2002; Chey et al. 1999; Gorelick et al. 2004b; Karras et al. 2000; Kelly et al. 2002b and 2004; Keogh et al. 2001; McCarren et al. 2000; Rodrigo and Rodrigo 1998b; Rodrigo et al. 2004; Smith et al. 2002).
- The emotional impact of asthma symptoms on the patient and family is variable but must be recognized and addressed and can affect approaches to treatment and followup (Ritz et al. 2000; Strunk and Mrazek 1986; von Leupoldt and Dahme 2005).
- Above references are from the EPR-3 document.

SOURCE: National Heart, Lung, and Blood Institute. Expert panel report 3: guidelines for the diagnosis and treatment of asthma: 380. Available at: www.nhlbi.nih.gov/guidelines/asthma/ *Accessed Nov. 29, 2010*

length of stay, fewer prescribing errors, provision of more education and improved advice to obtain primary care, while at the same time requiring no increase in the number of clinical contacts.[3]

It is apparent that the time and effort put into development and use of an EDACP has been effective in many ways, reflecting achievement of the goals of asthma therapy in the ED according to the EPR-3 and others, which are:

- Correction of significant hypoxemia
- Rapid reversal of airflow obstruction
- Reduction in the likelihood of relapse of the exacerbation or future recurrence of severe airflow obstruction by intensifying therapy.[4]

Guidelines for developing an EDACP

The AARC has a set of guidelines for preparing a respiratory care protocol.[5] The goal of any protocol is to deliver individualized diagnostic and therapeutic respiratory care procedures to patients in order to improve and maintain health. To prepare an EDACP, an interdisciplinary approach is needed, as physicians, RTs, nurses, AE-Cs, social workers, interpreters, and others may be involved. As such, the EPR-3 has suggested an evidence-based protocol. In it, the patient's exacerbation is classified as mild, moderate, severe, or life-threatening, based upon signs, symptoms, and peak expiratory flow or FEV_1. This is followed by the protocol for management of asthma exacerbations: emergency department and hospital-based care.[6] The AARC's guidelines have as a protocol trigger, a physician order for a therapy or protocol. Consistent with the EPR-3 protocol, the first step is patient assessment (see Figure 1), followed by formulation of an appropriate management plan.

A management plan is suggested in the EPR-3, consistent with each level of exacerbation severity (see Figure 2). Once a management plan is accepted, the various practitioners implement their part of the protocol, consistent with their scope of practice. At each step of the process, the patient is reevaluated and the plan of care is modified, consistent with the patient's improvement or lack thereof. The AARC protocol guidelines also provide for documentation of the protocol and procedures performed in the medical record and when to discontinue the protocol. In the protocol recommended by the EPR-3, the protocol concludes with the patient's discharge, hospital ward admission, or ICU admission. Additional steps for continued care are recommended for each of these conclusions that include pharmacotherapy, patient education, monitoring, and follow-up using a format similar to that shown in the EPR-3 document's Figures 5–7 (on page 402). Self et al suggest the following actions before discharge from the ED:[1]

- Prescribe systemic corticosteroids for three to 10 days.
- If the patient has persistent asthma, ensure inhaled corticosteroids are prescribed.
- Arrange continual outpatient care; arrange follow-up medical appointment in three to five days.
- Educate patient regarding use of peak flow meter, including colored zone management.
- Instruct patient regarding written asthma action plan.
- Demonstrate and observe patient use of MDI, spacers, DPI, and peak flow meter, as indicated.
- Review and discuss asthma triggers that resulted in this ED visit.

In preparation for this article, I surveyed the AARC's Asthma Disease Management Roundtable on AARConnect and the Association of Asthma Educator's listserve for experience with writing an EDACP. Cathy Vitari, BSN, RN, AE-C, at the Asthma Institute of the University of Pittsburgh Medical Center reported that the motivation for writing their protocol was to have a protocol for dyspnea to try to differentiate between asthma patients and those with vocal cord disorder (VCD) so that both could get appropriate treatment. This protocol begins with a patient assessment, then gives guidance should the cause of the patient's shortness of breath be unknown or based on known asthma or VCD. A flattened flow-volume loop helps to determine presence of VCD. In asthma, the protocol describes steps to be taken for asthma. If VCD is present, there are separate guidelines, likewise for COPD. Their protocol is based on the EPR-3 guidelines and was reviewed by participating physicians.

At the University of Michigan, Karla Stoermer Grossman reported that they have a flow sheet and an electronic asthma action plan for the ED, based primarily on the EPR-3 guidelines. They were able to secure agreement from their ED physicians to prescribe and supply patients with inhaled corticosteroids as well as prednisone packs (a three-to-five day supply of prednisone). They also provide a fluticasone MDI so the patient can start therapy without the need to stop at the pharmacy.

An important aspect of acute care protocols is the inclusion of a quality monitoring system.[7] A continuous quality improvement (CQI) program consists of five components discussed in detail in the AARC document: competency, compliance, outcomes, feedback, and customer

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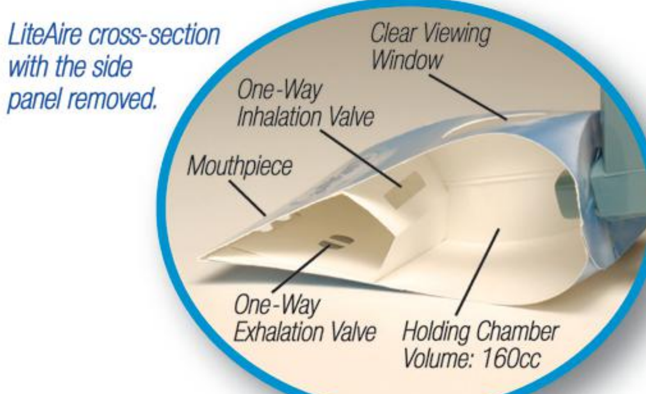

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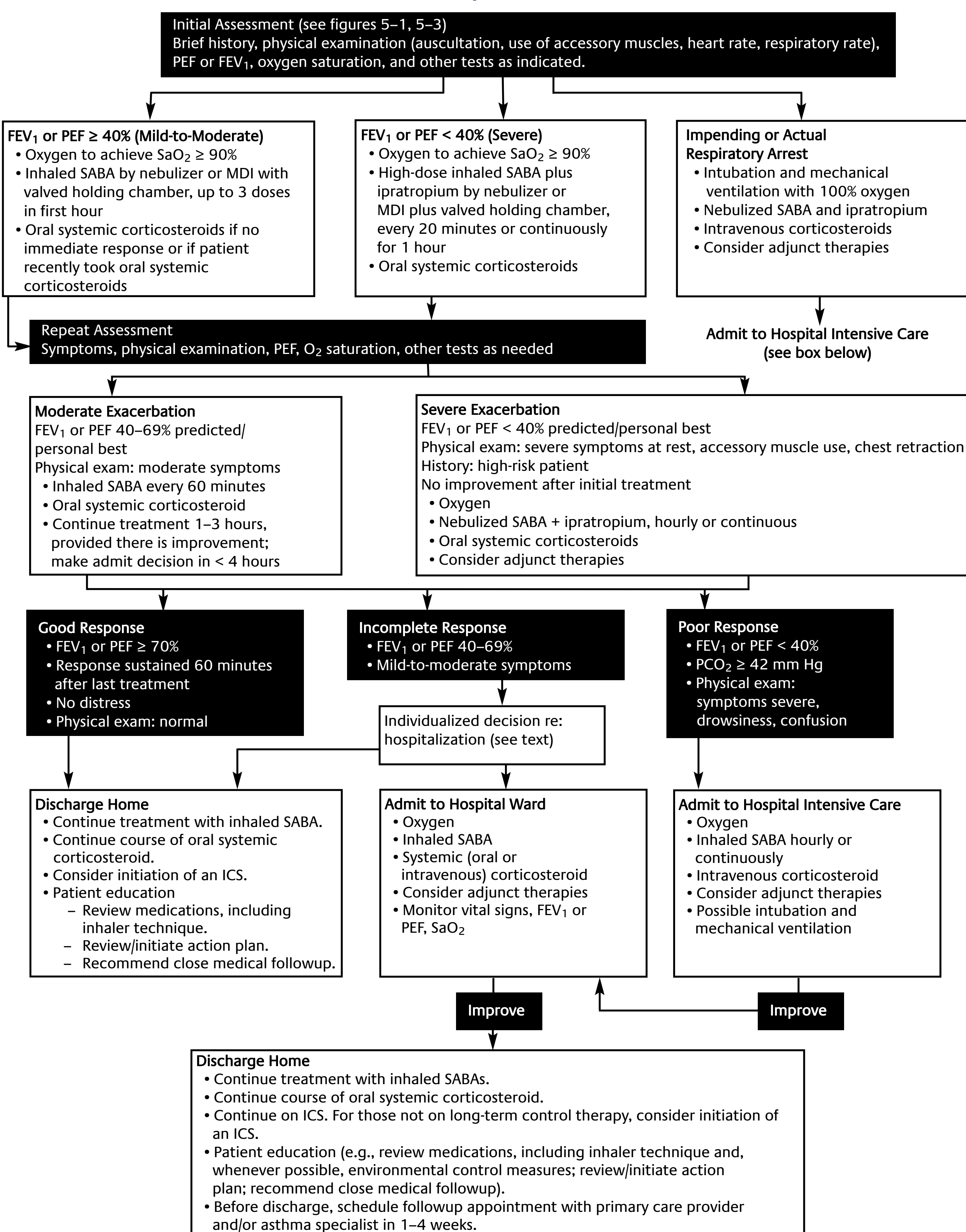
Figure 2. Management of asthma exacerbations: ED and hospital-based care.



Key: FEV_1, forced expiratory volume in 1 second; ICS, inhaled corticosteroid; MDI, metered dose inhaler; PCO_2, partial pressure carbon dioxide; PEF, peak expiratory flow; SABA, short-acting beta$_2$-agonist; SaO_2, oxygen saturation

Note: Referenced figures are in the EPR-3 document.

SOURCE: National Heart, Lung, and Blood Institute. Expert panel report 3: guidelines for the diagnosis and treatment of asthma: 388. Available at: http://www.nhlbi.nih.gov/guidelines/asthma/ *Accessed Nov. 29, 2010*

satisfaction. The staff must be competent to implement the protocol. Once the staff is trained and the protocol is implemented, its outcomes should be monitored. The CQI program should answer the question: Does the use of the protocol result in achievement of the goals outlined in the purpose of the protocol? All parties involved in the protocol must provide feedback for the purpose of evaluation on modification of the protocol. The patients, physicians, and nurses we serve by utilizing the protocol must also be able to provide a measure of satisfaction with the process. The data showing positive outcomes is illustrated in several studies, notably Self et al, and in Clark, who reviewed the outcomes of 50 studies of educational and behavioral interventions in asthma.[8] Their group determined that asthma education (not necessarily in the ED) reduced symptoms, improved quality of life, reduced health care utilization, and helped achieve symptom control. Data are often gathered face to face prior to discharge and by telephone interview after ED discharge.

How to develop an EDACP

As mentioned, and based on practitioner experience, the AARC guidelines and the protocol in the EPR-3 seem to be the most widely used. The EPR-3 is evidence-based, so it is difficult to vary too far from it. The AARC guidelines provide a medical framework as well as a management context into which an EDACP may fit.

Emergency department protocols for asthma are a valuable addition to the service provided to those with asthma. The outcomes demonstrated justify the time and effort expended to produce them. Guidelines and examples are available (starting with the AARC and the EPR-3), as are resources for the development of an EDACP. ■

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Wearing a Lot of Hats!

by Thomas Lamphere BS, RRT, RPFT

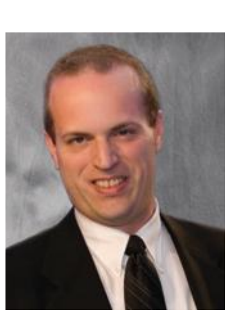
In 2008, the Pennsylvania Society for Respiratory Care (PSRC) board of directors took a bold step and hired a full-time executive director to work with the PSRC board and facilitate numerous respiratory-related activities within the state. The tremendous growth of the society's membership (from 998 members in late 2001 to over 3,400 members in 2010) as well as the implementation of numerous professional, legislative, and simply fun activities for Pennsylvania RT members has required a great amount of organization, coordination, and simple straight-up work. In order to continue this growth and provide even greater service to our members, hiring an executive director became a logical course of action.

I am fortunate to be the person selected to serve as the PSRC's first executive director and have enjoyed it immensely. The responsibilities of the position initially were many and included major emphasis on membership, coordination of educational events, website maintenance and enhancement, and more. It is now two years since my hiring, and I can now reflect on how the responsibilities of the position have changed and the adjustments that have been made along the way.

Learning the scope of the job

One of the biggest adjustments I had to make was to realize that the executive director of any organization is the person who oversees all operations. This means that I now receive calls and emails about pretty much anything and everything related to respiratory care in our state. I'm expected to have the answers to those questions, or at the very least be able to point our members in the right direction. In this regard, the legislative area has proven to be one of the biggest challenges.

about the author...



Thomas Lamphere, BS, RRT, RPFT, is executive director for the Pennsylvania Society for Respiratory Care. He also is a staff therapist at Grand View Hospital in Sellersville, PA, and an adjunct RC instructor at Gwynedd Mercy College.

During the past two years, I can't recall a week going by without my receiving at least one phone call or email with questions about the Respiratory Care Practice Act that governs respiratory therapy licensure in our state. Questions about our continuing education requirement, re-activation of a license, and scope of practice are the most frequently asked. Fortunately, the PSRC employs a lobbying firm (the Winter Group) who are worth every penny the PSRC pays them. I receive weekly email updates on state legislative issues, and the Winter Group is just a phone call and/or email away to help with *any* questions or problems that arise.

In 2008, the licensure law in Pennsylvania that governed the number of continuing education hours was revised. In my new role as PSRC executive director, I traveled to our state capital and testified on behalf of the PSRC board during the creation of the law and subsequent regulations that will implement the newly updated statute. Although the PSRC has a legislative committee (all dedicated *volunteers*), the State Board of Medicine (the group that licenses RTs in our state) met on a date on which none of the committee members could attend. Fortunately, my position allowed me to stand in for the committee and represent the PSRC.

In early 2010, the PSRC was notified of requirements for re-activating an inactive RT license. The PSRC board strongly objected to the requirements set forth by the Board of Medicine. I once again traveled to our state capital along with two PSRC members (one a department

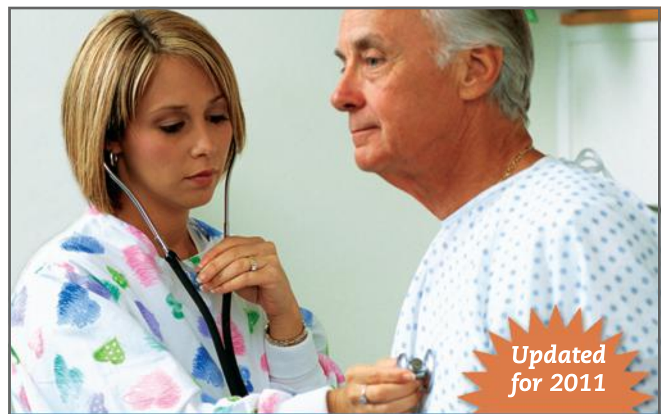
> I believe that as our profession continues to grow, more state societies will have the ability to add a part- or full-time person to help their society continue to grow.

manager and the other a program director) and representatives from our lobbying firm to explain the PSRC's objection and to try to resolve the problem.

Future growth for all RTs

I realize that having a designated executive office or director for a state respiratory society is simply not feasible for most of our states. I believe I keep company with California, Texas, and Florida. But I also believe as respiratory therapists continue to realize the benefits of membership in their professional association, that our numbers will grow and more states may have the ability to add a part- or full-time person to help the society continue to grow.

After more than two years as the PSRC's executive director, I have learned that the role requires the wearing of many hats. Membership, webmaster, conference coordinator, speaker, and "fun" events coordinator are all part of the job. However, the unexpected need to help with the PSRC legislative efforts only enhances a job that is both challenging and fulfilling… all at the same time. ■



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The Six Habits of Great Therapists

by Anthony L. DeWitt, JD, RRT, FAARC

For respiratory therapists, the issue of commitment is like the ham and egg breakfast. In the ham and egg breakfast, the chicken is involved, but the pig is committed. In every respiratory care department there are therapists who are merely involved, and not committed to the profession, the organization that employs them, and their patients. Their peers and supervisors owe it to themselves and the patients to help them address their shortcomings — or find other work.

In his acclaimed book "The 7 Habits of Highly Effective People," Stephen R. Covey discusses those habits that make a successful leader effective. In this article I want to distill some of the habits that keep therapists out of court and off the radar for their professional board.

1. Good therapists display professionalism

Professionalism is more than a word connoting lofty goals. It is an attitude and a way of life. A professional wakes up in the morning expecting to live by her code of ethics and conform to the professional norms of her calling. With a professional, the issue is never "can I get away with this," but rather, "what is best for my patient." Therapists with this kind of attitude are much more likely to avoid the courtroom than are therapists with an "anything goes" attitude.

2. Good therapists undertake continuing education

Change is constant in any profession. In the legal world, laws and rulings change and good lawyers know they must stay abreast of these developments. The same is true in respiratory care. The thinking in the 1970s and 1980s that often led to all respiratory patients getting some form of intermittent positive-pressure breathing (IPPB) was revisited in the 1990s with IPPB being saved for only those patients who truly benefited from it. As newer studies establish the evidentiary basis for medical interventions, therapists must be aware and change their behavior accordingly.

The CPR guidelines, which have changed six times in my lifetime, are another example. Yet when cross-examined, many therapists display a startlingly bad understanding of their craft. I once had a therapist in a deposition answer that if a physician ordered 17% oxygen, he would have no choice but to give it. In another, a physician confessed he had not opened a textbook since he completed his fellowship in 1973.

3. Good therapists pay attention to clinical detail

It is understandable that a therapist might assume that breath sounds would not have changed in four hours. It is not understandable to fail to listen to verify the assumption by auscultating and recording those breath sounds. Good therapists know that "the devil is in the details" in clinical care. They are alert for trends, suspicious of changes, and they investigate data that they do not understand. Good therapists understand that "assume" is the mother of all mistakes.

Good therapists trust their equipment only so far. They monitor the patient first and the pulse oximeter second. They never assume that any piece of equipment is correct — they verify. In buying monitoring equipment, they thoroughly investigate the state of the art, and they buy that equipment that ensures their patients will receive the best of care.

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.

4. Good communication is key to being a good therapist

No clinician, whether they are the physician in charge or the therapist working under a protocol, has the entire picture of a patient's care. They have only their part of it. Without good communication about what every member of the team is thinking, mistakes can happen.

In one case I tried, the defendant, a nurse, never told her supervisors that she let a one-liter bag of salt-poor solution infuse into a 30-pound two-year-old. The child developed hyponatremia; and as a result of hyponatremia, she became emetic. This was complicated later by the negligent administration of an adult dose of trimethobenzamide. The failure of communication cost the little girl her life when the nurse who gave the trimethobenzamide attributed the child's shaking to trimethobenzamide overdose instead of seizures from a drop in sodium. If the first nurse had simply owned up to the error, tragedy could have been averted.

5. Excellence in documentation makes excellent therapists

No clinician whom I have ever deposed has ever said, "Gee, I wish I hadn't written so much." In nearly every case they've said the exact opposite. Depositions often occur two to three years after an adverse event. Two years down the road, most therapists are unlikely to remember all but the most memorable of patients. And, frequently, those are not the patients who sue.

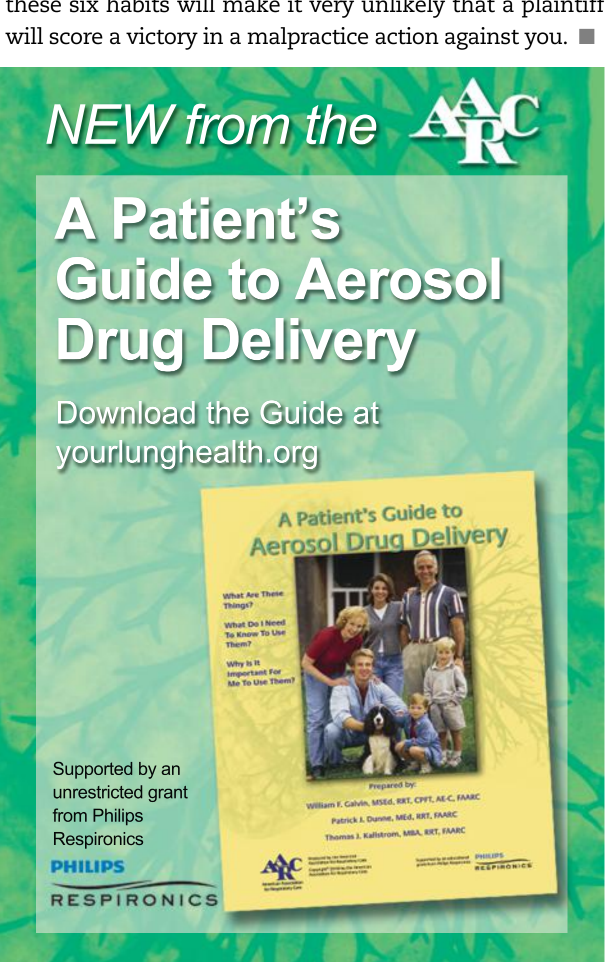
Good documentation follows a pattern. It is engrained into the therapist's practice. The therapist rarely deviates from that practice. It includes the data necessary to show that the therapist acted as a reasonable and prudent person, and there's no extraneous data. The single most important habit for a therapist to develop, from a risk management point of view, is the habit of good documentation. Often people will say, "I don't have time to write a book." So don't write one. Instead, write what you need to write to show that what you did was proper under the circumstances.

6. Authors of incident reports are good therapists

The final and *most important* part of being a competent and court-free therapist is to make sure that when things go wrong, you write an incident report. An incident report is not a "gotcha." It's not a disciplinary tool. It is, instead, a tool whereby risk managers can spot system problems and implement solutions to improve patient care. In addition, recording an unusual event is paramount to putting on a good defense if the case ever goes to trial. Incident reports are not normally discoverable. Unlike letters and memos written about patient care, an incident report is a note made in anticipation of a lawsuit and sent to an insurer or to counsel. For that reason, a plaintiff normally cannot see it. Incident reports provide helpful information to defense counsel by alerting them to facts that are not in the medical record. Failing to write one is inviting an adverse consequence two years down the road.

The final and *most important* part of being a competent and court-free therapist is to make sure that when things go wrong, you write an incident report.

Because anyone can sue anyone else for anything else, simply being the best therapist you can be is not a guarantee that you'll never be inside a courtroom. But following these six habits will make it very unlikely that a plaintiff will score a victory in a malpractice action against you. ■



Aerosol Delivery Device Barriers and Alternatives for the Elderly

by Georgianna Sergakis, PhD, RRT, CTTS

Respiratory therapists, as pulmonary disease management experts, should be sensitive to the needs of the growing population of older adults who require respiratory care. Recommended self-management of pulmonary diseases affecting older adults, like COPD and asthma, include daily aerosol medication delivery.[1-4] A systematic review of different aerosol delivery devices revealed no clinically significant differences in efficacy when used appropriately.[5] Subsequently, a wealth of literature exists to describe the age-appropriate delivery of aerosol therapy to the pediatric and neonatal population.[1,6] Although the challenges of aerosol delivery device selection overlap for both children and the elderly in some respects (e.g., coordination, manual dexterity), there are additional barriers that present in older adult self-management (i.e., comorbidities, medication adherence) of pulmonary disease. In any case, the optimization of aerosol medication delivery is imperative; yet in several studies, older adults repeatedly demonstrated poor aerosol therapy technique.[7-9] This article explores the barriers and challenges in aerosol delivery for older adult patients and examines appropriate alternatives.

Age-related changes, disease, and comorbidity

Older adults with pulmonary disease also typically have multiple chronic comorbid conditions.[10] Comorbidities such as diabetes and arthritis often limit activities of daily living (e.g., bathing, eating). These limitations, both physical and cognitive, may also affect the functional capabilities of the older adult regarding proper pulmonary disease self-management. For example, the same limitations (i.e., joint stiffness, neuropathy) that would affect the older adult's ability to turn a doorknob or hold a utensil to eat, could also affect their ability to perform a proper pressurized metered-dose inhaler (pMDI) treatment. Older adults without the manual strength to actuate a pMDI should consider a switch to either nebulized medication or breath-actuated MDI, or use adaptive equipment. The addition of a device that requires a hand squeeze rather than pressing down on the medication canister is an appropriate alternative for individuals with decreased dexterity or strength.[11,12]

Research demonstrates an age-related decline in peak inspiratory flow (PIF), independent of COPD severity, which presents another barrier in aerosol delivery device selection.[7,13] Such flow limitations prevent the required inspiratory flow for optimal delivery of the powder medication in a dry-powder inhaler (DPI). Alternatives to the DPI include nebulizers, pMDI with spacer, and breath-actuated MDIs. Furthermore, if selecting a pMDI with spacer, an additional consideration should be the severity of the patient's pulmonary disease, which may also prevent the ability to draw the required inspiratory flow to open the valve on a holding chamber/spacer device.[9,14]

Limited visual acuity related to normal aging (presbyopia) and exacerbated by some comorbidities like diabetes and prolonged tobacco dependence (i.e., retinopathy, cataracts, macular degeneration) also limit the elderly patient's ability to appropriately administer aerosolized medication as well as to read medication inserts and labels. Careful evaluation of visual limitations should be considered in the process of selecting aerosol delivery devices and patient education materials. In addition to active coaching, any take-

about the author…

Georgianna Sergakis, PhD, RRT, CTTS, is program director and assistant professor of clinical allied medicine in the School of Allied Medical Professions, College of Medicine, at The Ohio State University in Columbus, OH.

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home materials should also be consistent with recommended guidelines for older adults including: appropriate literacy level, font (larger than 12 points), sans serif type (e.g., Arial font), and abundant white space surrounding text to ease visual strain.[15]

Manual dexterity and coordination

Use of a pMDI may become difficult as hand/breath coordination is required to actuate the device. A valved holding chamber/spacer can ease the coordination of this effort.[1,6] Several alternatives exist for this population beyond the pMDI to assure the proper delivery of aerosolized medication; breath-actuated MDIs or DPIs also alleviate the requirement for hand/breath coordination. The addition of a mask to the valved holding chamber/spacer is also recommended if the individual experiences difficulty making a tight seal around the mouthpiece.

Peripheral neuropathy experienced in diabetes as well as other conditions might also challenge the older adult's ability to open the blister pack of medication, pick up, and also load the powder capsule into the DPI delivery device. In these cases, selection of a DPI with pre-loaded doses, pMDI with spacer, or use of a nebulizer might be advantageous.

> Principles of adult education include hands-on practice, linking current instruction to past experiences with delivery devices, providing opportunity for repetition, and utilizing positive reinforcement of correct technique.

Cognitive issues

Patients of advanced age or with severe COPD may also experience cognitive impairment related to disease severity, age, comorbidities (e.g., dementia, Alzheimer's disease, stroke), or as the result of chronic hypoxia/hypercapnia.[9] The effect of declining cognitive function on inhaler use has been studied and found to negatively affect inhaler technique,[3] technique retention,[16] and medication adherence.[9,16] A prospective randomized study of elderly patients with and without dementia demonstrated deficits in appropriate MDI and DPI use.[16] Dementia and/or decreased mini-mental test scores should caution the therapist to recommend nebulizer therapy[16] and conduct a learning assessment with the patient's caregiver instead of the older adult patient. This interaction should require that the caregiver demonstrate appropriate assembly, use, and cleaning of the delivery system. The instruction on cleaning and maintenance of aerosol delivery devices should create the important link between maintaining clean equipment and preventing further illness (e.g., pulmonary infections) and should align with written instructions provided to the patient and/or caregiver for future reference. The AARC's new "Patient's Guide to Aerosol Drug Delivery" is a useful tool for elderly patients and their caregivers, with detailed instructions for assembly, use, and cleaning of each specific device. It can be downloaded free at www.YourLungHealth.org.[17]

Medication adherence

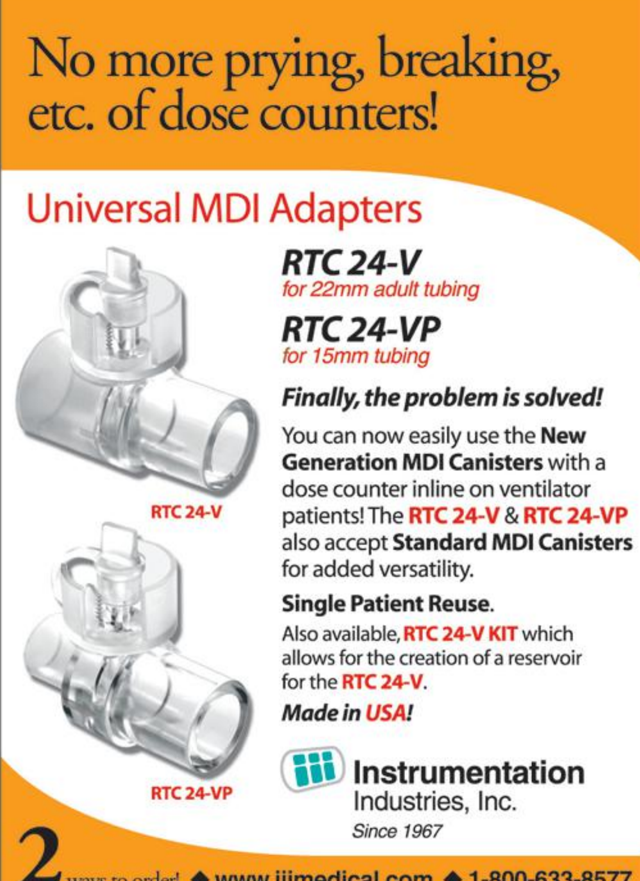
Unfortunately, even with careful selection of the appropriate device given the older adults' PIF, hand/breath coordination, and cognitive status, there are still challenges related to medication adherence.[9] For example, the patient may forget to take the medication at the appropriate time, fail to refill a prescription, underuse or overuse the medication.[18] Device characteristics like portability, time required for treatment and convenience, as well as patient attitude and lifestyle (active vs. homebound) should also be considered as they have been found to affect medication adherence.[9,18] When possible, shared decision making should occur between the older adult and RT to find the best "fit" for the patient and minimize potential barriers.[1,9] For example, an active older adult might prefer the portability of the pMDI with spacer, while an individual with more severe disease and mobility limitations might prefer a nebulizer for home use. Medication adherence extends also to the appropriate cleaning and maintenance of aerosol equipment; if the older adult is challenged to provide self-care, they might also experience challenges properly caring for a nebulizer. Appropriate time, training, and frequent reassessment with the older adult prior to discharge from the hospital, in the home, or at the physician's office is essential to minimize the risk and maximize the chance the patient will adhere to the prescribed therapy.

Partnership in teaching and learning

Despite our best efforts at careful, individualized device selection, all potential gains are lost if not accompanied by careful coaching and training on correct device use. A systematic review of randomized trials concerning teaching intervention type found a teaching inter-

vention significantly increased the likelihood of correct technique versus passive instruction such as a handout or pamphlet.[19] Clinicians must also be careful not to treat older adult patients as if they are children. The education principles used with children are not effective with older adults (tell, then test). Instead, the RT, as a health coach, should establish rapport, evaluate learning gains and shortfalls, and pay careful attention to the principles of adult education including: hands-on practice, linking current instruction to past experiences with delivery devices, providing opportunity for repetition, and utilizing positive reinforcement of correct technique.[20,21]

In summary, as respiratory therapists treat the exponentially growing cohort of older adults, take careful consideration in selecting the appropriate aerosol delivery device to minimize barriers and maximize effectiveness of aerosol therapy. This type of personalized health care for the pulmonary patient should include collaboration with the older adult patient, coaching, and repeated reassessment of technique as the standard of care. ■



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Long-term Oxygen Therapy: Mortality Predictor?

by Sam P. Giordano, MBA, RRT, FAARC

Earlier this year, a manuscript entitled "Trends in Cause-Specific Mortality in Oxygen-Dependent COPD" was published in the *American Journal of Respiratory and Critical Care Medicine*. Based on a Swedish study, it was authored by Magnus P. Ekström, MD; Philippe Wagner, MSc; and Kerstin E. Ström, MD, PhD.[1]

Many of us on the professional/clinical side still tend to take long-term oxygen therapy (LTOT) almost for granted. Indeed, our current Medicare reimbursement system enables physicians to meet patient oxygen therapy needs to varying degrees; but it is the only Medicare-recognized therapy I am aware of that does not provide a therapist (respiratory) in all instances when needed.

While there remains a dwindling number of oxygen providers who do provide respiratory therapists, this is usually done under the auspices of a private reimbursement system — as opposed to Medicare/Medicaid. In Sweden there's a centralized health care system, so there should be no barrier to providing therapeutic support for oxygen therapy patients because of reimbursement. However, they have no respiratory therapists in the country.

The Swedish study followed patients from Jan. 1, 1987, through Dec. 31, 2004. More than 7,000 patients, of which 53% were women, were followed for a median of 1.7 years. No patient was lost to follow-up, and over 5,000 patients died during the study. Overall mortality increased by 1.6% per year, which many of us would think is not surprising, given the condition of these patients and their need for supplemental oxygen. However, when you drill into the cause of death, we see that risk of death from circulatory disease increased by 2.8%, for digestive organ disease by a whopping 7.8%, and interestingly, the risk of death *decreased* by 2.7% from respiratory disease and 3.4% from lung cancer.

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.

Could it be age related?

We know the incidence of circulatory disorders — as well as other chronic conditions including lung diseases — increase with age, and certainly the aging demographics have shifted upward. However, I think the take-home point is that we can no longer ignore the nonrespiratory comorbidities that impact virtually all patients requiring supplemental oxygen. LTOT is a great benefit for patients with pulmonary diseases, and pulmonary diseases are what we treat. However, LTOT is not just for pulmonary conditions. We need to do better going forward as a world health community in recognizing and supporting patients with comorbidities such as cardiovascular disease. This means we need to more precisely diagnose our patients in terms of all comorbidities, while at the same time selecting the appropriate delivery systems required to support not just pulmonary disease but the range of comorbidities these patients commonly experience.

As we continue to refine out nation's health care system, we must bear in mind that long-term oxygen therapy needs to be tailored to each patient on an individual basis. This requires a greater commitment to assessing the patients' oxygen needs as well as the severity of their comorbidities.

The RT's challenge

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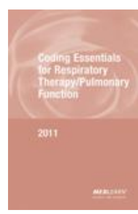

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LTOT with cardiovascular diseases in addition to pulmonary disease. There seems to be no question that LTOT does benefit patients with chronic lung disease. After all, the pulmonary causes of death decreased in the Swedish study; but that trade-off may have occurred by the increased non-respiratory causes of death.

We should bear in mind that there has been significant improvement over the last several years regarding the treatment of COPD and lung cancer. We need to also consider that since the data from the Swedish study was taken from death certificates, the potential for under-reporting a particular disease exists. Nonetheless, the death rate remains higher for patients with severe COPD who have cardiovascular comorbidities.

We know that reductions in risk factors (such as decreased smoking) are improving mortality rates for patients with cardiovascular disease who do not have a comorbidity of COPD. But we do not know why COPD patients with cardiovascular disease did not have the same result, according to this study.

Possible game changer

As always in science, there needs to be more research; but the results of this particular study may be significant if we are to help our LTOT patients improve their cardiovascular status as well as their pulmonary status. LTOT will undergo change as we move forward — not the least of which will be targeting saturations in order to assure adequate oxygenation regardless of the activity level of our patients. Perhaps this will be a game changer for our patients and for you. ■

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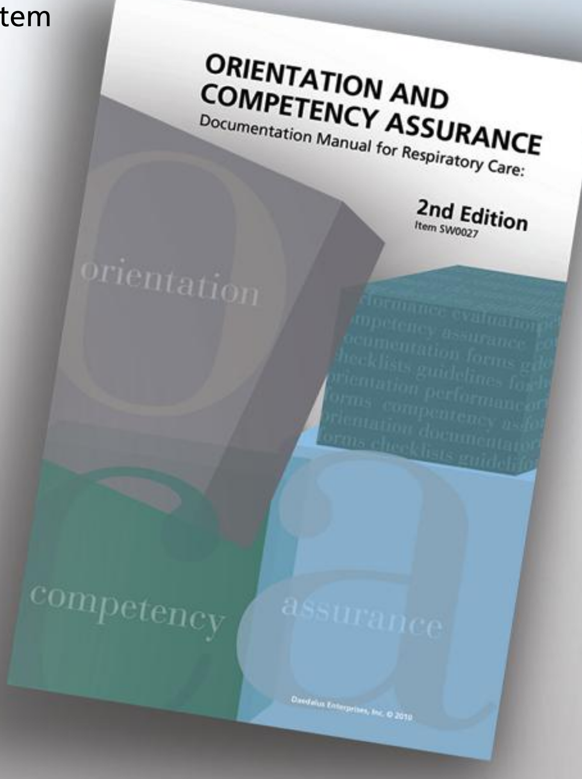

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Catching Up with the Literature

The following studies on mechanical ventilation have been published over the last few months.

DP replaces mechanical ventilation in ventilator-dependent children

Investigators from University Hospitals/Case Medical Center in Cleveland, OH, report the first use of diaphragm pacing (DP) to replace mechanical ventilation in ventilator-dependent children in the January issue of the *Journal of Pediatric Surgery*, describing how they implanted six children ranging in age from 5–17 with four percutaneous intramuscular electrodes using laparoscopic diaphragm motor point mapping to identify the site where stimulation causes maximum diaphragm contraction. The children had been on mechanical ventilation for an average of 3.2 years, with length of time ranging from 11 days to 7.6 years.

DP provided tidal volumes above basal needs in all six children, and five underwent a home-based weaning program. The sixth child, who was implanted just 11 days post spinal cord injury, never returned to the ventilator with DP use. One patient was weaned from the ventilator but died due to complications of his underlying brain stem tumor. The remaining four children had weaned from the ventilator for more than 14 hours a day and/or were actively conditioning their diaphragms by the end of the study.

SF ratio predicts success with NPPV

A new study out of Brigham and Women's Hospital in Boston, MA, suggests the oxygen saturation/fraction of inspired oxygen (SF) ratio can be a good predictor of which patients will improve with clinical management by noninvasive positive pressure ventilation (NPPV).

The investigation followed 133 patients, finding an overall NPPV success rate of 41%. Patients with malignancies were significantly less likely to have success with NPPV than patients without malignancies. Among patients without malignancies, SF ratios and SF/minute ventilation ratios were linked to NPPV success, and further analysis indicated an SF ratio of <98.5 to be a specific predictor of NPPV failure. Among patients who required 24 hours of NPPV or more, a tidal volume/predicted body weight ratio was negatively correlated with respiratory improvement. The authors believe these results could "be used to help guide the management of critically ill patients who require ventilatory support."

The study appeared in the Oct. 29 Epub edition of the *Journal of Critical Care*.

APRV beats other open lung strategies

Airway pressure release ventilation (APRV) may outperform other open lung ventilator strategies, report investigators from Upstate Medical University in Syracuse, NY. Their study in the Nov. 12 Epub edition of *The Journal of Surgical Research* compared low tidal volume ventilation, high-frequency oscillatory ventilation (HFOV), APRV, and recruitment and decremental PEEP titration (RM+OP) in 22 pigs that were followed for six hours. Both lung and hemodynamic function were assessed every 30 minutes. Bronchoalveolar lavage fluid (BALF) was analyzed for cytokines, and lung tissue was harvested for histologic analysis.

The PaO_2/FiO_2 ratio increased and ventilation improved with both APRV and HFOV, but APRV reduced BALF TNF-α and IL-8 while HFOV caused an increase in airway hemorrhage. RM+OP decreased SvO_2, increased $PaCO_2$, and led to more inflammation of lung tissue. The authors conclude: "These data suggest that APRV may be of potential benefit to critically ill patients, but other 'open lung' strategies may exacerbate injury."

NAVA outperforms PSV in weaning phase

French researchers publishing in the October issue of *Anesthesiology* attribute the significant improvement in patient oxygenation seen with neurally adjusted ventilatory assist (NAVA) ventilation in their study of 15 patients to the greater respiratory parameter variability afforded by NAVA when compared to pressure support ventilation (PSV).

The patients were ventilated with PSV and NAVA for 24 hours each in a randomized, crossover order. Twelve of the 15 completed the trial, with results showing:

- The mean PaO_2/FiO_2 ratio in NAVA was significantly higher than with PSV.
- $PaCO_2$ did not differ significantly between the two modes.
- The median tidal volume with NAVA was significantly lower than with PSV.
- Variability of insufflation airway pressure, tidal volume, and minute ventilation were significantly higher with NAVA than with PSV.

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- Electrical activity of the diaphragm variability was significantly lower with NAVA than with PSV.

All of the patients were tested in the weaning phase subsequent to surgery.

New technology may delay brain death determination

Could new ventilator technology designed to facilitate triggering of mechanical breaths be impacting the availability of organs for donation? Yes, report researchers from Baystate Medical Center in Springfield, MA. Noting that minimal changes in circuit flow unrelated to respiratory effort can trigger a ventilator breath when using this new design, they questioned whether these breaths could lead clinicians to delay a diagnosis of brain death in patients with brain injury.

The investigators observed nine brain-injury patients with a high clinical suspicion for brain death, including the absence of cranial nerve function with apparent spontaneous breathing during patient-triggered modes of mechanical ventilation. When formally assessed for apnea, no spontaneous respirations were seen. The lag time between actual brain death and its determination could not be identified.

The authors conclude: "When brain-dead patients who are suitable organ donors are mistakenly identified as having cerebral activity, the diagnosis of brain death is delayed. This delay impacts resource utilization, impedes recovery and function of organs for donation, and adversely affects donor families, potential recipients of organs, and patient donors who may have testing and treatment that cannot be beneficial." They suggest immediate formal apnea testing for patients with catastrophic brain injury and absent cranial nerve function to ensure more organs are available for transplant before it is too late. The researchers published their findings in the Jan. 8 Epub edition of *Neurocritical Care*.

Pressure support, noisy pressure support linked to better outcomes

In a study conducted in 24 juvenile pigs, an international group of investigators has found that conventional pressure support ventilation improves lung function and attenuates the pulmonary inflammatory response compared to pressure-controlled ventilation. What's more, random variation of pressure support levels adds to the beneficial effects.

The investigators induced acute lung injury in the animals via surfactant depletion, then randomly assigned them to six hours of mechanical ventilation with either pressure-controlled ventilation, pressure support ventilation, or noisy pressure support ventilation. During the latter intervention, pressure support was varied randomly, with values following a normal distribution. The driving pressures were set to achieve a mean tidal volume of 6 mL/kg in all the groups.

When compared to pressure-controlled ventilation, both pressure support ventilation and noisy pressure support ventilation improved gas exchange and were associated with reduced histologic damage and interleukin-6 concentrations in lung tissue taken from the animals following the experiment. Further improvements in gas exchange were seen with noisy pressure support ventilation, and this mode also decreased the inspiratory effort while reducing alveolar edema and inflammatory infiltration.

The study appeared in the Jan. 21 Epub edition of *Critical Care Medicine*.

Adherence to semirecumbency guidelines found lacking

A new study conducted in 32 ICUs in Australia and New Zealand sheds some light on adherence to guidelines calling for the use of semirecumbency to prevent ventilator-associated pneumonia in ventilator patients. The investigators recorded backrest elevation, mean arterial pressure, use of inotropic agents, enteral feeding, and weaning status in 371 patients three times per day

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Sponsored by the ARCF, fellowships are available from the AARC to health care professionals from outside the U.S. who exhibit a profound interest in respiratory care.

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.

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

over seven consecutive days, for a total of 2,112 measurements. Among the findings:

- Backrest elevation of ≥45° was noted for 112 of the 2,112 measurements, or 5.3%.
- Elevation of ≥30° but <45° was noted for 472 of the 2,112, or 22.3%.
- Contraindications to semirecumbency were noted during 447 measurements.
- Increased backrest elevation occurred during enteral feeding and weaning.
- Decreased backrest elevation was associated with inotropic support, decreased mean arterial pressure, and organ failure.
- For measurements recorded with no contraindication to semirecumbency, weaning status and the SOFA(max) score remained associated with the degree of backrest elevation.

The authors conclude, "The findings of this multicenter, observational study suggest that backrest elevation was less than recommended and was influenced by clinical practices and patient condition." The study appeared in the November issue of the *American Journal of Critical Care*.

Pediatric ventilator unit saves on costs

Hospitals that care for ventilator-dependent children might save on costs by establishing a pediatric ventilator unit. That's the take-home message from University of California, San Francisco researchers who compared costs for 103 children who were cared for in both the PICU and the pediatric ventilator unit during hospitalizations that occurred between 2004 and 2007.

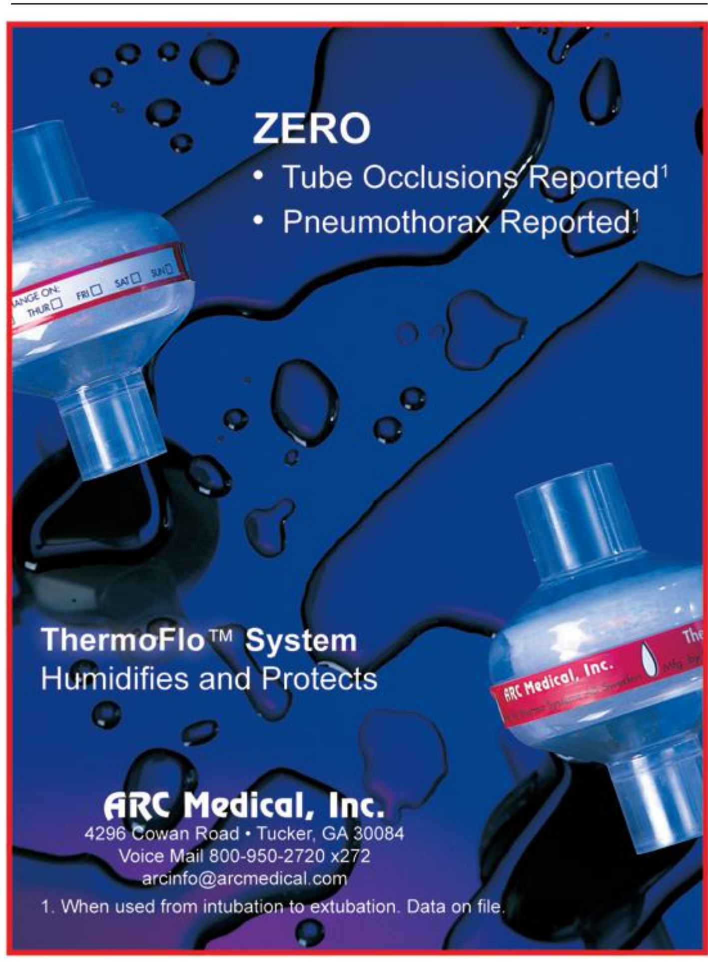
Costs were compared using the last full PICU day and the first full ward day. The mean PICU cost per day was $3,565 versus $2,052 per day on the ward. Overall mean PICU costs were also greater than overall mean ward costs. "Ventilator ward total and variable costs were significantly less than those in the PICU, and such units represent a potential cost saving measure for hospitals that care for ventilator-dependent children," conclude the authors. The study was published in the Nov. 24 Epub edition of *Pediatric Pulmonology*.

New strategy improves aeration

Swedish researchers found that tidal elimination of carbon dioxide and dynamic compliance-guided lung recruitment and PEEP titration in surfactant-depleted piglets resulted in improved aeration and reduced ventilation pressures when compared to conventional end-tidal carbon dioxide targeted ventilation.

The study began by ventilating all of the piglets at an end-inspiratory pressure of 20 cm H_2O, a PEEP of 5 cm H_2O, and a tidal volume of 10 mL kg for an end-tidal carbon dioxide target of 30–45 torr followed by five minutes of ventilation without PEEP. From there, the control group was ventilated for the same end-tidal carbon dioxide target while PEEP was increased in the recruitment group to 15 cm H_2O. The recruitment group was then divided into two, with the end-inspiratory pressure increased in steps of 3 cm H_2O to a tidal elimination of carbon dioxide peak/plateau in the first and further increased in two steps in the second. A downward PEEP titration was followed by continuous dynamic compliance monitoring, and the open lung PEEP was set 2 cm H_2O above the PEEP at the first dynamic compliance decline and used for a final open lung ventilation period.

Both of the recruitment groups demonstrated improved aeration, lower ventilatory pressure amplitude, and better dynamic compliance. Aeration did not improve with recruitment using airway pressures above the tidal elimination of carbon dioxide peak/plateau. Aeration was restored with end-tidal carbon dioxide targeted ventilation in the control group after the ventilation without PEEP, but researchers did not note recruitment or an improvement in dynamic compliance. The study was published in the Jan. 21 Epub edition of *Pediatric Critical Care Medicine*. ■



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  Moderator: *Tom Kallstrom, MBA RRT FAARC*
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  This presentation will review best practices in managing COPD patients with an emphasis on management of co-morbid conditions that frequently afflict these patients. Treatment strategies to maximize their care will be discussed.

- **Sleep and Sleep-Disordered Breathing in the Hospitalized Patient**
  Professor: *Peter C. Gay, MD*
  Moderator: *Suzanne Bollig, BHS RRT RPSG R. EEG T*
  Item PR20112
  This presentation will review a variety of sleep disordered breathing topics including the consequences of sleep deprivation and disruption in the hospital, the role of sleep and its impact on liberation from the ventilator, and post-operative management of the OSA patient. Sleep intervention protocols and other sleep-related topics of the hospitalized patient will be reviewed.

- **Minimizing VAP in 2011– How Respiratory Therapists Can Contribute**
  Professor: *Marcos I. Restrepo, MD*
  Moderator: *Tom Kallstrom, MBA RRT FAARC*
  Item PR20113
  This presentation will describe the best practices for reducing ventilator associated pneumonia and describe key roles respiratory therapists can play in institutional efforts to reduce VAP.

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The Role of Safety Checklists in Healthcare: Bother or Necessity?

Professor: *Timothy McDonald, MD JD*
Moderator: *Sam Giordano, MBA RRT FAARC*
Item PR20114

This presentation will review the history of the use of checklists and other standardized procedures to improve outcomes in various industries and discuss how they are being adopted for use in healthcare to reduce errors and improve patient safety.

Noninvasive Ventilation of Neonatal-Pediatric Patients: Do We Really Want to Intubate?

Professors: *Rob DiBlasi, RRT-NP FAARC, and Ira Cheifetz, MD FAARC*
Moderator: *Tom Kallstrom, MBA RRT FAARC*
Item PR20115

This presentation will identify clinical circumstances that favor the use of NIV to support ventilation and explore the evidence supporting the use of non-invasive ventilation in neonatal and pediatric patients.

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Tracheostomy: Current Practice

Professor: *Alexander White, MD*
Moderator: *Dean Hess, PhD RRT FAARC*
Item PR20116

This presentation will review the literature addressing the indications and proper technique for tracheal cannulation, tracheal airway devices, stoma care, as well as changing and decannulation practices. A review of current tracheostomy controversies will be included.

Four Evidence-Based Practices That Should Be Mechanical Ventilation Standards

Professor: *Dean Hess, PhD RRT FAARC*
Moderator: *Rich Branson, MS RRT FAARC FCCM*
Item PR20117

This presentation will review the evidence supporting non-invasive ventilation, lung-protective ventilation, ventilator liberation protocols, and ventilator-associated pneumonia prevention.

The Many Faces of PEEP

Professor: *Rich Branson, MS RRT FAARC FCCM*
Moderator: *Dean Hess, PhD RRT FAARC*
Item PR20118

This discussion will focus on the application of PEEP not only in the context of ALI/ARDS but also in other applications such as of PEEP for alveolar recruitment (ARDS), counterbalancing auto-PEEP, prevention of micro-aspiration, and facilitating speech.

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Truck Drivers and Sleep Apnea: Is There a Connection?

by Tony Stigall, MBA, RRT, RPSGT

Trucking companies, warehouses, and the private sector in the United States employ approximately 8.9 million people in truck-related jobs. Of these workers, almost 3.5 million carry a commercial driver's license and are commercial motor vehicle (CMV) truck drivers.[1] In general, a CMV is a vehicle used as part of a business and is involved in interstate commerce with a gross vehicle weight rating (GVWR) or gross combination weight rating of 10,001 pounds or more. A vehicle involved in interstate or intrastate commerce and transporting hazardous materials in a quantity requiring placards is also considered a CMV.[2]

The U.S. economy relies heavily on CMV truck drivers to deliver 70% of all freight transported annually. In addition, CMV truck drivers account for $671 billion worth of manufactured and retail goods transported in the United States alone.[1]

Obstructive sleep apnea

Obstructive sleep apnea (OSA) is a sleep disorder in which there is a complete or partial obstruction or closure in the upper airway lasting at least 10 seconds or more. These airway disruptions can occur hundreds of times per night, causing sleep disturbances that can lead to poor sleep quality and excessive daytime sleepiness. Sleepiness can impair a driver by causing slower reaction times, vision impairment, lapses in judgment, and delays in processing information.

According to the Divided Attention Driving Task, a research test showed that being awake for more than 20 hours results in an impairment equal to a blood alcohol concentration of 0.08%, the legal limit in all states.[3] Given that all humans require sleep on a daily basis, drivers who have not obtained adequate sleep may be fatigued or be at higher risk for experiencing decreased alertness or microsleep (lasting one to 30 seconds): factors contributing to fall-asleep crashes.[4]

about the author...

Tony Stigall, MBA, RRT, RPSGT, is president of Space Coast Sleep Disorders Center in Melbourne, FL, and serves the AARC on the Board of Directors as chair of the Sleep Specialty Section.

Prevalence of OSA among commercial truck drivers

A research study sponsored by the Federal Motor Carrier Safety Administration (FMCSA) was performed by the University of Pennsylvania to estimate the prevalence of OSA in a sample of commercial truck drivers living within a 50-mile radius of the university. Approximately 1,391 individuals participated in the study.[3]

A multivariable apnea prediction (MAP) was used to calculate a MAP score based on age, gender, and body mass index to determine the driver's placement into higher risk and lower risk categories for the likelihood of sleep apnea. A total of 778 drivers scored high on the MAP and were placed in the higher risk group, while 551 drivers with low MAP scores made up the lower risk group. All drivers in the higher risk group were enrolled in in-laboratory testing, while those in the lower risk group were enrolled in random order for in-laboratory testing.

The results of the study revealed that a total of 28.1% of the commercial driver's license holders in the study had sleep apnea: 17.6% had mild sleep apnea, 5.8% had moderate sleep apnea, and 4.7% had severe sleep apnea. The study also revealed that the prevalence of sleep apnea depends on the relationship between two major factors — age and degree of obesity — with prevalence increasing with both. Another study identified by the FMCSA revealed that short sleep dura-

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tion (six or less hours per night) results in an increase in the prevalence of sleep apnea.[3]

A Sleep Apnea Crash Risk Study was later performed by the FMCSA to obtain additional and more meaningful crash data by linking the University of Pennsylvania sleep apnea database to the FMCSA Motor Carrier Management Information System crash database. This study showed no statistical evidence to suggest that the presence of sleep apnea significantly increases the likelihood or the risk of motor vehicle crashes.[5]

A major challenge for the FMCSA associated with ensuring driver safety against the adverse effects of sleep apnea is to develop cost-effective ways of identifying at-risk drivers and finding a solution to this treatable and preventable problem.

Diagnosis and treatment of OSA

Symptoms of OSA may include snoring, excessive daytime sleepiness, witnessed apnea, mood irritability, impotence, anxiety, depression, frequent urination at night, morning headache, memory loss, and comorbidities (e.g., hypertension and Type II diabetes). The technologist-attended overnight polysomnogram is the diagnostic tool used to identify OSA, although the use of home sleep tests to diagnose OSA are on the rise. Continuous positive airway pressure (CPAP) is the gold standard in treating OSA. However, not all patients can tolerate CPAP. Bi-level PAP, dental appliances, positional sleeping, weight loss, and surgery may be alternative treatments for OSA.

If CPAP is the treatment option, there are unique considerations for transportation employees. Many CPAP units can be used in a sleeping berth if there is a conventional 120 VAC power source. Some CPAP units can also be powered by a power inverter if the power source is DC only.

It's also important to consider access to interface devices for transportation employees. Since transportation employees may be in many different locations, having an opportunity to obtain interface devices and other necessary supplies is an important consideration. Some home care and DME companies provide this service to patients regardless of location.

2008 large truck crash overview

A recent FMCSA study revealed the following trends:[6]

- In 2008, 37,261 people were killed in U.S. motor vehicle crashes, of which 11% died in crashes involving a large truck (GVWR > 10,001 pounds).
- 90,000 people were injured in crashes involving large trucks.
- Only 16% of those killed and 26% of those injured were occupants of large trucks.
- The number of large trucks involved in fatal crashes dropped from 4,920 in 1998 to 4,066 in 2008 — down by 17.4%.

The downward trend in large truck mortalities may be attributed to federal and state regulations designed to decrease large truck fatalities and to maintain motor carrier operational efficiencies by increasing awareness of sleep disorders and improving sleep hygiene.

FMCSA promotes safer operation of commercial vehicles

The mission of the FMCSA is to promote the safe operation of commercial vehicles on our nation's highways. In an attempt to continue a downward trend in truck fatalities and maintain motor carrier operational efficiencies, the FMCSA mandates the hours-of-service (HOS) regulations for property-carrying and passenger-carrying CMV drivers. The HOS sets limits that determine when and how long a CMV driver may drive (many states have identical or similar regulations for intrastate traffic). The HOS for property-carrying CMVs is summarized below.[2]

- **11-hour driving limit:** May drive a maximum of 11 hours after 10 consecutive hours off duty.
- **14-hour limit:** May not drive beyond the fourteenth consecutive hour after coming on duty, following 10 consecutive hours off duty. Off-duty time does not extend the 14-hour period.
- **60/70-hour on-duty limit:** May not drive after 60/70 hours on duty in seven/eight consecutive days. A driver may restart a seven/eight consecu-

tive day period after taking 34 or more consecutive hours off duty.

- **Sleeper berth provision:** Drivers using the sleeper berth provision must take at least eight consecutive hours in the sleeper berth, plus a separate two consecutive hours either in the sleeper berth, off duty, or any combination of the two.

Risk factors for fall-asleep crashes

Although efforts by federal and state agencies to decrease large truck crashes and mortality rates has shown statistical improvement in reducing fatalities, holders of commercial driver's licenses must also take the initiative to become educated about risk factors for drowsy driving and be willing to seek help from a professional if these issues cannot be resolved on their own.

Sleep loss from restriction, intrinsic or extrinsic interruption or fragmentation, chronic sleep debt, long shifts, circadian factors associated with driving patterns or work schedules, use of sedating medications, and consumption of alcohol can increase crash risk significantly. Crashes tend to occur at times in keeping with one's circadian rhythms when sleepiness is most pronounced, such as the mid-afternoon and night.[4] Driver alertness and performance were more consistently related to time of day than to time on task. Drowsiness episodes were eight times more likely between midnight and 6 a.m. than during other times.[7] Therefore, individuals driving at night are more susceptible to have fall-asleep crashes. Additionally, individuals who are excessively sleepy due to lifestyle choices leading to poor sleep hygiene or an untreated sleep disorder are more susceptible to having crashes related to excessive daytime sleepiness.

RTs can make a difference

The training the respiratory therapists receive in cardiopulmonary sciences and mechanical ventilation provides us with excellent insight and knowledge in treating patients with obstructive sleep apnea in the laboratory and the home. On Dec. 14, 2010, the National Board for Respiratory Care was granted accreditation from the National Commission for Certifying Agencies (NCCA) for the Sleep Disorders Specialty Examination. The SDS Examination program is designed specifically for a respiratory therapist with an NBRC respiratory care credential and experience or education in the field of sleep medicine. If you are interested in earning a recognized credential in the field of sleep medicine, please visit: https://www.nbrc.org/Examinations/SDS/tabid/92/Default.aspx for more information. ■

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Home Ventilator Program: Is It Just a Piece of Equipment?

by Joseph Lewarski, BS, RRT, FAARC

Home care is recognized as one of the most important, cost-effective, and evolving settings for the long-term care and management of patients with chronic conditions — most specifically chronic cardiopulmonary disorders.[1] Of the many chronic conditions managed outside of the institutional setting by respiratory therapists, patients with chronic respiratory insufficiency and/or respiratory failure requiring invasive home mechanical ventilation (HMV) represent some of the most medically complex, challenging, and rewarding cases.

Drivers of HMV

Rising acute and subacute health care costs and limited chronic care bed space, along with cost pressures from third-party payors, are frequently cited as some of the key drivers of the discharge of technology-dependent patients to the home. However, there are many other important drivers, which include but are not limited to a growing social acceptance of persons with disabilities, the recognition of the role of home care, plus the significant medical technology advances that help to empower both professional and non-professional caregivers to safely and effectively manage medically complex and HMV patients in the home.[2]

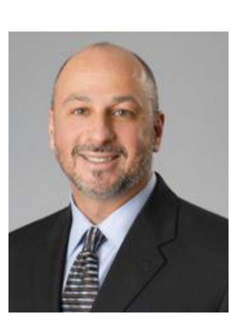
Population of HMV patients

There is very little accurate information regarding the number of invasive ventilator-assisted individuals (VAI) living at home in the United States. In the 1998 American College of Chest Physicians (ACCP) consensus report on mechanical ventilation beyond the ICU, the authors estimated there were 10,000–20,000 VAIs in the home.[1] A recent paper on home mechanical ventilation published in CHEST, which examined Medicare and Medicaid claims data, suggests the number of invasive VAIs in the United States is more likely to be closer to the lower, 10,000 patient number cited in the ACCP 1998 estimate.[3]

Medical policy and insurance coverage

It is nearly impossible to talk about home care without some discussion of medical policy and insurance coverage: two key factors that drive behaviors and, ultimately, practice. Like many other areas within medicine, there is a lack of strong, evidence-based data to serve as a guide for establishing standardized medical policy and coverage rules for HMV. As a result, much of the HMV care, equipment, supplies, and services are based around payor-specific reimbursement rules, local practice beliefs and behaviors, and the home medical equipment (HME) provider's internal policy and procedures. Unlike home oxygen therapy, positive airway pressure therapy, and noninvasive ventilation (i.e., bilevel with a backup rate), there is no standardized Medicare national coverage determination (NCD) governing home mechanical ventilation or a local coverage decision (LCD) among the Durable Medical Equipment Medicare Administrative Carriers. Despite the lack of a specific published invasive mechanical ventilation medical necessity and payment policy, Medicare, Medicaid, and most private insurance companies routinely provide coverage for home mechanical ventilators and related equipment. In most cases, coverage requires a physician order along with the documented evidence of appropriate medical necessity (i.e., diagnosis of respiratory failure).

Even with this lack of a standardized coverage policy or an abundance of scientific evidence, there is both



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

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commonly practiced and written consensus guidelines that often serve as a form of "de facto" standard of care. One such document comes from the AARC Clinical Practice Guidelines (CPGs). Although primarily an expert consensus-based guideline, the AARC CPG for long-term mechanical ventilation in the home is an excellent resource and can serve as an ideal reference for the development of a HMV policy.[4]

From the hospital to home

Invasive HMV is arguably one of the most complex mixes of technology and clinical services provided in the alternate site environments and one of the few truly life support therapies provided in the home. An optimal and successful HMV program starts with a well organized care plan, a committed team of family/caregivers, strong interdisciplinary team support, and truly effective discharge planning.[5] Physicians, home respiratory therapists, nurses, physical therapists, insurance case manager, and most importantly, family/caregiver acceptance and buy-in are key components of any technology-dependent patient home transition and management plan. For many lay caregivers, especially new parents and elderly spouses dealing with a medically fragile loved one, the HMV training and transition process can be very traumatic and frightening.[6,7] Experience has repeatedly demonstrated that allowing adequate time for effective caregiver training, the preparation of the home environment, and the coordination of care among the various agencies is critical in reducing discharge-related problems and significantly increasing the probability of a successful transfer to home. For many patients, their immediate and extended family become their primary caregivers, often with limited professional support beyond the periodic home respiratory therapist visits. As such, it is extremely important to ensure the family/caregivers are well trained, confident, competent, and comfortable with the equipment and procedures required to manage their VAI in the home. These issues are especially important as we enter a new era of health care policy that will be closing, monitoring, and penalizing acute care institutions for unplanned readmissions.

It's not a revelation, but everyone involved in HMV should be ever cognizant that the home is not the hospital, the long-term acute care facility, or even a skilled rehabilitation facility. More than ever we must respect and appreciate the needs of the patient and their family/caregivers once they leave the comfort and security of the institutional setting.

Steps to an optimal HMV program

The following seven steps are from the article "Current Issues in Home Mechanical Ventilation" published in CHEST and represent seven key elements/steps to a successful home mechanical ventilation program.[3] Although not all of these steps are supported with published evidence, they are experience- and expert-developed methods and tactics designed to promote the best clinical and lifestyle outcomes.

1 **Create a safe home environment.** As stated previously, the home is not a hospital, and extra steps must be taken to make it as safe as possible for both the patient and their family/caregivers. Although there are no evidence-based standards for determining what is a "safe" environment in a given home (and such can be very subjective), many home ventilator providers seek to ensure there is an adequate and physically sound space available for the patient and equipment, appropriate electrical power supply, and the ability to create an environment that minimizes the risk of infection.

2 **Start planning early.** It has been said that good discharge planning starts at the time of admission and that the more complex the case, more time for training and preparation is needed. The combination of coordinating the family/caregiver training, meeting and coordinating with outside agencies, and working through insurance coverage and authorizations can prove very complicated and time consuming. The sooner these efforts are initiated, the smoother the process.

3 **Be cognizant of the insurance coverage rules.** Understanding the rules of engagement and developing a plan around such is essential.

4 **Simplify the care plan.** Concentrate on the important issues. In nearly all cases, the immediate family often serves as the primary caregivers; so it is beneficial to develop a home care plan that can be consistently and safely executed by these caregivers.

5 **Allow adequate time for patient and caregiver training.** Many home ventilation experts promote a minimum two-to-three week training and transition period. Training is generally quite comprehensive and, depending on the caregiver schedule and aptitude, often needs to be spread

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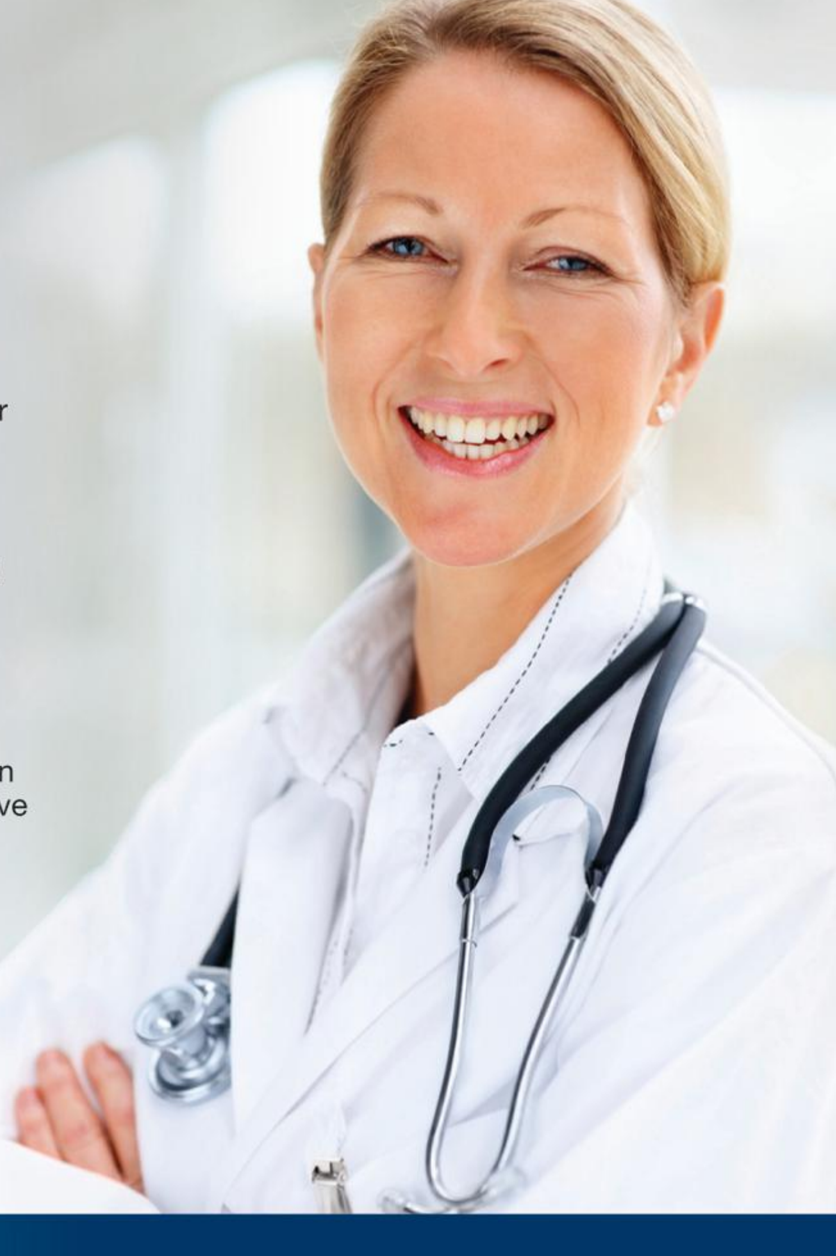

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out over a series of days and weeks. Training time also includes trials and transition to the homegoing ventilator. In a recent study by Tearl and Hertzog, they report positive results of a systematic, RT-driven education program for the home discharge of technology-dependent children.[8]

6 **Maintain effective communication between organizations.** Management of home VAIs requires coordination and effective communication among numerous organizations, including the specialty physician practices, the primary care physician, the HME provider, the home health agency, the pharmacy, and often the insurance case manager.[9]

7 **Develop an organized follow-up process.** Generally, respiratory-led follow-up programs are central to effective and optimal HMV programs.

Providing a safe environment of care

Most home respiratory therapists agree that home mechanical ventilation is one of the most intense and complex of all home care services. The primary goal of all HMV programs is to ensure a safe and clinically appropriate environment of care. When properly executed, the home offers VAIs a more cost-effective, clinically sound, and emotionally ideal point of care. As health care policy continues to evolve and the costs continue to increase, the provision of clinically and technically complex care in the home to stable but chronically ill patients becomes even more relevant. ■

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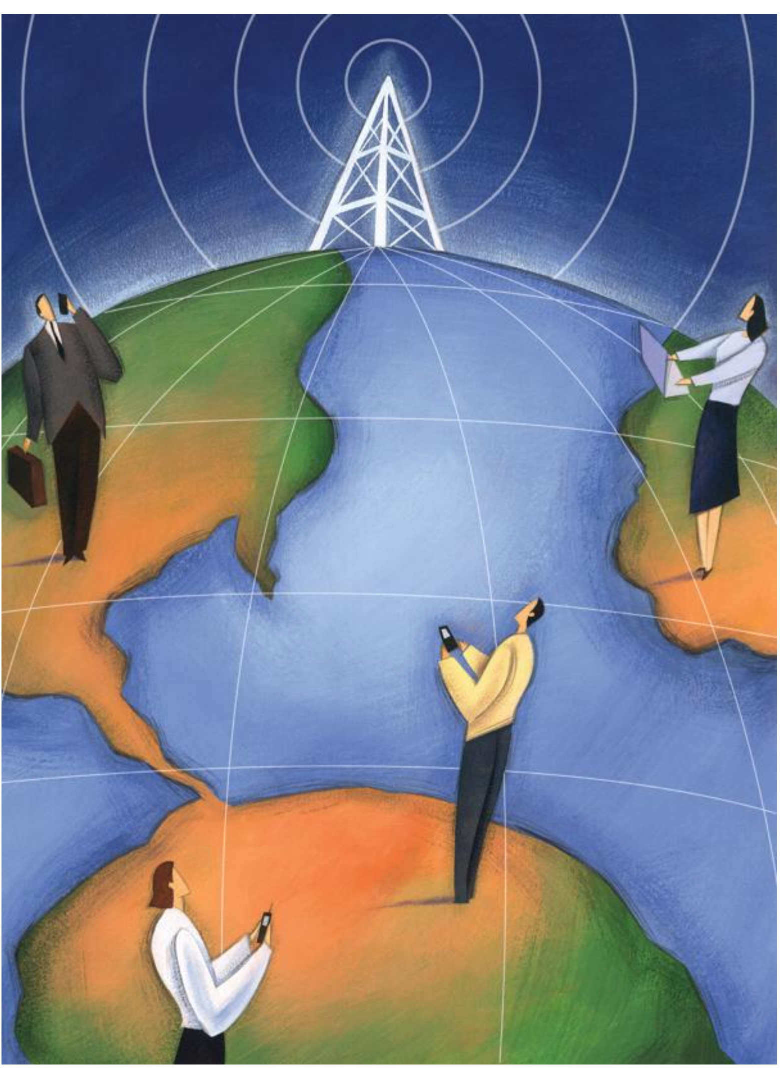

One World of Respiratory Care

AARC International Fellowship Program opens the borders to professional communication about quality respiratory care

by Debbie Lierl, MEd, RRT, FAARC

Since 1990, the AARC has brought over 130 health professionals from 50+ countries to our shores to share respiratory care practices in their nations and learn more about the American version of the profession.

What do a physician from Graz, Austria, a respiratory therapist from Hangzhou, China, an intensive care medicine physician from Lima, Peru, and a respiratory therapist from Riyadh, Saudi Arabia, all have in common? They were all AARC international fellows in 2010. Thanks to the American Respiratory Care Foundation, which oversees the program, plus the generous support we receive from our sister organizations and the respiratory care industry, each of these health professionals was able to visit respiratory care facilities in two U.S. cities and then travel to Las Vegas for the 56th AARC International Respiratory Congress.

Spreading the news

In operation for more than 20 years now, the International Fellowship Program continues to strengthen the world of respiratory care by break-

For more information about the ARCF, log on to www.arcfoundation.org

The program is promoted on the AARC website, by word of mouth, and by AARC members and industry representatives during their travels abroad.

ing down the barriers and opening up the borders between respiratory care practice in the United States and abroad. The program runs with the able assistance of a cadre of volunteers, who provide both the logistical oversight necessary to screen applicants and acquire funding for the program, and the very important onsite support needed to ensure the fellows have a quality experience in the United States.

Who applies for the AARC international fellowships, and how do they find out about the program? Each spring, respiratory therapists, physicians, nurses, physiotherapists, and others interested in participating in the program complete and submit their applications. Today the applications are electronic; but when the program first began, the applicants had to mail their applications and supporting documents.

The program is advertised on the AARC website, by word of mouth, and by AARC members and industry representatives during their travels abroad. Deniz Inal-Ince, PhD, PT, a 2001 fellow from Turkey, is a good example of how news of the program is spread. “I first heard about the AARC’s International Fellowship Program after a magnificent respiratory therapy course given by the Georgia State University respiratory therapy faculty in Istanbul, Turkey, in 2001. At the time I was a PhD candidate working as a researcher and clinical instructor in respiratory physiotherapy at Hacettepe University. I applied for the program to learn about the practice and scope of the respiratory therapy profession.”

Former international fellows also refer a number of potential fellows to the program. Fellowship applications are due on June 1 each year.

Narrowing the list

When are the fellows selected, and how do we decide how many to select? During the Summer Forum, the AARC International Committee meets to review the applications and make a final decision on the current year’s fellows. This is a daunting task. Normally, there are 40+ applicants for between 4–10 fellowships. Since our funding varies each year, so does the number of fellows we are able to sponsor.

How does the committee take a list of over 40 applicants and narrow it down to just a few? Before the Summer Forum, each committee member evaluates all of the applications and uses a scoring system to choose his or her top nine candidates. From the ranking of the candidates, the International Committee members can see which candidates have the most support on the committee and greatest potential to advance respiratory care upon their return home. The committee members then discuss their top choices. After the discussion, the committee agrees on which applicants will be offered the fellowship, as well as two alternates. Once the fellows are selected, the next task is to pair them up with the city hosts who can best meet their individual interests.

City hosts make it happen

While most of us were preparing for our Thanksgiving dinners last November and planning our trips to the AARC Congress the following week, Michele Grassi, MHA, RRT; Chad Gibbs, RRT; Michael Hewitt, RRT-NPS, FAARC; Brady Scott, BSRT, RRT; Chad Martin, BS, RRT; Russell Woodruff, BS, RRT-NPS; Jackie Long-Goding, MEd, RRT, FAARC; and Kris Hammel, BS, RRT, RPFT, were all getting ready to have one of the fellows visit their city.

How are the city hosts selected? Before the Summer Forum, the committee also reviews all of the city host applications. Some years, this decision has been easy because we only had

International Fellows 2010

International fellows definitely appreciate the level of interaction they are able to have with their American colleagues and come away from the experience with a newfound appreciation of how the profession is practiced in our country.

Debbie Lierl

About the Author

Debbie Lierl, MEd, RRT, FAARC, is vice chair of the AARC International Committee. She currently serves as program chair at Cincinnati State Technical and Community College and as program director of the Cincinnati Respiratory Care Program — Cincinnati State/UC Clermont in Ohio.

enough applications for the selected number of fellows to visit two cities. However, during the last few years, we have more city host applications than the number we are able to use based on the number of international fellows we can sponsor.

For members of the committee, choosing the city hosts is often the most difficult task because we must weigh the pros and cons of using a city host who has proven to be successful versus trying a new city or city host. The committee wants to give the fellows the best possible fellowship but also wants to support new cities. We are looking for cities that can provide well-rounded experiences with state-of-the-art hospitals and respiratory departments as well as expose the fellows to various diagnostic, home care, and educational sites. To balance the equation, each year we try to choose some veteran city hosts and at least one new city host. In some cases, a fellow with an expressed interest in a specialty will be matched with a host providing that specialty.

The committee also realizes that the program is not only designed to benefit those visiting the United States but also to provide those in the U.S. with the opportunity to meet practitioners from other countries. Clinicians who meet the fellows during their visits share their passion for the profession, their experiences, and their friendship.

(continued on page 42)

Thank You, Sponsors

The AARC International Fellowship Program would not be possible without the generous support of so many in the respiratory care community. The AARC, Applied Measurement Professionals, Inc., and Philips Respironics deserve special thanks for supporting the program every year since its inception.

Additional sponsors of last year's program were:

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- Marsh Affinity Group
- Pima Medical Institute

Building bonds

What do the fellows think about the experience? Information provided in their reports shows they definitely appreciate the level of interaction they are able to have with their American colleagues and come away from the experience with a newfound appreciation of how the profession is practiced in our country.

Vijayalakshmi Thanasekaraan, MD, who was a fellow from India in 2006, recalls her visit to Rochester, MN, and how impressed she was with the respiratory therapists she saw in action. "The responsibilities of the respiratory therapists were enormous, and I was impressed by the willingness of the consultants to accept the respiratory therapists' suggestions. The research work done by the respiratory therapists, along with consultants in the various sections of the pulmonary medicine department and ICU, was also commendable, as was the work I saw RTs accomplish in the pulmonary function and sleep labs."

The fellows get a good dose of the local attractions and lifestyle during their visits as well, giving them a chance to bond with their American colleagues outside the health care arena. Mohammed Al Ahmari, MSc, BSRC, RRT, a 2005 fellow from Saudi Arabia, remembers his trip to Charlottesville, VA. "Even with the busy clinical and academic visits, there was time for social life and more. In addition to the beautiful landmarks of Virginia, I had the chance to visit the home of Thomas Jefferson, who was the third president of the United States. Many thanks to my friends Dan, Cindy, Brian, George, and the entire respiratory care department at the University of Virginia for making my visit so educational and enjoyable."

Making an impact

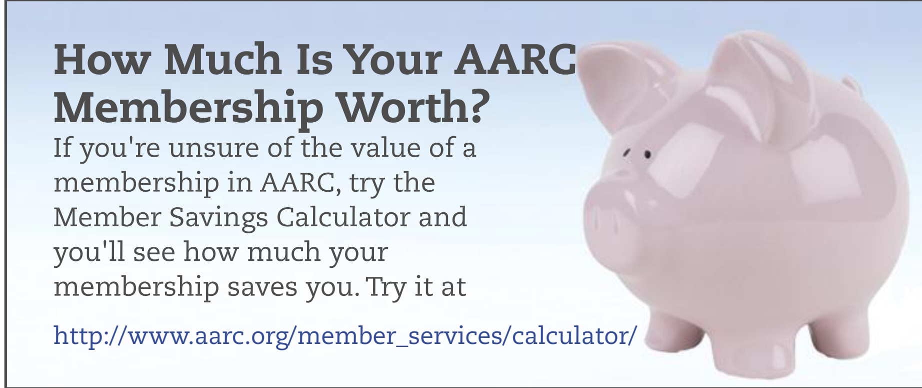
Of course, I think the most important question most people have about the International Fellowship Program is, has it been successful? If you have had the opportunity to meet one of the fellows, attend one of their talks during the AARC International Congress, or read an article written by one of them in *AARC Times*, I am sure your answer would be a resounding "yes!" If you asked any of the city hosts, I believe they would also say, "Yes, most definitely!"

The mission of the International Fellowship Program is "to promote communication and fellowship among respiratory care professionals in the United States and their counterparts around the world though cooperation, dialogue, and education exchanges." In the December 2010

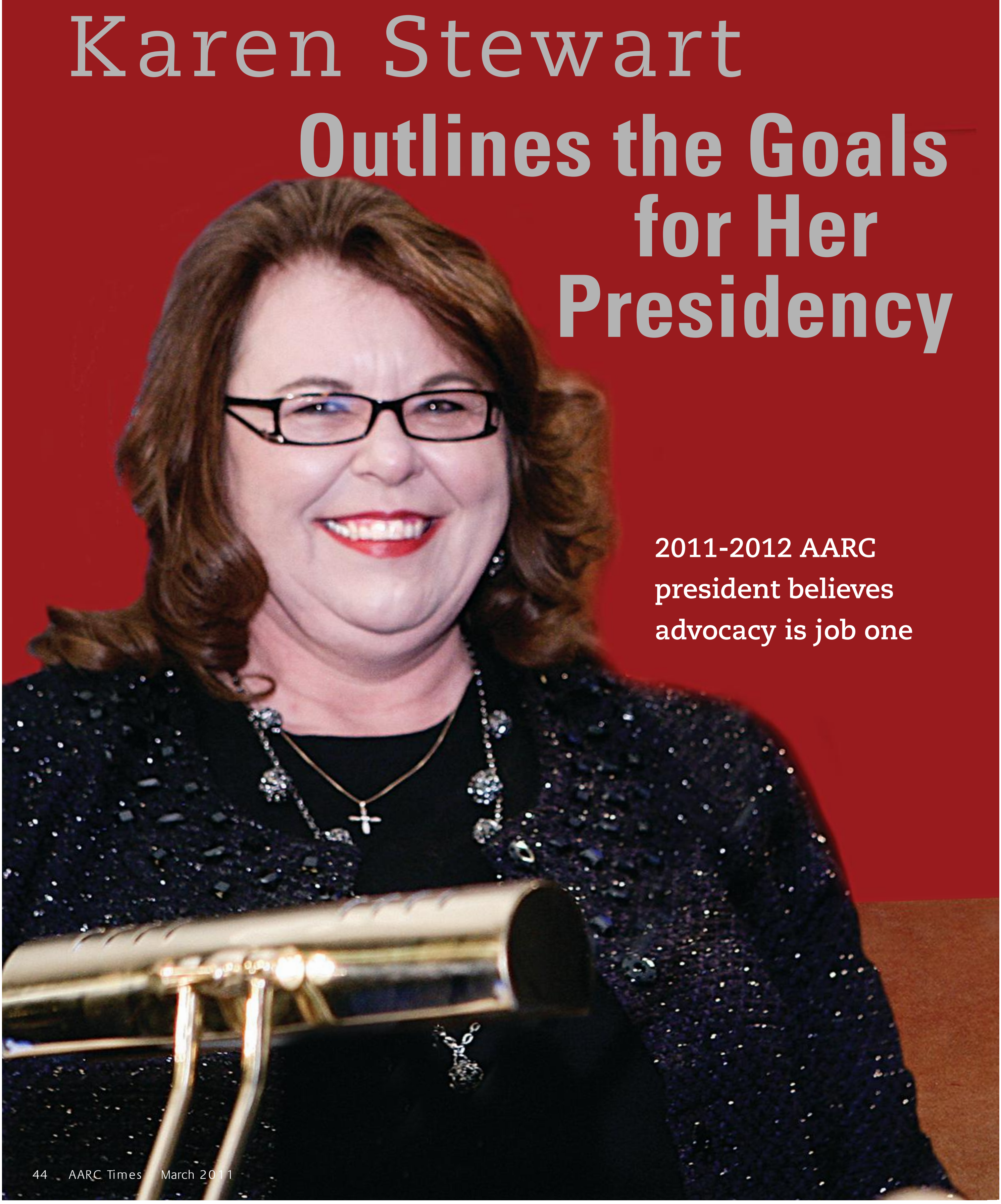
issue of *AARC Times*, International Committee Chair John Hiser, MEd, RRT, FAARC, wrote an article titled "We Are on a Mission!" If you read it, I think you will agree that the fellowship program has been impacting respiratory care around the world since its inception in 1990. Former fellows are translating research articles so others in their country can benefit. Several former fellows have been instrumental in starting RC schools and training programs in their countries. There is now a credentialing exam, similar to our NBRC certification exam, being used in 11 Spanish-speaking countries, and every year there are more and more participants at the International Council meeting held during the Congress. All of these exciting developments can trace their roots back to the AARC International Fellowship Program.

One big family

Between Christmas and New Year's many former fellows used their AARC email discussion list to send their greetings and wishes for a prosperous and healthy 2011. It warmed my heart to hear from so many around the world and to see how many of them have formed a bond and support system with each other and how many of them commented on the value of being part of the AARC respiratory care family. The Fellowship Program has helped to strengthen communication and shrink the distance between respiratory care practitioners around the world. ■



Karen Stewart Outlines the Goals for Her Presidency



2011-2012 AARC president believes advocacy is job one

The AARC's role as an advocate for the patient and the profession took center stage during the inaugural address by 2011–2012 AARC President Karen J. Stewart, MSc, RRT, FAARC, at the annual business meeting held during the AARC International Respiratory Congress in Las Vegas last December.

"This meeting really is about you," she told those in attendance. "It is about what you do as the advocate for the patient with pulmonary problems and their families. You are the one at the bedside when someone cannot breathe. You are the life and breath of our patients."

Stewart reminded attendees of the great accomplishments the AARC has made in the public service arena over the past few years, zeroing in on the huge effort to help carry out the DRIVE4COPD campaign last year. The program recruited respiratory therapists to interface with the general public and get them to take a simple, five-question population screener to see if they are at risk for COPD. "Think about what we have been able to do as a team," she said. "We have made contact with more than 50,000 people. We have helped them make a determination as to whether or not they may be at risk for pulmonary disease, and just maybe we've caught some of these people in time so that their lives will not be as difficult as those of some of the patients that we know who have suffered with COPD."

President Stewart also noted the AARC's involvement with patient groups such as the Alpha-1 Association and COPD Foundation and reminded everyone that the networking afforded by the AARC through meetings like the AARC Congress and other venues facilitates our ability to reach out to these groups and to fellow respiratory therapists. "Networking allows us to communicate with one another. It allows us to pass along ideas and improve the lives of others."

One heck of a team

The major membership milestone reached by the AARC last year will only enhance those abilities, said the new president. "We are now more than 50,000 strong," said Stewart. "That's our group. I'm not sure about you, but to me that's one heck of a team." With that strength in numbers in mind, she encouraged members to look at where the profession has been and where it is going, emphasizing that "we are a team of health care individuals that health care will have to reckon with."

President Stewart fully expects the AARC to benefit from the growing membership base, particularly when it comes to influencing lawmakers in Washington, DC. "We will be able to address our legislative agenda, which is really about providing care to our patients, because we are the best trained to teach and help our patients with pulmonary disease."

(continued on page 76)

Stewart's 2011 goals are to lead the Association as it:

1. Continues to promote the patient's and family's needs by being the advocate for those patients with respiratory disorders.

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

3. Increases and enhances activities to increase public awareness of respiratory therapists and their role in the treatment of respiratory disorders.

4. Continues to develop and execute strategies that will increase membership and participation in the AARC both nationally and internationally.

5. Continues to advance our international respiratory community presence through activities designed to address issues affecting educational, medical, and professional trends in the global respiratory care community and to advance advocacy for the patient.

6. Evaluates the transitional needs to meet the competencies necessary to develop the "Respiratory Therapist for 2015 and Beyond" based on the expected needs of respiratory care patients, the profession, and the evolving health care system.

7. Promotes the access of high-quality continuing education to develop and enhance the skill base of current practitioners to meet the future needs of our profession.

8. Maintains and expands relevant communication and alliances with key allies and organizations within our communities of interest.

9. Expands efforts to obtain the research funding that will move the profession forward.

Latest U.S. surgeon general's report continues to build the case for comprehensive tobacco-cessation programs

No Safe TOBACC

BY DEBBIE BUNCH

In their forward to the latest surgeon general's report on smoking and health, Thomas R. Frieden, MD, MPH, director of the Centers for Disease Control and Prevention (CDC) and Margaret A. Hamburg, MD, commissioner of the U.S. Food and Drug Administration (FDA), note that more than 1,000 people die every day due to smoking-related illnesses and about half of all long-term smokers are eventually killed by tobacco use. For every person who succumbs to a smoking-related disease, another 20 continue to suffer from at least one serious condition also related to the habit; and secondhand smoke only adds to the devastation, causing thousands of non-smokers to die from heart disease and lung cancer, and hundreds of thousands of children to experience respiratory infections. Even today, nearly 50 years after the first surgeon general's report linking smoking and health, tobacco use remains the single largest preventable cause of death and disease for both men and women.

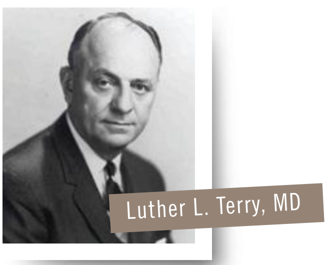
The 2010 surgeon general's report, titled "How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease," delves into the ways tobacco smoke damages every organ in the body, substantiating evidence that there is no safe level of exposure.

For respiratory therapists, the report provides new information to use when promoting tobacco cessation not just to patients, but to the community at large as well. "Respiratory therapists are at the forefront and should be addressing both prevention and control," says AARC President Karen Stewart, MSc, RRT, FAARC.

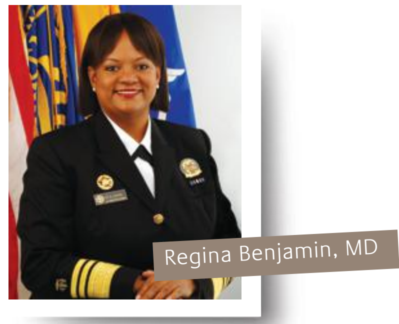
In-depth information

According to Steven Schroeder, MD, who heads up the Smoking Cessation Leadership Center at the University of California, San Francisco, the 2010 report adds to information provided in earlier reports on diseases caused by tobacco smoke, expanding the list and providing new information on the pathophysiology and underlying genetics. "It goes into some depth as to the mechanisms whereby smoking causes heart disease, cancer, and pulmonary disease — all problems of great relevance to respiratory therapists."

Level of
O SMOKE



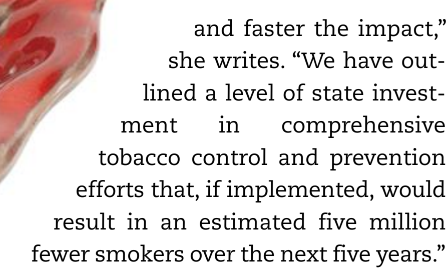
Luther L. Terry, MD, first warned the U.S. about the dangers of smoking in the inaugural surgeon general's report on smoking and health in 1964.



Late last year our current surgeon general, Regina Benjamin, MD, kept the momentum going with the 30th report on smoking.

Jonathan Waugh, PhD, RRT, CTTS, FAARC, chair of the AARC's Tobacco-Free Lifestyle Roundtable, says the new report also summarizes the serious dangers tobacco smoke poses to nonsmokers and children, and speaks analytically about the economic burden of tobacco on the nation and what should be done about it. "The surgeon general, in unison with the FDA, CDC, and other organizations, seems to be coordinating a new comprehensive effort to tackle the tobacco problem in the necessary multifaceted approach — policy, education, research, surveillance, treatment, advocacy, etc.," says Dr. Waugh.

One of the chapters zeroes in specifically on pulmonary diseases and provides a good example of the kind of conclusions drawn by the report.



The major findings in this section include:

1. Oxidative stress from exposure to tobacco smoke has a role in the pathogenetic process leading to COPD.
2. Protease-antiprotease imbalance has a role in the pathogenesis of emphysema.
3. Inherited genetic variation in genes such as SERPINA3 is involved in the pathogenesis of tobacco-caused COPD.
4. Smoking cessation remains the only proven strategy for reducing the pathogenetic processes leading to COPD.

Dr. Schroeder believes the report "can help inform RTs about why smoking is harmful, how it causes that harm, and that there is no safe level of exposure to tobacco smoke." It also includes sound evidence that a number of policies can help to reduce the level of smoking. "These include raising taxes on cigarettes, promoting clean indoor air laws, and counter-marketing to combat the $15 billion spent annually on promotion by the tobacco industry."

Top of the list

Kathleen Sebelius, secretary of U.S. Health and Human Services, echoes those sentiments in a special message that appears at the beginning of the report's Executive Summary. "Twenty years of successful state efforts show that the more states invest in tobacco control programs, the greater the reductions in smoking, and the longer states maintain such programs, the greater and faster the impact," she writes. "We have outlined a level of state investment in comprehensive tobacco control and prevention efforts that, if implemented, would result in an estimated five million fewer smokers over the next five years."

Unfortunately, many states are facing budget deficits that make prioritizing tobacco cessation a challenge, but Karen Stewart says the sagging economy is really just another good reason to put tobacco cessation at the top of the list. "At a time when the country is economically strapped, the $193 billion in costs to the health care system is something we should all be concerned about," she says. "Monies and time need to be spent on tobacco prevention and control efforts." She believes prevention should begin with children, who not only suffer from exposure to secondhand smoke but also represent the next generation of smokers to the tobacco companies. "Any respiratory therapist who gets the opportunity should be in the schools talking to kids about never starting to smoke."

Dr. Schroeder believes respiratory therapists have a responsibility to work on the larger playing field as well, encouraging their states to do what is right for their citizens. "Respiratory therapists, individually and collectively, can advocate for the retention and expansion of important state tobacco control activities."

Stay in Touch with the AARC's Tobacco-Free Lifestyle Roundtable

Keeping up with the latest developments in tobacco cessation can be difficult for respiratory therapists whose primary responsibility is to treat the acute and chronic nature of lung disease. The AARC's Tobacco-Free Lifestyle Roundtable is a great way to tap into the collective knowledge of colleagues with an interest in the area.

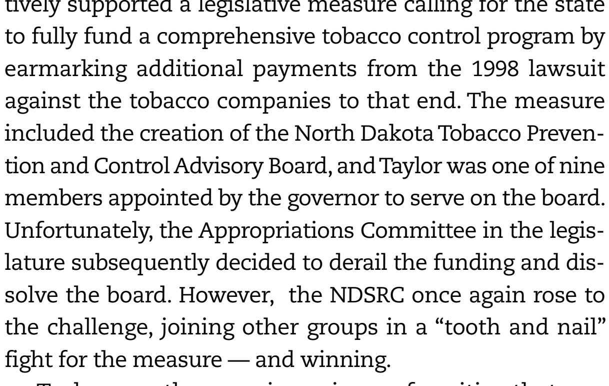
"The old biblical wisdom that 'A cord of three is not easily broken' is a good image for how respiratory therapists need to work together to achieve success," says Roundtable Chair Jonathan Waugh, PhD, RRT, CTTS. "It is more than just many people doing many things — our actions need to be done in concert. The Tobacco-Free Lifestyle Roundtable is a means by which RTs can work together, share information, coordinate efforts, and keep current in the latest developments."

The roundtable is open to all AARC members at no extra charge. **Visit www.AARC.org and click on "Sections/Roundtables" in the blue column at the left to find out more.** ■

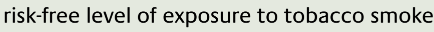
Ammunition for the battle

Jay Taylor, RRT, TTS, and his colleagues in the North Dakota Society for Respiratory Care (NDSRC) have been living that philosophy for several years now. In 2009, they ac-

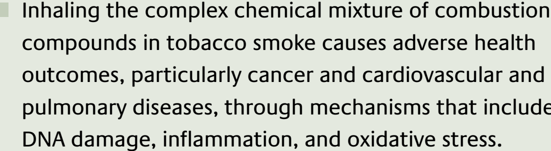
6 Major Conclusions of the NEW REPORT



The 2010 surgeon general's report on smoking and health reached six major conclusions:



1. The evidence on the mechanisms by which smoking causes disease indicates that there is no risk-free level of exposure to tobacco smoke.
2. Inhaling the complex chemical mixture of combustion compounds in tobacco smoke causes adverse health outcomes, particularly cancer and cardiovascular and pulmonary diseases, through mechanisms that include DNA damage, inflammation, and oxidative stress.
3. Through multiple defined mechanisms, the risk and severity of many adverse health outcomes caused by smoking are directly related to the duration and level of exposure to tobacco smoke.
4. Sustained use and long-term exposures to tobacco smoke are due to the powerfully addicting effects of tobacco products, which are mediated by diverse actions of nicotine and perhaps other compounds, at multiple types of nicotinic receptors in the brain.
5. Low levels of exposure, including exposures to secondhand tobacco smoke, lead to a rapid and sharp increase in endothelial dysfunction and inflammation, which are implicated in acute cardiovascular events and thrombosis.
6. There is insufficient evidence that product modification strategies to lower emissions of specific toxicants in tobacco smoke reduce risk for the major adverse health outcomes.



The full surgeon general's report, plus the executive summary is online at www.surgeongeneral.gov/library/tobaccosmoke/. ■

tively supported a legislative measure calling for the state to fully fund a comprehensive tobacco control program by earmarking additional payments from the 1998 lawsuit against the tobacco companies to that end. The measure included the creation of the North Dakota Tobacco Prevention and Control Advisory Board, and Taylor was one of nine members appointed by the governor to serve on the board. Unfortunately, the Appropriations Committee in the legislature subsequently decided to derail the funding and dissolve the board. However, the NDSRC once again rose to the challenge, joining other groups in a "tooth and nail" fight for the measure — and winning.

Taylor says the experience is proof positive that respiratory therapists can make a difference by steering their states toward projects and programs aimed at reducing the burden of tobacco use. The 2010 report is another tool in their arsenal. "I believe that RTs everywhere need to, at the very minimum, embrace the new report by the surgeon general and have some information at hand to rebut those who might minimize the impending catastrophe that is continued tobacco use," says Taylor. "This isn't something that's just a good idea, this is something that must be done."

Michael Anders, PhD, MPH, RRT, another AARC member from the University of Arkansas for Medical Sciences in Little Rock, says the report can help therapists in their everyday practice as well, by making it easier for them to tailor their quit advice to tobacco users based on their presenting illnesses. "RTs often encounter tobacco users; therefore, RTs have opportunities to deliver effective interventions, both in hospital and outpatient settings," he notes. "RTs can help increase motivation in tobacco users not ready to quit with a non-threatening, caring intervention that helps the users to recognize the decisional balance between what they like about tobacco versus the harmful effects."

Taylor agrees and says respiratory therapists can and should be the experts in this area. But he also calls on RTs to keep their eye on the most important thing when it comes to working directly with patients who want and need to kick the habit. "I think that while this report is vast and conclusive, the average person already knows they need to quit smoking," he explains, pointing to statistics that show 70% of smokers actually want to kick the habit. "The respiratory therapist, in my opinion, should focus less on reasons to quit and more on how to quit." In his tobacco-cessation program at Sanford Medical Center in Fargo, for example, Taylor says it is rare to hear counselors address the devastation to the body caused by tobacco use. "Our focus remains on how to get it done."

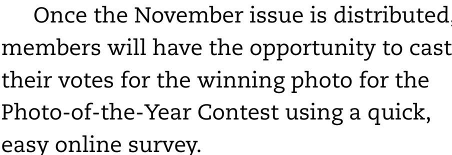
(continued on page 76)

Calling All Respiratory Care Photos for the 2011 AARC Photo Contest

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

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 November 2011 issue of *AARC Times*.

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



Once the November issue is distributed, members will have the opportunity to cast their votes for the winning photo for the Photo-of-the-Year Contest using a quick, easy 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 2012 issue of *AARC Times*. In addition, the photo is prominently displayed in a place of honor in the 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, 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 below so that you will submit your photo in a format that can be reproduced on the cover of the printed magazine.

This contest is for AARC members, and so all contest entrants must be Association members. Be sure to include your AARC member number, full address, phone number, and email address when entering the 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 assure that your photo will meet the requirements for publication in the magazine. A good, interesting photo produced at the wrong resolution will render it unsuitable for reproduction in *AARC Times* magazine, so be sure to pay attention to your camera settings.

- Digital cameras give you a choice of settings for image resolution. Set your camera for the *highest resolution possible* (e.g., 10 megapixels) and save the photo as a JPEG or PDF. Low-resolution photos will not be accepted.
- 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.
- If your photo is taken with a standard film camera, ship a color print to: Photo Contest, AARC, 9425 N. MacArthur Blvd., Ste. 100, Irving, TX 75063-4706.
- We prefer that you mail a CD of your high-resolution photo to us since it will likely be too large to email. If you do try to email a photo, please send it directly to the Production Department at knauf@aarc.org and indicate clearly in your email that the photo is for the AARC photo contest.

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! ■

Photo Contest

Essential Elements for Getting the Best Photo

Most photographers will tell you there are certain key principles for producing a good 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.

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 manually gives you more control and allows for effects you can't achieve by using your camera's auto-focus setting alone.

Lighting

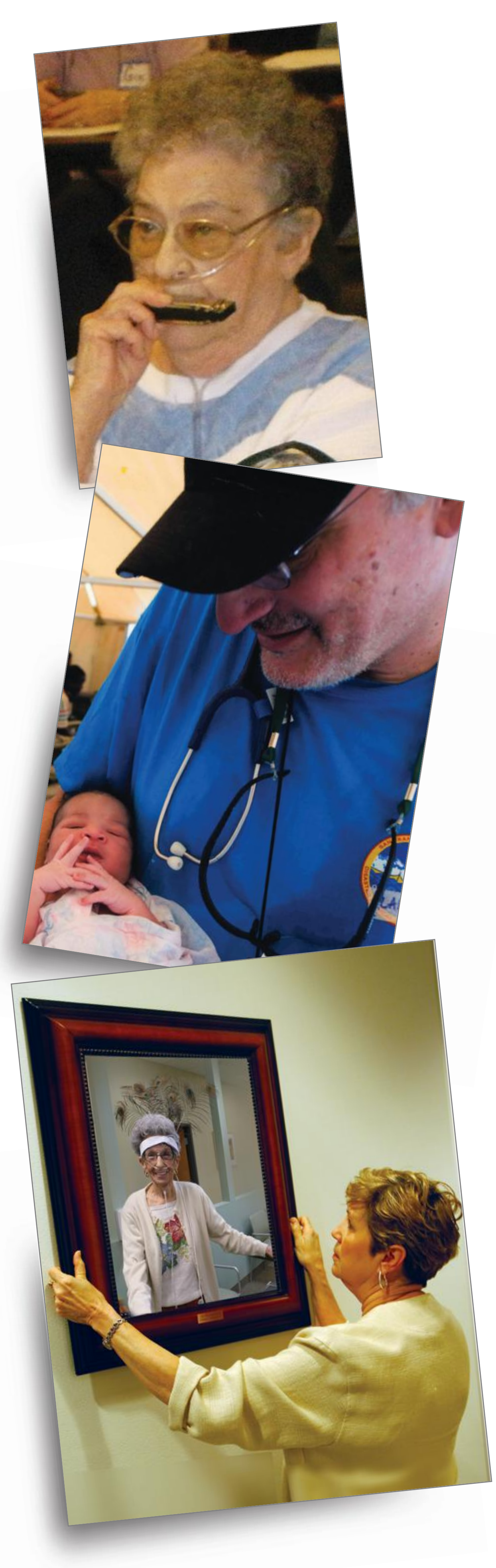
Be sure you have just the right amount of light to ensure a good photo. Harsh lighting could cast shadows on your subjects and ruin the shot. Also, fluorescent lighting can cast a green tint on everything, so look for filters to alleviate this problem.

Resolution

What looks good on your digital camera's small screen or even on your computer may not look good in a large print, such as what's needed for the cover of *AARC Times*. Be sure you have the camera set at the highest resolution 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 clear shot of your subject. ■



Respiratory Care by Committee

by Kerry E. George, MEd, RRT, FAARC; David L. Vines, MHS, RRT, FAARC;
Teresa A. Volsko, MHHS, RRT, FAARC; and Robert C. Shaw, Jr., PhD, RRT, FAARC

The National Board for Respiratory Care is aware that people perceive that some items on its examinations are disconnected from the clinical environments in which educators and their graduates practice. People have asked why correct item responses may not directly coincide with what is found in textbooks or how topics that may be covered on examinations are not covered by textbooks. Some have asked for guidance in succeeding on the NBRC credentialing examinations. This article will attempt to address these concerns and explain why the NBRC remains confident in the validity of examination outcomes.

Peer review

Review and endorsement by peers enhances the quality[1] and credibility of content.[2] This is true of textbooks, scientific reports, and NBRC examinations. The NBRC encourages people who submit items to list references. However, it would be a mistake to infer that the NBRC limits examination content to what textbooks and articles have covered.

The NBRC has its own peer-review process. Each item submitted to the NBRC is reviewed by many (e.g., 8, 10, 12) respiratory care practitioners. More peers review the content of a typical NBRC examination item than may review the content of a typical textbook or original research article. Such a system conveys the NBRC's commitment to ensuring that the examination development process is unassailable. The theme of this article is that involving many people in the approval process for examination items affects the content that candidates encounter.

Standard operating procedure

The NBRC's operating procedure demands that every examination committee member agrees to approve each item. Each examination committee is composed of a diverse group of respiratory therapists and physicians from across the United States. Their experiences span the breadth of practice, encompassing urban, community, rural, academic, and non-academic settings.

Collaboration

The backgrounds, experiences, and perspectives of members are varied. Interactions among experts with widely varied backgrounds and experiences demand collaboration to arrive at unanimous agreement.

An examination item will be approved only after committee debate about (1) the competency that an item tests, (2) the option that is credited as correct, and (3) the options that are intended to distract less competent candidates. There is also collaboration with measurement staff who advise the committee about ways of presenting item elements so candidates are not helped in guessing the correct response.

about the authors...

Kerry E. George, MEd, RRT, FAARC, is the NBRC treasurer, chair of the Therapist Multiple-Choice Examination Committee, and program director of Des Moines Area Community College in Iowa.

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Teresa A. Volsko, MHHS, RRT, FAARC, is an NBRC trustee, a member of the Therapist Multiple-Choice Examination Committee, and program director at Youngstown State University in Youngstown, OH.

Robert C. Shaw, Jr., PhD, RRT, FAARC, is the NBRC assistant executive director and psychometrician in Olathe, KS.

Collaboration is intended to improve items so they are not biased to one type of clinical setting or to one region of the country. This process is a well-established practice that ensures no candidate is disadvantaged compared to another.[3]

The collaborative process is different than is used for most teacher-constructed examinations. When a teacher produces an examination, he or she is typically the sole authority about choosing the items that are critical to include on the examination and the item responses that will be given credit. We anticipate that examinations produced by a faculty committee would be different than the ones produced by a single faculty member.

Psychometricians and lawyers assert that examinations produced by groups have stronger evidence supporting examination scores than when examinations are produced by individuals. There is a check and balance that occurs within the group process that is typically not found when an individual is responsible for examination content. The following mock discussion illustrates the typical and critical group process:

Committee member 1 — "In my area, this patient would receive pressure-controlled ventilation. It is common to use decelerating flow to ventilate the slower alveoli."

Committee member 2 — "We only use pressure-controlled ventilation as a rescue technique. It does not seem that this patient has a problem severe enough to justify pressure-controlled ventilation."

Committee member 3 — "The facilities where our students do clinical would use pressure-regulated volume control (PRVC) ventilation. Don't we want to assess current competencies and what is changing with patient care?"

Committee member 4 — "Our hospital does not own ventilators capable of dual control of ventilation. It would be unfair to make that the correct response."

Committee member 5 — "There is no evidence-based reason supporting the use of PRVC in this patient."

The NBRC cannot arbitrarily choose whose point-of-view wins, opting instead to cause the participants to collaborate to find item content they can accept or discard the item.

Field testing

The item development process continues after an examination committee approves a new or revised item. Each new item is placed on a test in pretest status. Candidates' responses do not contribute to their test scores. Because candidates do not know which items will count, they give equal effort to each item they see yielding data useful for diagnostic purposes.

Examination committees and measurement staff evaluate pretest item data to verify the key was endorsed and distractors were neither too attractive nor unattractive. If an item is revised, it will undergo pretesting again.

What if clinical decisions were made by committee?

On a typical day, one therapist is directly answerable to one attending physician. However, what if there were two attending physicians and two therapists, and everyone had to agree about patient care? We are asking you to imagine that clinical decisions are made in the same way that decisions are made about NBRC examination items.

The following is a hypothetical scenario to illustrate that clinical decisions made by committee would likely change the practice of respiratory care. Imagine the following conversation while discussing one patient:

Therapist 1 — "The F_IO_2 has been above 0.50 for 20 hours. I am concerned about continuing those high levels. Thirty minutes ago, the P_aO_2 was 112 mm Hg on an F_IO_2 of 0.70. I think the F_IO_2 should be 0.50."

Therapist 2 — "I think we should decrease the F_IO_2 to 0.60. A decrease to 0.50 at this point may be too much."

Physician 1 — "I think the patient can tolerate a PEEP increase, so I would suggest decreasing the F_IO_2 to 0.50 and increasing the PEEP by 5 cm H_2O."

Physician 2 — "After confirming that the pulse oximeter is working correctly, the first step should be to increase the PEEP by 5 cm H_2O, then titrate the F_IO_2 so long as the S_PO_2 remains above 92%."

If an NBRC examination committee had a chance to eavesdrop, we expect that one member would say, "Our hospital has a protocol that covers this scenario. As soon as we saw the high P_aO_2, we would have adjusted the F_IO_2 or PEEP." Another member would say, "I know of hospitals where no such protocol exists." The measurement staff person would state, "If the presence of a protocol is critical, then you owe it to candidates to tell them whether there is one."

Given that the NBRC's mission is to assess competencies against national expectations, it is impossible to create separate examination items for each candidate's set of experiences. Therefore, the keyed response may not be

a particular candidate's favorite response for a situation, but it will be acceptable.

While some may find this disconcerting, we suggest that this mirrors what happens in clinical settings every day. It is likely that on a given day one of the two therapists described above would participate in patient rounds with one of the two physicians. Each person brings slightly different experiences and approaches to respiratory care. A competent therapist can recognize that there can be more than one viable change made in response to the same clinical scenario.

Summary

Employment-related examinations of competencies typically include some content that is not covered by the literature. In other words, the universe of potential clinical situations is larger than the universe of competencies described by the literature.

The NBRC relies on a peer-review system to encourage approval of examination items that will test a valid point in a way that is fair for a diverse candidate population. Critical to NBRC peer review is a culture of collaboration in which an examination committee edits each new item before approving it.

Coupled with peer review is the standard operating procedure that requires each reviewer to agree to use each item. Layered over this opinion-based system of item approval, the NBRC adds a review of data from field testing. Therefore, we assert that the NBRC uses an evidence-based approach to the approval of each item on each examination.

The NBRC typically will not knowingly ask candidates to choose among equally viable actions within a multiple-choice item. If we unknowingly did so, then we expect that our review from pretesting would detect the problem. Should a candidate think that multiple options could be acceptable, then he or she has likely missed a flaw in a distractor or missed some critical point(s) in the item stem that leads to the correct response.

The NBRC Board of Trustees and its committees are interested in your questions, comments, and concerns. You may contact the NBRC at 18000 W. 105th St., Olathe, KS 66061-7543, by email at nbrc-info@nbrc.org, by phone at (913) 895-4900, or visit the NBRC website. ■

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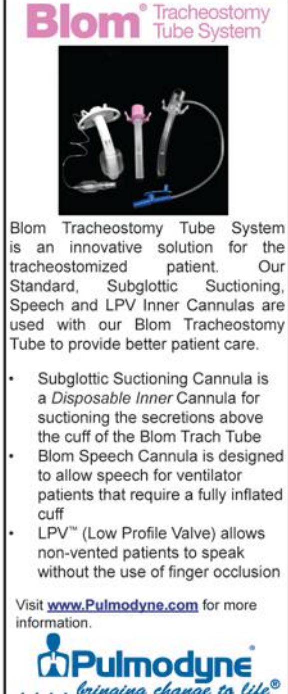

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The *AeroEclipse*® II Breath Actuated Nebulizer (BAN) means "Fast, Assured Delivery". Our BAN sustains aerosol output while continuing to deliver high, effective respirable dose with faster treatment times. The *AeroEclipse*® II BAN creates aerosol in precise response to the patient's inspiratory maneuver – meaning much less medication waste, higher drug delivery efficiency, effective clinical dose and safer working environments for clinicians. The *AeroEclipse*® II BAN is designed to meet all your needs throughout the hospital.

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www.monaghanmed.com

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

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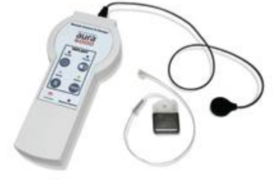
The Hauge™ Airway from Westmed is designed for simplicity and ease of use for most conscious sedation cases. The anatomically correct profile provides an immediate patent airway without stimulating a gag reflex and enough width to keep the tongue anterior in the oropharynx to ensure airway patency. Other features include universal O_2 and $ETCO_2$ ports; capability to deliver high-flow O_2 orally to adult mouth breathers; large orifice to accommodate a variety of scopes and suctioning; pre-procedure placement, with patient comfort in mind; elastic strap to ensure airway placement and stabilization; access to the oropharynx; and bite block protection. www.westmedinc.com

Hypoglossal Neurostimulation System

ImThera Medical Inc.'s Targeted Hypoglossal Neurostimulation system for OSA delivers neurostimulation to the hypoglossal nerve to control certain muscles of the tongue, preventing the tongue from collapsing into the upper airway. The technology includes a small multi-current source implantable pulse generator, operating in continuous open-loop mode, delivering targeted stimulation. The system is designed to increase airway flow, permitting normal and restful sleep for OSA patients who cannot or will not comply with CPAP therapy. www.imtheramedical.com



Ventilator Anti-disconnect Devices

Pepper Medical Inc.'s new Vent-Tie® #401 and Pedi Vent-Tie #401-P are patented ventilator anti-disconnect devices coupled with trach tube neckbands. The easy-to-use Vent-Tie features a quick-release Velcro® strap that is compatible with all trach tubes, elbow connectors, and closed-suction devices. The integral anti-disconnect strap eliminates the use of rubber bands, shoelaces, and tape to secure the ventilator circuitry to the trach tube. The Vent-tie neckband is made of a soft, 100% cotton flannel that offers moisture wicking properties. www.peppermedical.com

Aerosol Delivery Mask

The new LiteTouch aerosol delivery mask from Royal Philips Electronics incorporates a newly designed soft-seal feature that contours to the patient's face with a minimal amount of applied pressure. Designed to provide greater comfort and easier delivery of aerosol medication, the mask uses a unique composite that fuses a clear, hard shell to an exclusive soft-seal interface. It fits onto the mouthpiece of a Philips Respironics valved holding chamber and functions by simply touching the mask seal lightly to the patient's face. LiteTouch contours to the face with a minimum amount of pressure. www.philips.com

OSA Mask for Kids

ResMed Corp.'s Mirage Micro™ for Kids nasal mask features the MicroFit dial, which allows children with OSA or their parents to adjust the mask themselves so they can find the most comfortable and secure fit. A dual-wall cushion maintains a stable, effective seal that is also soft and comfortable, and the mask's slender design and streamlined forehead support provide a clear field of vision. The set-and-forget headgear clips are easy for small hands to attach and detach, and the unique vent design disperses air gently for quiet, undisturbed sleep. The air tubing can also be easily attached and detached. www.resmed.com

Noninvasive Exercise Testing Device

Shape-HF is a noninvasive, low-intensity cardiopulmonary exercise testing device from Shape Medical Systems Inc. that quantifies the severity of dyspnea and fatigue on exertion and evaluates the interaction between the heart, lungs, and other organ systems involved in oxygen uptake and transport. The device offers three standard test protocols and exercise options that range from low intensity to peak exercise using a step test, treadmill, or cycle ergometer. A pre-populated result interpretation aid makes it easy to interpret test results, and a final report summarizes patient data, provides objective insight of patient functional class, and shows a trend plot of previous test results. www.shapemedsystems.com

Nasal Mask

The ComfortGel Blue nasal mask from Philips Respironics features an improved forehead pad designed to help reduce pressure points, a lower profile exhalation port with an integrated swivel that quietly directs air flow up and away from a bed partner, and a new gel cushion that gently conforms to facial features. Used with Philips Respironics System One Resistance Control, the mask will help deliver optimum PAP therapy and comfort. ComfortGel Blue is available in four sizes: petite, small, medium, and large. To further simplify fitting and inventory management, FitPacks with two sizes of cushions are available. DuoPacks with multiple cushions of the same size also are offered. www.philips.com

Air-Sanitizing System

The aria™ air-sanitizing system from Prolitec uses newly patented technology to generate an invisible "dry" vapor of a safe and effective air sanitizing agent. The vapor can be distributed directly from a small wall-mounted appliance or indirectly through an air handler. The result is a uniformly distributed vapor compliant with OSHA air-contaminant restrictions for workplace inhalation — one that is non-damaging to materials and electronics, yet significantly decreases the number of viable airborne bacteria under relatively wide conditions of relative humidity and temperature. www.prolitec.com

Industry Watch

SeQual to be acquired by CAIRE Inc.

SeQual Technologies Inc. has entered into a definitive agreement to be acquired by Chart Industries' wholly owned subsidiary, Caire Inc. "Chart's years of industry experience, financial stability, and global presence will allow SeQual to focus on providing solutions for the oxygen segment of health care," says Ron Richard, SeQual CEO and president. "This transaction combines SeQual's technology and patient-focused product development capabilities with our global marketing, distribution, and operating expertise," notes Chart BioMedical President Steve Shaw. "We expect to integrate the majority of SeQual's operations during 2011."

GSK and Theravance start clinical trial

According to GlaxoSmithKline and Theravance, the first patient has started treatment with the investigational inhaled bifunctional compound GSK961081 in a Phase IIb study to evaluate efficacy and safety in patients with moderate to severe COPD. GSK961081 is an investigational compound within the inhaled bifunctional muscarinic antagonist-beta2 agonist program that was licensed to GSK from Theravance in 2005 under the terms of the companies' strategic alliance agreement.

Dräger receives Wi-Fi certification for monitoring system

The latest version of Dräger's Infinity M300 telemetry monitoring system has achieved Wi-Fi certification by the Wi-Fi Alliance®. Neal Long, president and CEO of Dräger Medical Systems Inc., said, "Our newest monitors and all Dräger monitoring devices in the future will have built-in wireless technology. With this unprecedented Wi-Fi certification of the Infinity M300, we are opening new possibilities of care to our health care customers worldwide."

CareFusion to distribute POC products to the VA

CareFusion has received a contract to distribute its Pyxis® point-of-care verification suite of products across 153 Veterans Affairs medical centers and 17 outpatient centers. Under the contract, CareFusion will provide the VA with a suite of positive patient identification products to help reduce the potential for errors during specimen collection. "By expanding the use of bar coding technology, the VA will continue to help America's veterans receive the best medical care possible," notes Tom Leonard, president of dispensing technologies at CareFusion.

JCR publishes book on patient safety

Joint Commission Resources has released a new book, "The Value of Close Calls in Improving Patient Safety: Learning How to Avoid and Mitigate Patient Harm." It features 15 detailed case studies from a variety of clinical disciplines and specialties. Together they show how health care organizations can use close calls to identify, investigate, and solve patient safety problems.

The book was edited by patient safety expert Albert Wu, MD, MPH, a professor at the Johns Hopkins Bloomberg School of Public Health and a physician at Johns Hopkins Hospital. "Working with the authors for this book showed me just how useful close calls can be for uncovering flaws in the ways we take care of patients and in suggesting ways to fix them to protect patients from harm," says Dr. Wu.

Pulmatrix receives government grant

Pulmatrix Inc. has received a $5.7 million grant from the Department of Defense for a research project that will look at the feasibility of providing soldiers with an inhaler to protect them against respiratory infections. The drug enhances the barrier at the fluid lining of the lungs, making it more difficult for pathogens to invade the tissue. It also increases hydration and movement of the cilia to remove pathogens, and it activates a molecular pathway that fosters the secretion of antimicrobial peptides.

InterMune's IPF drug approved

According to InterMune Inc., the Commit-

tee for Medicinal Products for Human Use of the European Medicines Agency has adopted a positive opinion recommending the granting of a marketing authorization for Esbriet™ (pirfenidone) in adults for the treatment of mild to moderate idiopathic pulmonary fibrosis. The committee's positive opinion will now be forwarded to the European Commission for ratification. Ratification would result in approval for marketing in all 27 member countries of the European Union.

Discovery Laboratories receives NIH grant

Discovery Laboratories Inc. has been awarded Phase I of a Fast Track Small Business Innovation Research Grant from the National Institutes of Health to support the development of its program for aerosolizing KL4 surfactant for neonatal respiratory distress syndrome. Dr. Robert Segal, Discovery Labs' senior vice president and the grant's principal investigator, notes, "We are extremely pleased that the NIH has recognized the importance of our aerosolized KL4 surfactant technology, which has the potential to significantly improve the management of preterm infants with or at risk for RDS and make it possible for many more preterm infants to be treated with surfactant therapy."

DeVilbiss Healthcare reduces warranty, raises prices

DeVilbiss Healthcare has announced it is reducing the warranty on its 5-Liter Compact Concentrator 525 Series from five years to three on new products sold on or after Jan. 4, 2011. It is also instituting a 5% price increase on selected service and repair parts used in its oxygen product line. According to DeVilbiss, the adjustments are necessary to help the company cope with changes seen in the oxygen industry over the past several years.

TJC announces new officials

The Joint Commission (TJC) has appointed Isabel Hoverman, MD, MACP, as 2011 chair of its board of commissioners. Gerald Shea will serve as vice chair. Dr. Hoverman is a board-certified internist in private practice in Austin, TX, who has served on the board of regents of the American College of Physicians. As assistant to the president at the AFL-CIO since 1995, Shea's work covers issues such as health care and retirement security as well as relations with allied organizations and government entities.

TJC has also announced the appointment of Ana Pujols-McKee, MD, as executive vice president and chief medical officer. Dr. McKee comes to the position from Penn Presbyterian Medical Center, part of the University of Pennsylvania Health System.

Cytokinetics presents on ALS clinical trial

Cytokinetics Incorporated presented results from its Phase IIa "Evidence of Effect" clinical trial of CK-2017357 in patients with amyotrophic lateral sclerosis at the recent Clinical Trials Session at the 21st International Symposium on ALS/MND. A fast skeletal muscle troponin activator, CK-2017357 is the lead drug candidate from the company's skeletal muscle contractility program and is being tested in patients with ALS and those with symptoms of claudication associated with peripheral artery disease.

CLSI revises quantitative molecular methods document

The Clinical and Laboratory Standards Institute (CLSI) recently published a revised document, "Quantitative Molecular Methods for Infectious Diseases; Approved Guideline–Second Edition (MM06-A2)," that recognizes the increased use of quantitative molecular methods for determining the concentration of microorganisms in patients. The document provides guidance for the development and use of quantitative molecular methods, such as nucleic acid probes and nucleic acid amplification techniques of the target sequences specific to particular microorganisms. It also presents recommendations for quality assurance, proficiency testing, and interpretation of results.

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

Everyday Spending Can Pay You Back Through AARC Membership.

Through the AARC members receive discounts on products, continuing education, and value-added benefits negotiated with vendors. Calculate your potential savings and rebates using the Member Savings Calculator at http://www.aarc.org/member_services/calculator/

RC Currents

IN THE NEWS

Criteria Revised for AARC Fellow Program

At its December 2010 meeting, the AARC Board of Directors unanimously approved several revisions to the Association's criteria for FAARC eligibility and nomination.

There are three major changes to the eligibility and nomination criteria and one additional change in the deadline for submission of nominees. The first change increases the time of AARC membership required of nominees from five to 10 consecutive years at the time of nomination. The second change requires that nominations for FAARC can now be submitted only by someone previously inducted as a Fellow of the AARC, whose membership remains in good standing. The third change is that once inducted, AARC Fellows must keep their AARC membership current.

The final revision changed the deadline for receipt of nominations for Fellow status from Aug. 31 to July 30. The nomination must be postmarked no later than July 26. The change in deadline was necessitated by the decision of the AARC Program Committee to begin scheduling the annual International Respiratory Congress earlier in the fall.

The revised FAARC criteria, nominating forms, and directions can be found at www.aarc.org/member_services/aarc_fellow/. ■

Free Download of Dr. Petty's First Oxy-Phile Book Available

Last year friends and colleagues of the late Thomas L. Petty, MD, FAARC, decided to finish "Adventures of an Oxy-Phile2," a sequel to his first book for oxygen users, "Adventures of an Oxy-Phile." Dr. Petty had been working on "Adventures of an Oxy-Phile2" to help home oxygen users continue to live life to the fullest, at the time of his death. "Adventures of an Oxy-Phile2" is now available for sale on drtompetty.org. Also, the website offers a free download of the first edition, "Adventures of an Oxy-Phile," which has been out of print for the last year or so.

"We hope you will let your oxygen patients know about these great resources and how they can help them cope with the challenges of living life with supplemental oxygen," says Louise Nett, RN, RRT, FAARC, who worked closely with Dr. Petty in the National Lung Health Education Program for many years. "Consider how you can incorporate either the entire first book or portions of it into your discharge planning process, perhaps as a handout for your patients going home on oxygen for the first time. The website's free download of the first Oxy-Phile book will make this easy to do."

The second book offers stories by more patients who have done amazing things while on oxygen, plus chapters by respiratory therapists and other health professionals who go over the latest developments in oxygen use. "It can assist your patients in their journey to fit home oxygen into an active lifestyle," says Nett. ■

Contribute to Writer's Corner

AARC Times is currently considering brief stories from AARC members for publication in the Writer's Corner section of "RC Currents." Submissions should be under 500 words and contain a cover letter with your member number, contact information such as phone and fax numbers, and email address. Send submissions to cathcart@aarc.org with "Writer's Corner" in the subject line. ■

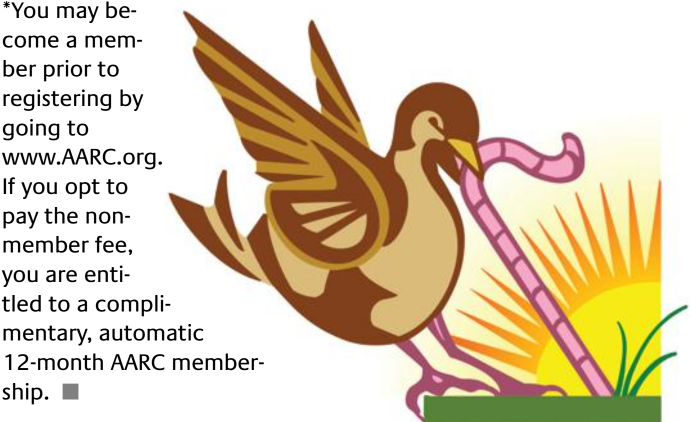
The Early Bird Gets the Discount

The 2011 International Respiratory Congress is sooner than you may think: Nov. 5–8 (Saturday through Tuesday). But sooner still is the deadline to secure an "early bird" discount for your Congress registration: April 29.

Log on to www.AARC.org/education/meetings and select the link to the 2011 AARC International Congress registration form before time slips by. The "early bird" rates are:

AARC Active/Associate Member	$350
AARC Student Member	$160
Nonmember Student*	$210
Nonmember*	$470

*You may become a member prior to registering by going to www.AARC.org. If you opt to pay the nonmember fee, you are entitled to a complimentary, automatic 12-month AARC membership. ■



AARC Times Seeks Volunteers To Review Articles

The *AARC Times* staff is always grateful to respiratory care professionals willing to volunteer their time and expertise to providing critical reviews of clinical articles submitted for publication in our magazine. The *AARC Times* reader who shows dedication to the respiratory care profession in this way serves as an important extension to our publications staff and helps us prepare quality clinical articles.

If you are interested in providing this kind of service to your professional organization, please email your resume and a brief letter explaining your areas of interest and expertise to *AARC Times* Editor Marsha Cathcart at cathcart@aarc.org.

We know there's a lot of untapped talent out there, so we hope to be hearing from you soon! ■

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

- Attending PACT meeting in Washington, DC
- Presenting the AARC's Asthma Educator Course as a post-graduate offering at the Gulf Thoracic Society meeting in Dubai, United Arab Emirates
- Presenting Identifying the Right Device for Inhaled Medication Delivery, The RT of the Future, and Heliox & Nitric Oxide, in Dubai, United Arab Emirates

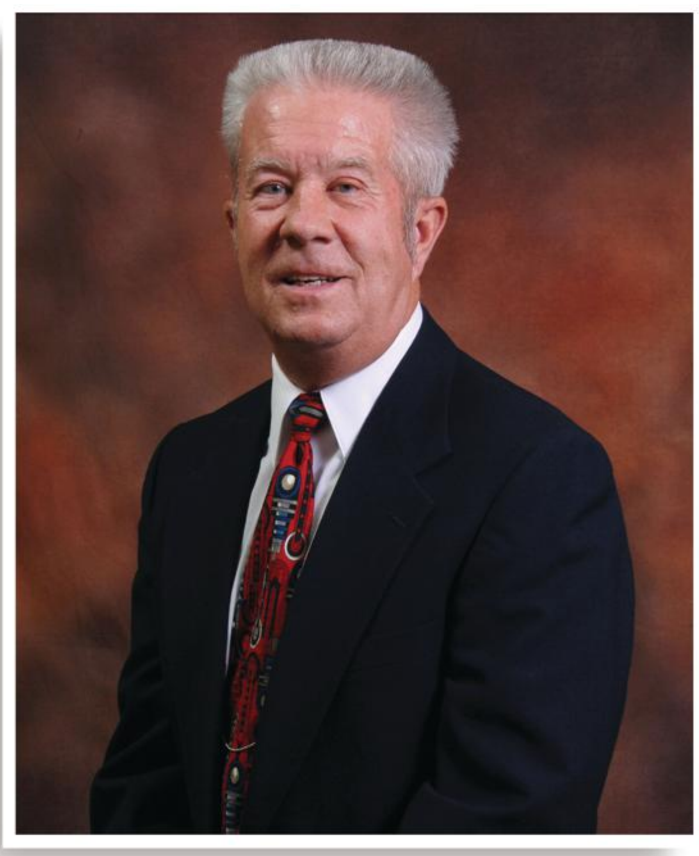
Thomas J. Kallstrom, AARC COO and Associate Executive Director

- Presenting the AARC's Asthma Educator Course as a post-graduate offering at the Gulf Thoracic Society meeting in Dubai, United Arab Emirates
- Presenting Empowering COPD Patients to Improve Their Quality of Life, in Dubai, United Arab Emirates

Dean Hess, Editor in Chief of Respiratory Care Journal

- Presenting the AARC's Asthma Educator Course as a post-graduate offering at the Gulf Thoracic Society meeting in Dubai, United Arab Emirates
- Presenting Management of Patients with Asthma on Mechanical Ventilators, Noninvasive Ventilation, Weaning Long-Term Ventilator-Dependent Patients, and Clinical Trials & Meta-Analysis, in Dubai, United Arab Emirates

AARC Member Heads to the Indiana State Legislature



AARC member Ronald Bacon is bringing his background in respiratory therapy to bear in his new position as a representative in the Indiana State Legislature.

Several years ago Ronald Bacon, CRT, CMDI, was approached by some local physicians with an unusual request: Would he be willing to run for coroner in Warrick County, IN? "The ER physicians wanted a medical professional as coroner instead of a police officer," he explains. "They asked me to run in 2004, and I won both the primary and the general election."

Bacon, who manages Freedom Medical (a home care equipment company with locations in Evansville and Boonville), found public office to his liking and about a year and a half ago decided to take it up a notch by running for a seat in the Indiana House. "Our 36-year incumbent legislator had become very liberal. As a small business owner, I was very concerned with the economy and the need to fight to keep the jobs that we already had," says the AARC member. "After campaigning for 10 months, my opponent retired."

The race might have been smooth sailing after that, but a well-known local wrestling and football coach decided to throw his hat into the ring as well, and Bacon wasn't sure whether he could defeat this "local legend." But after 16 months of campaigning, he did, indeed, end up the victor in last fall's election.

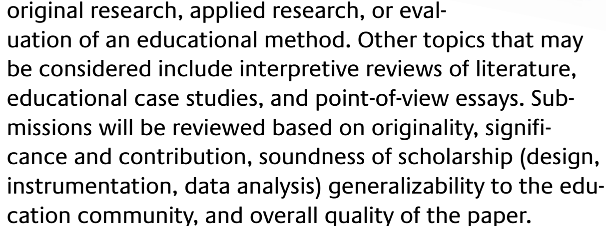
"My top goal is to make Indiana the best state to do business in," says the House District 75 representative. "This will spur job development and improve the economy." He also plans to use his medical background during his term of office. He's already gotten a head start with an appointment to the Public Health Committee, serving alongside a physician who chairs the committee, a nurse, and a pharmacist, among others. "Bills I am introducing include putting pseudoephedrine back on the prescription rolls due to our severe meth problem, and I am also introducing a bill to make illicit drugs not only illegal to possess but also illegal to be in your system."

Bacon believes his background in respiratory therapy will serve him well in his new position. "The state legislature is a perfect fit for an RT. Dealing with all sorts of people and with many tough situations, we can usually find a way to help everyone." ■

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. ■

Respiratory Care Education Annual Call for Papers


Respiratory Care Education Annual
The American Association for Respiratory Care
Volume 19 Fall 2010
Original Contributions
Survey and Analysis of Baccalaureate and Graduate Respiratory Therapy Education Programs
Thomas A. Barnes, EdD, RRT, FAARC, and Jeffrey J. Ward, MEd, RRT, FAARC 1
Educational Strategies to Improve Quality of Life in Patients With COPD
Tim W. Gilmore, MHS, RRT-NPS, CPFT, AE-C, Robert E. Walter, MD, MPH, Terry C. Davis, PhD, and Dennis R. Wissing, PhD, RRT, AE-C, FAARC 13
A Report on the Success of a Youth Oriented Tobacco Prevention Program
Lawrence Bryant, PhD, MPH, RRT, and Stephen Morrison, SPT 33
Attitudes Toward Death Anxiety and Dying Among Respiratory Care Students: A Pilot Study
Thomas J. Stokes, MEd, RRT, S. Gregory Marshall, PhD, RRT, RPSGT, and Chris J. Russian, MEd, RRT-NPS, RPSGT 43
Critical Thinking Skills and Preferred Learning Styles of Respiratory Care Students
Joshua F. Gonzales, MA, RRT-NPS, S. Gregory Marshall, PhD, RRT, RPSGT, Chris J. Russian, MEd, RRT-NPS, RPSGT, and Thomas J. Stokes, MEd, RRT 57
Pilot Study of Respiratory Therapy Student Education Using an Advanced Human Patient Simulator for Critical Patient Management Scenarios
Terri Price, RRT-NPS, Tom P. Causer, RN, RRT, Jennifer A. Balon, MSN, CRNP, Thomas S. Helling MD, FACS, and Russell D. Dumire, MD, FACS 63
The Relationship Between Respiratory Care Program Director Leadership Styles, Faculty Satisfaction, ad Their Willingness to Exert Extra Effort
Nancy L. Weissman, PhD, RRT 73

The AARC will publish Volume 20 of the *Respiratory Care Education Annual* in the spring of 2011. This refereed journal is committed to providing a forum for research and theory in respiratory care education and is listed in the "Cumulative Index to Nursing and Allied Health Literature."

The AARC Education Section invites educators to submit papers for consideration. Preference will be given to papers that emphasize original research, applied research, or evaluation of an educational method. Other topics that may be considered include interpretive reviews of literature, educational case studies, and point-of-view essays. Submissions will be reviewed based on originality, significance and contribution, soundness of scholarship (design, instrumentation, data analysis) generalizability to the education community, and overall quality of the paper.

Papers should be approximately 6–10 pages in length and should follow the guidelines in the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals," fifth edition (1997). These may be found at www.rcjournal.com/guidelines_for_authors/preparing_the_manuscript.cfm. Abstracts should not exceed 250 words. For more information, contact Dennis Wissing, PhD, RRT, FAARC, editor, at dwissi@lsuhsc.edu or (318) 573-9788. Completed manuscripts should be sent to Bill Dubbs at dubbs@aarc.org. **Deadline is Feb. 28, 2011.** ■

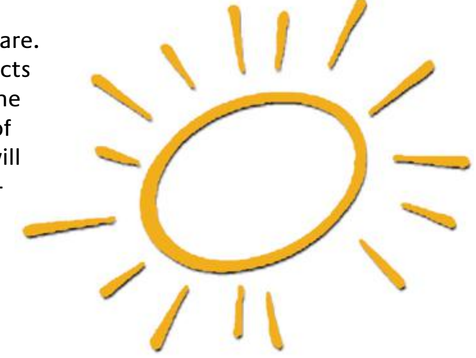
Education Section Calling for Abstracts for Vail, CO, Summer Meetings

The 2011 AARC Summer Forum, scheduled for July 18–20 (Monday–Wednesday) in Vail, CO, offers an excellent opportunity for participants to share their scholarly activities with education colleagues through a research abstract. The submission **deadline is March 15, 2011.** For more information, log on to www.aarc.org/resources/summer_forum/index.asp. To request a mentor, volunteer as a mentor, or for questions about the education research abstracts, contact: Weissman@palmbeachstate.edu, (561) 207-5068. ■

Journal Issues Call for Open Forum Abstracts

A simple and convenient way for you to submit abstracts online for the Respiratory Care Open Forum for the AARC International Respiratory Congress is at http://aarc2011.abstractcentral.com. Easy online instructions will guide you through properly submitting abstracts for Respiratory Care 2011 in Tampa, FL, Nov. 5–8. The **deadline** for submitting Open Forum abstracts is **June 1**.

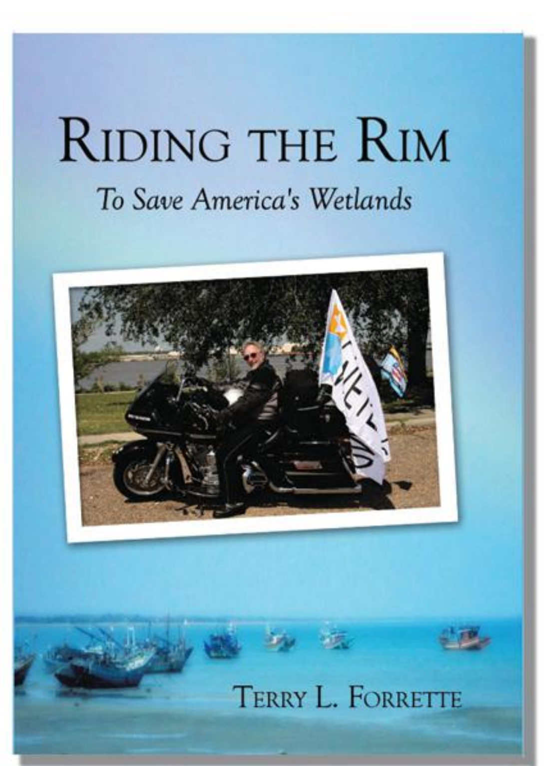
The Open Forum is your opportunity to gain national and international recognition for your work in cardiorespiratory care. Plus, accepted abstracts will be published in the October 2011 issue of Respiratory Care and will automatically be considered for research fellowships from the American Respiratory Care Foundation. ■



AARC Member Recounts Journey Through the Wetlands in a Book

Terry Forrette, MHS, RRT

America's coastal wetlands are the first line of defense in any storm; and after Hurricane Katrina hit his native Louisiana back in 2005, AARC member Terry Forrette, MHS, RRT, wanted to do something to raise awareness about the danger in letting these natural barriers erode. So in 2007, he hopped on his motorcycle and embarked on a "Riding The Rim" campaign that took him 16,500 miles around the perimeter of the 48 contiguous states.



Now Forrette, who is a professional speaker and educator from Mandeville, LA, is sharing his journey with the nation through a new book titled "Riding The Rim." "During the latter stages of my trip, I started to think about how I could share this wonderful adventure with others," he says.

The book started to take shape in the fall of 2008 and was finished in 2010. It chronicles not only his adventures on the road but also the many stops he made along the way to educate the public about the wetlands and how important they are to our country's ecosystem. "Although the wetlands have received a lot of recent publicity from the Deepwater Horizon Oil Spill, many people still do not grasp the importance of the wetlands to the nation's economy and security," says the therapist, who continues to work with America's WETLAND Foundation, the group that partnered with him on the project. "I am just one of many voices that are trying to get this message out to the general public."

Forrette says writing the book and getting it published was a lot harder than he expected. "Most of my writing experience has been limited to articles in medical journals. Writing about this trip, trying to make it interesting, and telling a story in the process was a far different process than writing a scientific paper." You can learn more about the book on Forrette's Riding The Rim website, www.ridingtherim.com. ■

Members, Send Us Your Human Interest Stories

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

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

ALS Gene Discovered

Researchers from Johns Hopkins and the National Institutes of Health have discovered a gene that appears to cause some cases of familial amyotrophic lateral sclerosis (ALS), a finding that could lead to novel treatments for the condition.

Using a new technique known as exome sequencing, the investigators worked with two affected members of an Italian family, along with 200 people without the disease, looking for genetic differences in the ALS patients that were not present in the other samples. The search identified a gene called VCP, or valosin-containing protein. When the researchers looked for mutations of this gene in 210 additional ALS patients, they found four different mutations in five individuals. None of these mutations were found in the genomes of the healthy controls, suggesting that VCP is the cause for some ALS cases.

The investigators aren't sure how VCP leads to the condition, but they do know it plays a role in a process known as ubiquitination, which tags proteins for degradation. A glitch in this process could lead to too many or too few proteins in motor neurons, causing them to die. The scientists believe they may one day be able to develop drugs that could save these motor neurons from death. The study appeared in the December issue of *Neuron*. ■

Can Inhaled Corticosteroids Increase Diabetes Risk?

Canadian researchers publishing in the November issue of *American Journal of Medicine* find inhaled corticosteroids, particularly when given at high doses, can increase the risk for diabetes onset and progression. Their study was conducted among 349,516 respiratory disease patients who were without diabetes at the beginning of the study. Over the five-year investigation, 30,167 developed diabetes, and among that number, 2,009 progressed from oral diabetes agents to insulin. The incidence of diabetes was 34% higher among those on inhaled corticosteroids, and progression to insulin was also 34% higher.

The high doses used to treat COPD substantially raised these risks, and the researchers suggest providers should consider conducting diabetes assessments in patients who require high doses of inhaled corticosteroids. ■

▶ Strange But True…

Smart Beds: A University of New Hampshire professor is working on a "smart bed" for hospitals that's capable of doing everything from automatically rolling patients from side to side to prevent bed sores to sensing a patient's respiration and moving in such a way as to restart breath when it has stopped due to sleep apnea.

Unhappy New Year: A new study out of the University of California, San Diego, finds infants are 33% more likely to succumb to sudden infant death syndrome on New Year's Day. Investigators suspect alcohol consumption by caretakers on New Year's Eve may be to blame.

Dirty Air Packs on the Pounds: Ohio State University researchers who studied mice who were and were not exposed to unhealthy levels of air pollution early in life find exposed mice were more likely to accumulate abdominal fat and develop insulin resistance in adulthood, despite the fact that they were fed a normal diet.

The Nose Knows: Specially trained giant African rats were 44% more effective in detecting tuberculosis in sputum samples than standard microscope tests in a new study conducted in Tanzania by Western Michigan University researchers.

Call Me: Two Colorado hospitals are pilot testing a new feature on the free, consumer-based smartphone app, iTriage®. "Tell Us You're Coming" allows patients to fill out intake forms on their way to the emergency department, alert staff about allergies or special needs, and even request an extended-size wheelchair upon arrival.

Fountain of Youth? Researchers have found that a growth hormone antagonist called MZ-5-156 is more likely to ease the signs of aging than growth hormone itself. In their study, conducted in a mouse model, the "un-growth" hormone inhibited several cancers and had positive effects on learning and short-term memory. (Dec. 6 online edition of the *Proc Natl Acad Sci*) ■

National Health Observances

- **National Sleep Awareness Week;** March 7–13; National Sleep Foundation; (202) 347-3471; www.sleepfoundation.org
- **World Tuberculosis Day;** March 24; World Health Organization; www.stoptb.org/events/world_tb_day
- **National Public Health Week;** April 4–10; American Public Health Association; (202) 777-2425; www.nphw.org

Moonlighting on the Mountain

RT Daniel Hazen watches for fires during his summer job up on Zenobia Peak in Colorado.

Daniel Hazen, MA, RRT, isn't the first respiratory therapist to moonlight in another field, but there probably isn't another RT out there whose second career takes him to the top of a mountain for 10 days at a time. Hazen's does. Every year from May to the end of September, he serves as a fire lookout and park ranger for the National Park Service, manning a lookout tower up on Zenobia Peak, a 9,000-foot summit on the eastern border of the Dinosaur National Monument in Colorado.

"I got the job based on my skills developed from several hobby and volunteer activities," explains the AARC member. "I have been a backpacker for over 30 years and have helped teach map and compass, and land navigation, at the Colorado Mountain Club." He has also been an amateur radio operator since 1999, which gave him the skills he needs to provide emergency communications backup for wild-land fire teams and other agencies.

His primary responsibilities are to survey the territory for smoke and fire, locate such incidents on one of his maps, and then call the location in to one of the dispatch centers. He also reports wind shifts, gusts, and other weather information to firefighters working in his area and to dispatch offices and the National Weather Service.

Hazen notes this job is a nice contrast to being an agency RT during the rest of the year. "Working for the temp agency in the winter, I spend a lot of time driving from home to hospital, sleeping in motels, waiting by the phone for phone calls, never really knowing when or where I will work next," he explains. "In the summer, I go to one place for 10 days at a time, work and live at the same location, can wake up one minute and be at work the next, and work essentially without supervision for 10 days. And I get paid to look out the window all day whereas most people would be fired for doing that!" This doesn't mean he doesn't love his first profession. An RT who got into respiratory care back in the early 1970s, then left the profession to become an attorney, he eventually came back to respiratory care. "During the period after my Mom died suddenly in a car wreck and actually just before my MI and CABGx3, I had begun meditating and had become much more grateful for my life and also much more aware that I and no one else lives forever and that I had better do good and be happy while I can," says Hazen.

"So the idea of going back to patient care and manifesting kindness and compassion was very appealing." He spent a summer studying to retake the CRT exam, passed it in the fall of 2005, and then spent five weeks volunteering with the Red Cross following Hurricane Katrina. After that, he was hired by Respiratory Care Professionals and has worked for the temp agency ever since.

Hazen's two professions might be very different, but in a lot of ways, he points out they're the same too. "I hope the firefighters breathe a bit easier because they know I'm up there watching out for them. I hope my patients breathe a little easier because they are getting my technical care and emotional caring," he says. "I think about and look forward to retirement when I won't have to work, but at the same time I love both my jobs so much I think I'll want to continue working in both fields at least to some extent." ■

Defective CFTR Doesn't Just Cause Cystic Fibrosis

The protein produced by defective CFTR genes (known to cause cystic fibrosis) might be contributing to other chronic lung diseases as well, conclude Johns Hopkins researchers publishing in the December issue of the *Journal of Immunology*. In a study conducted in mice and in lung tissue from people with and without emphysema, they found lower amounts of CFTR on the cell surface in people with emphysema and also noted that changes in CFTR corresponded directly to disease severity and to increased buildup in the lung cells of a fatty molecule called ceramide, a well-known trigger of inflammation and cell death.

Investigators also looked at the role played by cigarette smoke in lung damage and how it might be related to CFTR. The lungs of smoke-exposed mice had decreased CFTR expression and increased ceramide levels. "Our findings suggest that CFTR is a multi-tasker protein that is not only involved in chloride transport but also in regulating cell death and inflammation by keeping in check the rampant and dangerous accumulation of ceramide," says principal investigator Neeraj Vij, PhD. ■

H1N1 Vaccine Safe and Effective in People with Asthma

A new study on the use of inactivated 2009 H1N1 influenza vaccine in people with asthma indicates that a single dose of vaccine is safe and induces a strong immune response predictive of protection. However, people over the age of 60 with severe asthma may require a larger dose.

U.S. researchers involved in the National Heart, Lung, and Blood Institute's Severe Asthma Research Program looked at 390 people aged 12–79 years who were divided into two groups based on the severity of their asthma. Half of the participants in each group received a 15-microgram dose of vaccine, while the other half received a 30-microgram dose, both by injection. Three weeks later, each participant received a second dose in the same amount as the first dose. The investigators measured the level of antibodies against the 2009 H1N1 influenza virus in blood samples taken from the participants three weeks after each injection to assess the strength of the immune response.

In participants with mild to moderate asthma, and in most participants with severe asthma, a single 15-microgram dose was sufficient to induce a presumably protective immune response. The immune response seen after the first dose was not further improved after the second dose, indicating that a single dose was adequate. Participants over age 60 with severe asthma had diminished immune responses to the 15-microgram dose, but the 30-microgram dose gave an adequate response. The study was sponsored by the National Institutes of Health and published online in the *Journal of Allergy and Clinical Immunology*. ■

By the Numbers

According to the Agency for Healthcare Research and Quality, more than one in five hospital patients in 2008 were over age 75. Patients between the ages of 75 and 84 accounted for 14% of the 40 million U.S. hospital admissions, while those 85+ made up 8% of admissions. Other findings include:

- Treating patients age 75+ costs hospitals more than $92 billion, compared with $65 billion for patients ages 65–74.
- People age 85+ were more than twice as likely to be hospitalized as those age 65–74 years old (577 vs. 264 stays per 1,000 population). They were also nearly three times more likely to require nursing home or another type of long-term care after leaving the hospital.
- Congestive heart failure was the number one reason for hospitalizing people age 85+ (44 stays per 1,000 population). Other leading reasons were pneumonia, blood poisoning, urinary tract infections, and heart rhythm disorders (36, 27, 24, and 23 stays per 1,000 population, respectively).
- For those age 75–84 years, the top five reasons for hospitalization per 1,000 population were: congestive heart failure (23 stays), pneumonia (20 stays), heart rhythm disorders (17 stays), blood poisoning (16 stays), and osteoarthritis (15 stays). ■

Georgia RTs Partner with Kohl's Cares for Kids

by Clifton Dennis, RRT, AE-C

In the fall of 2006 there were four pediatric asthma deaths in the Central Savannah River Area (CSRA) of Georgia. This initiated an investigation by the Centers for Disease Control and Prevention (CDC) to look into the root cause, and one of the CDC recommendations called for increased community asthma awareness.

The respiratory care department at MCG Health spoke with grant writers in the organization about finding a funding stream to provide this community awareness. Since MCG Health already had an established relationship with Kohl's Cares for Kids to provide community education, we were able to secure a grant from the program for community asthma awareness. The first year we received $17,000.

We are now in our third year, and the grant has been increased to $27,000. This money is used to provide community asthma screenings that include the Asthma Control Test (ACT) and spirometry, as well as asthma kits containing a peak flow meter, spacer, and asthma education materials. The kits are valued at $75 each.

We screen children and distribute the kits at an asthma carnival held in the parking lot of the local Kohl's department store. The carnival features inflatables, rock-climbing walls, and sno-cones to entertain the kids; and we average an attendance of 200 children. The event is staffed by volunteers from the respiratory care department and the local CSRA Asthma Awareness Coalition.

Our last carnival was staffed by 24 therapists, who worked during two shifts to provide spirometry, ACT testing, and asthma education on triggers, peak flows, spacers, and community support services. Any participant who scores 19 or higher on the ACT is sent on for spirometry, and we provide asthma education to all participants,

with special emphasis on those with a previous history of asthma. The carnival regularly uncovers children with previously undiagnosed asthma.

The asthma carnival has become an event that our therapists, both pediatric and adult, look forward to every year. Our community events are eligible for the clinical ladder as well, which allows therapists to increase their total compensation. The coordinators of the carnival, along with 11 other staff members, are certified asthma educators, which ensures that we provide a consistent message to all participants.

I believe our willingness to work with Kohl's on this positive community awareness project has benefited both the department store and MCG Health. We are constantly looking for funding sources to increase community awareness about the seriousness of asthma, particularly in the underserved pediatric population. ■

Clifton Dennis is a lead respiratory therapist and asthma educator at Children's Medical Center, Medical College of Georgia, in Augusta.

A Paradigm Change for Lung Cancer Treatment in the Elderly?

The French Intergroup of Thoracic Oncology, who planned to include 520 patients in a study to compare combination therapy for lung cancer in older patients with single therapy, stopped the research early because an interim analysis found a significant improvement in median survival time for patients assigned to the combination therapy group.

Results showed 45.1% of the combination therapy patients were still alive at one year versus 26.9% of the single therapy patients. Overall survival was 10.3 months versus 6.2 months. The researchers believe their findings could lead to a change in the way lung cancer is treated in patients over 70, who now typically receive single-agent therapy due to toxicity concerns. ■

▶Transitions

Stephen R. Pitts, MBA, RRT, is the new CEO at Morehouse General Hospital in Bastrop, LA. Pitts began his health care career more than 39 years ago as a respiratory therapist in Miami, FL. He earned his associate in science degree in RC from Miami Dade Junior College before going on to earn bachelor's and master's degrees in business administration from Dallas Baptist University.

Garry W. Kauffman, MPA, RRT, FAARC, former director of strategic implementation at Lancaster General Health in Lancaster, PA, is now CEO at Select Specialty Hospital in York, PA. Select Medical is the nation's largest provider among long-term acute care hospitals, with more than 100 throughout the United States. Kauffman, a past president of the AARC, also serves as the Pennsylvania Society for Respiratory Care's governmental affairs chair, chair of the AARC Informatics Roundtable, and AARC Program Committee Management Section liaison. (Photo 1)

Lynn LeBouef, BSRC, RRT, has been elected to a two-year term on the Texas Hospital Association Board of Trustees. LeBouef is president and CEO of Tomball Regional Hospital in Tomball, TX. He earned his degree in RC from St. Mary's Dominican College in New Orleans in 1978 and was named the AARC Management Section Specialty Practitioner of the Year in 1996.

David Empey, MBA, RRT, has been named director of regulatory compliance at Zynex Inc., a provider of pain management systems and electrotherapy products for patients with functional disability. He comes to the position from Premier Medical Corporation, where he served as vice president of operations and compliance.

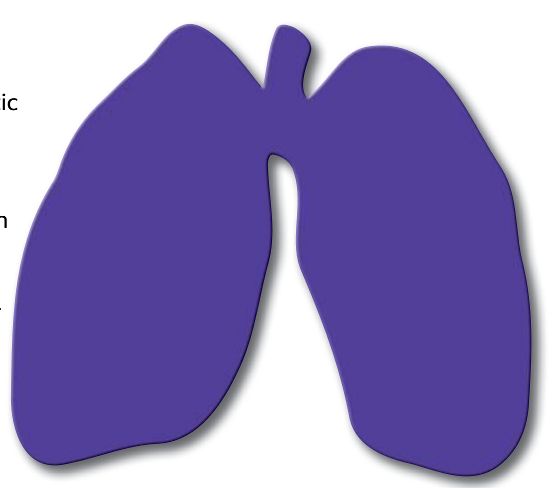
Robert E. Glass, RRT, passed away in Lakeland, FL, last December. A Life Member of the AARC and former member of its Board of Directors, Glass was a charter member of the Indiana Society for Respiratory Care, where he served in many capacities, including two terms as president. During his long career, he worked in RC departments in several hospitals in Indiana and retired from a position at Convacare Services. For many years, he supported the AARC PACT by volunteering his time. He was 78. (Photo 2)

Michael Gillespie, RRT, passed away in January. Known as a pioneer in the profession, he served the California Society for Respiratory Care (CSRC), including as treasurer and vice president, and was also active in the national organization of the AARC. He was a founding member of the American Respiratory Care Foundation board of trustees, as well, and received the honor of life membership in both the CSRC and AARC in the 1980s. Gillespie worked for many years as director of respiratory care at Beverly Hospital in Montebello, CA.

Robert F. Culp died in late January following a prolonged illness. An Army veteran, Culp worked for many years as a Veterans Administration hospital therapist, including as director of respiratory therapy for the VA hospitals in the southern New York and New Jersey area. He was 68.

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

High Number of Stem Cells May Predict BOS in Transplant Patients



University of Michigan researchers have developed a new diagnostic tool to predict bronchiolitis obliterans syndrome (BOS) in lung transplant patients. The tool is based on research showing that patients with a high number of stem cells in their lungs six months after transplantation are significantly more likely to develop BOS than those with lower counts. "By the time we usually diagnose BOS, there's already been a huge decline in lung function," study author Vibha Lama, MD, was quoted as saying. "If we can find the disease early, we can potentially do something about it."

BOS is the leading cause of death for those who survive one year after lung transplantation. More than half of recipients develop BOS within five years. The University of Michigan study was published in a recent issue of the *American Journal of Respiratory and Critical Care Medicine*. ■

Most Smokers Are Already Motivated To Quit

Motivational interviewing is commonly touted as a way to help people quit smoking, but new research out of the University of Alabama at Birmingham questions the method. In a meta-analysis of 31 smoking-cessation studies, investigators found only a small effect for the technique, which attempts to help people overcome their ambivalence about making a positive lifestyle change — and less of an effect than that seen in studies involving people with alcohol or drug addictions.

"The issue here may be that most smokers are not ambivalent about quitting," study author Peter S. Hendricks, PhD, was quoted as saying. "In fact, there is good reason to believe that smokers very much want to stop smoking." These motivated smokers, he continues, could really benefit more from a program designed to help them overcome their dependence on cigarettes.

However, Dr. Hendricks and his colleagues aren't ready to ditch the technique entirely, noting that it did show promise in certain smokers, including adolescents and those with medical problems, low tobacco dependence, or little motivation to quit. The research was published in a recent issue of the *Journal of Consulting and Clinical Psychology*. ■

Mechanical Ventilation Set to Music May Soothe Patients

Can music soothe the restlessness of your mechanical ventilator patients? Yes, report Drexel University researchers who reviewed the data from eight trials involving 213 patients. In seven of the studies, patients listened to pre-recorded music; and in the eighth, a trained music therapist provided live music with a tempo matched to the patient's respiratory rate. Compared to standard care, listening to music reduced anxiety and heart and breathing rates. Blood pressure, however, was unchanged.

"These results look promising, but we need more trials to strengthen the evidence, and we would certainly be interested in seeing more research on live music interventions provided by trained music therapists," study author Dr. Joke Bradt was quoted as saying. "Since music listening is an easy treatment to provide, we do recommend that music be offered as a form of stress management for critically ill patients." The study was published in the December *Cochrane Database of Systematic Reviews*. ■

New Members

Welcome to the AARC

U.S. Members

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Carllson, Christine, Bethel, Ak*

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Yarnish, Jerome, Birmingham, Al*

Dedmon, Lee Ann, Lowell, Ar*
Johnson, Cherie, Jacksonville, Ar*
Kannard, Kenneth, Little Rock, Ar*
Melton, Paula, Mabelvale, Ar*
Sanders, Jerry, Jacksonville, Ar*
Siddiqui, Mohammad, Little Rock, Ar*
Stecks, Ruth, Mayflower, Ar*
Taylor, Allan, Ward, Ar*

Aguirre, George, Phoenix, Az
Bartlett, Kerilyn, Phoenix, Az
Berglund, Jeffrey, Phoenix, Az
Brown, Stephen, Phoenix, Az*
Buesing, Joshua, Phoenix, Az
Burrell, Stephanie, Phoenix, Az
Chavez, Mario, Phoenix, Az
Clah, Lynette, Phoenix, Az
Conchos, Samantha, Phoenix, Az
Cox, Demetrius, Phoenix, Az
Dietz, Jessica, Phoenix, Az
Edwards, Frances, Tucson, Az*
Garcia, Daniel, Phoenix, Az
Gillespie, Brandon, San Tan Valley, Az*
Hamilton, Eric, Phoenix, Az
Irons, Clyde, Phoenix, Az
Johnson, Bethany, Phoenix, Az
Kropf, Randal, Phoenix, Az
Lambert, Jeremy, Phoenix, Az
Lebarre, Cody, Phoenix, Az
Leroy, Diane, Phoenix, Az
Lowell, Amelia, Mesa, Az*
Lynn, Jeffery, Phoenix, Az
Malinovic, Snjezana, Phoenix, Az
Malone, Consuela, Phoenix, Az
Marshall, Devala, Phoenix, Az
Medley, Shani, Phoenix, Az
Miniefield, Lakeisha, Phoenix, Az
Murphy, Jennifer, Phoenix, Az
Murray, David, Phoenix, Az
Peterson, Phillip, Phoenix, Az
Ramsey, Madeline, Tucson, Az*
Richmond Lane, Dorenda, Phoenix, Az
Rodela, David, Phoenix, Az
Rupe, Jake, Phoenix, Az
Shafer, Samantha, Phoenix, Az
Smith, Jeff, Phoenix, Az
Sortheppharak, Sopha, Phoenix, Az
Thomas, Leno, Mesa, Az
Thomspon, Cheryl, Tucson, Az
Vazquez, Gilbert, Phoenix, Az
Walker, Deborah, Phoenix, Az
Walker, Renee, Mesa, Az*
Widder, John, Phoenix, Az*

Abreu, Eric, San Diego, Ca
Achanzar, Ethel, Morgan Hill, Ca
Acuna, Beverly, San Jose, Ca*
Andrew, Cherise, Turlock, Ca*
Arias, Marc, Huntington Beach, Ca*
Beckman, Jay, San Diego, Ca*
Berman, Gary, San Ramon, Ca
Blancaflor, Celedonio, La Crescenta, Ca
Bowers, Mary, Palm Springs, Ca*
Bush, Maureen, Elk Grove, Ca*
Condren, Chad, Bakersfield, Ca
Craddock, Krystal, Paradise, Ca*
Cueson, Mario, Pasadena, Ca
Custodia, Brenda, Daly City, Ca
Delgado, Michael, San Diego, Ca*
Demaio, Debbie, Claremont, Ca
Denmark, Nicole, Red Bluff, Ca
Diaz, Jesse Ricky, Emeryville, Ca*
Donner, Linda, Thousand Oaks, Ca*
Dunton, Shannon, Santa Cruz, Ca*
Fan, Chi Hang, Los Angeles, Ca*
Francisco Pons, Mary Jane, Union City, Ca*
Ghiron, James, Emeryville, Ca*
Giannotti, Heather, Tracy, Ca*
Gonzalez, Cecilia Y, Highland, Ca*
Gregory, Eric, Nipomo, Ca*
Hilliard, Laura, El Cajon, Ca*
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La Fargo, Kristina, Redding, Ca*
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Lapp, David, San Jose, Ca*
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Maupin, Carla, San Francisco, Ca*
Mejia, Joseph, La Mirada, Ca*
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Oldfield, Rodney, Modesto, Ca*
Ong, Michael, Pittsburg, Ca*
Oyama, Jody, San Ramon, Ca
Parra, Rudy, Modesto, Ca*
Pineda, Jaime, Long Beach, Ca*
Poserio, J-Way, Santa Clarita, Ca
Prado, Jeremy, Downey, Ca*
Quaresma, Aaron, San Jose, Ca
Rahmani, Mansoureh, Aliso Viejo, Ca*
Rice, Mary, El Cajon, Ca
Rodriguez, Dana, Tustin, Ca*
Rogers, Kerman, Newport Beach, Ca*
Romero, Larry, Bakersfield, Ca*
Ruff, Brian, Bakersfield, Ca*
Sanchez, Tera, Modesto, Ca
Settles, Jonathon, Bakersfield, Ca*
Sito, Vanjel, Hayward, Ca
Sloan, Cleshae, Perris, Ca*
Smith, Grant, Linden, Ca
Snider, Mary Ellen, Napa, Ca*
Sola, Belinda, La Mirada, Ca*
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Stowe, Lance, Oakdale, Ca*
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Truesdell, Greg, Visalia, Ca*
Villasenor, Refugio, El Centro, Ca*
Warner, Danica, Murrieta, Ca*
Washburn, Lara, Granada Hills, Ca*
Williams, Carol, Chino, Ca
Willis, Mark, Kingsburg, Ca*
Ybarra, Matt, Milpitas, Ca*
Zargarian, Sahak, Glendale, Ca*
Zenuk, Kathleen, Concord, Ca

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Kemp, Tamara, Colorado Springs, Co*
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Mohammadi, Abdullah, New Haven, Ct
Sharofi, Saimir, Newington, Ct*

Hearst, Rene, Washington, DC*
Williams, Andrew, Washington, DC

Crowe, Dana, Middletown, De*
Rockle, Wendy, Wilmington, De*
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Zaitoon, Karim, Debary, Fl*

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Sage Schmdit, Dawn, Grand Rapids, Mi*
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Benson, Shannon, Mayo Rochester, Mn
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Egeland, Bobbie, East Grand Forks, Mn
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Gemeda, Mergitu, East Grand, Mn
Haas, Nicole, Rochester, Mn*
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Jiacoma, Mary, East Grand Forks, Mn
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Nureini, Musse, East Grand Forks, Mn
Opp, Debbie, East Grand Forks, Mn
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Hughes, Randy, West Plains, Mo
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Louis, Stacey, Lee's Summit, Mo

McCarthy, Kevin, Odessa, Mo
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Woods, Nicole, Belton, Mo

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Smith, Cindy, Purvis, Ms*

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Bibee, Marcia, Ruffin, NC*
Cartwright, Vonetta, Kinston, NC*
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Wright, Kimberly, Teaneck, NJ

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Elder, Donald, Rio Rancho, NM
Garza, Kristen, Artesia, NM*

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Day, Don, Henderson, Nv*
Maguire, Mike, Las Vegas, Nv*
Pitts, Marla, N Las Vegas, Nv*
Totten, Kyle, Las Vegas, Nv

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Charles, Michael, Brooklyn, NY*
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Feliu, Luis, Rego Park, NY*
Gacioch, Justin, Endwell, NY*
Gingeleski, James, Cincinnatus, NY*
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Jorgensen, Christian, Dublin, Oh
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Redick, Christopher, Dayton, Oh
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Robison, Theresa, Columbus, Oh*
Rosenhahn, Joseph, Okeana, Oh*
Sampson, Anthony, Cincinnati, Oh*
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Waddle, Natalie, Columbus, Oh*

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Dehority, Jasen, Midwest City, Ok
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Wells, Holly, Broken Arrow, Ok*

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Delgadillo, Sarla, Springfield, Or
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Shelton, M'kenzie, Oakridge, Or
Shuck, Christie, Eugene, Or
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Thomsen, Krystal, Springfield, Or
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Woudstra, Jessica, Gresham, Or*

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Carfley, Dianne, Curwensville, Pa*
Edwards, Joanne, Doylestown, Pa*
Englehart, Krystle, Monroeville, Pa
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Fox, Everett, Allentown, Pa*
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Horoski, Diane, Schnecksville, Pa
Jones, John, Wyomissing, Pa
Knox, Christa, Leechburg, Pa*
Lesniak, John, Philadelphia, Pa
Lotz, Gary, Monroeville, Pa
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McClung, Jeffrey, Jacobus, Pa*
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Mossman, Beth, Covington, Pa*
Mulherin, Jeffrey, North Wales, Pa*
Murphy, Michael, New Castle, Pa*
Mutschler, Charlie, Monroeville, Pa

Narcavage, Bonnie, Norwood, Pa*
Ostrowski, Lynn, Monroeville, Pa
Peachey, Dana, Belleville, Pa*
Peffer, Dale, Slippery Rock, Pa*
Pezzella, Jesse, Oreland, Pa*
Piccirilli, Melissa, Hermitage, Pa*
Press, Robert, Pittsburgh, Pa*
Richter, Lori, Pittsburgh, Pa*
Sammy, Marvin, Clarion, Pa*
Sheri, Latimer, Mercer, Pa*
Shreckengos, Tina, New Bethlehem, Pa*
Smith, Mark, Charleroi, Pa*
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Tiffany, Megan, South Fork, Pa*
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Gonzalez, Efrain, Ponce, PR*

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McKenzie, Julie, Darlington, SC*
Meadows, Tim, Simpsonville, SC*
Pollock, Leigh, Greenville, SC*
Sterrett, Mickala, Greenville, SC*
Talbott, Amy, Greer, SC*
Wiren, Tamara, Pickens, SC*

Burdine, Bruce, Hendersonville, Tn
Butler, Candy, Memphis, Tn*
Gould, Stephanie, Clarksville, Tn
Holt, Courtney, Newport, Tn*
Johnson Jackson, Niki, Nashville, Tn*
Johnson, Kelly, Clinton, Tn*
Johnson, Tikita, Franklin, Tn*
Kiani, Yasi, Nashville, Tn
Maginn, Mike, Bartlett, Tn
Morel, Cody, Lebanon, Tn
Osborn, Charles, Dickson, Tn
Parek, Rakesh, Crossville, Tn*
Proffitt, Barbara, Carthage, Tn
Robbins, Jennifer, Nashville, Tn
Sparks, Jason, Memphis, Tn
Stockton, Danna, Greenbrier, Tn
Walker, Melanie, Nashville, Tn
Webster, Carmen, Goodlettsville, Tn
West, Pennya, Baxter, Tn
Williams, Terra, Columbia, Tn
Yolandra, Trezevant, Memphis, Tn*

Ainsworth, Michael, Irving, Tx
Atwell, Samuel, New Braunfels, Tx
Braziel, Vanessa, Lubbock, Tx*
Clark, Sean, Benbrook, Tx*
Cox, Marilyn, Desoto, Tx*
Deroche, Rachel, Nederland, Tx*
Escontrias, Ernie, Frisco, Tx*
Gladney, Deondra, Baytown, Tx*
Hernandez, Stephanie, San Antonio, Tx*
Hill, Jeff, Lubbock, Tx*
Maldonado, Elaine, Salineno, Tx
McComber, Patrick, Irving, Tx
McWilliams, Rosemary, Amarillo, Tx*
Metharatta, Aniji, Missouri City, Tx*
Moorman, Connie, Amarillo, Tx*
Murphy, Carl, Arlington, Tx*
Olinick, Melinda, Corpus Christi, Tx*

Pridgett, Danna, Glenn Heights, Tx
Pura, Jubal, Olney, Tx*
Rocha, Gilbert, San Antonio, Tx*
Sanguinetti, Tamara, Brownsville, Tx
Smith, Larry, Keller, Tx*
Soliz, Kristina, Mission, Tx*
Spencer, David, San Antonio, Tx
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Towers Lomax, Shanada, Forney, Tx*
Unberhagen, Kelly, Austin, Tx
Wedemeyer, Christopher, Georgetown, Tx*
Williams, Danyell, Houston, Tx*
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Karen Stewart

(continued from page 45)

A lifetime of experience

A member of the AARC since 1973, Stewart brings a lifetime of experience to the AARC presidency, having worked her way up from staff therapist to associate administrator of neurology, trauma, and emergency services at Charleston Area Medical Center in Charleston, WV. She's been actively involved in the West Virginia Society for Respiratory Care since the early 1980s and has also chaired the West Virginia Board of Respiratory Care for over a decade, having been appointed by three different governors.

She assisted with the development of legislation in West Virginia to enhance the practice of respiratory care and was a member of the Clinical Laboratory Standards Institute Subcommittee on Managing Medical Device Hazards and Recalls in 1995.

She made her debut in the AARC about midway through her career, serving on numerous committees and as chair of the Management Section from 1992–1997 and again from 1999–2004. She was a member of the AARC Board of Directors from 1999–2004 and served as both vice president of external affairs and vice president of internal affairs in 2006. She was elected secretary-treasurer in 2009.

President Stewart has published a number of papers in Respiratory Care and received Life Membership in the AARC in 2004. She was honored as a fellow of the American Association for Respiratory Care in 2005.

A graduate of St. Joseph's College, Stewart earned her master's degree in health care administration from Marshall University in 1994.

Why we are here

President Stewart believes that by working together to achieve the goals she has set forth for her presidency, AARC members have the great ability to influence the lives of their patients and the families who care for them. "From the smallest neonate, to the mechanically ventilated child, to the chronic lung patient at the end of life, this is what we're about: To help them live long and successful lives and learn how to cope with their chronic pulmonary disease. This is why we are here." ■

Tobacco

(continued from page 49)

Talk to administrators

Of course, before you can educate your patients on how to quit, you have to educate your health care organization about the need for such education. Stewart, who serves as associate administrator of neuro, trauma, and emergency services at Charleston Area Medical Center in Charleston, WV, says respiratory therapists can use the information in the latest surgeon general's report when talking with their own administrators about the value of comprehensive inpatient and outpatient tobacco-cessation programs. "I think that RTs need to stay aware of all of the new safety standards that target smoking cessation and to keep informed about funding available for the creation of therapist-led programs," she says. "There may be grant money in the future that would enable more robust programs."

One great way to get the ball rolling, Stewart explains, is to point out the financial advantages of targeting fellow employees who smoke. "If the employer can realize a cost reduction in their insurance plans, they may be more likely to support additional programs for patients."

Dr. Waugh says the new report should facilitate the process for respiratory therapists. "Because the published findings are grouped, reviewed, and summarized in one document, it will make it much easier for clinicians to find the information they need and organize it into new presentations that address specific local applications," he points out. "Offer to give update sessions on tobacco to other health care professionals in your institution using the new material. Volunteer to present this information at state society and regional meetings. Peer education will have a much wider impact than just educating the patients you are able to see."

The time to act is now

The 2010 surgeon general's report is the 30th to be issued by the office since Dr. Luther Terry released the first report linking smoking and disease in 1964. Together these reports provide an overwhelming and conclusive body of evidence that smoking is not only harmful but, in many cases, deadly. As the executive summary so aptly concludes, "For our nation's public health, the time to act decisively and with resolve, to end one of the most deadly epidemics that this nation has ever known, is *now*." ■

ADDITIONAL READING

American Lung Association website. Did your state make the grade? Available at: www.stateoftobaccocontrol.org/ *Accessed Feb. 1, 2011*

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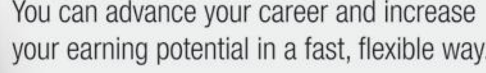

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AARC & State Society Programs

March 16–17
Dubai, United Arab Emirates
AARC Asthma Educator Course
Contact www.gulfthoracic.com/scientific-program.php

March 24–25
Daytona Beach, FL
FSRC Sunshine Seminar
Contact Dennis Willerth at (866) 534-6172 or www.fsrc.org

March 24–25
Nashville, TN
TSRC 2011 Pulmonary University
Contact TNTSRC.org or Kim Kermeen at (615) 328-6653 or Kim.Kermeen@lpnt.net

March 28–29
Birmingham, AL
ASRC Annual Conference and Exhibits
Contact www.alsrc.org

March 30–31
Newport, RI
RISRC Newport Conference
Contact Dorothy Lunin at www.risrc.org

April 14–15
Cocoa Beach, FL
Space Coast Cardiopulmonary Conference
Contact Dennis Willerth at (866) 534-6172 or www.fsrc.org

April 14–15
King of Prussia, PA
Eastern Regional Conference
Contact Tom Lamphere at (215) 687-2904 or www.psrc.net

April 14–15
Park City, UT
UTAHSRC's "Reach Out"
Contact Kim Bennion at (801) 347-1269 or www.utahsrc.org

April 18–19
Grand Forks, ND
NDSRC Meeting and Conference
Contact Jana Becker at (701) 780-5531 or www.ndsrc.org

April 20–22
Ames, IA
Preparing for the Future: Moving Forward Together as a Team
Contact Rebecca Poe at www.iasrc.org

April 20-22
Missoula, MT
Montana Society of Respiratory Care
Contact Casey Phalen at (406) 853-3284 or www.msrcmt.com

April 27–29
Baton Rouge, LA
41st LSRC Annual Education Meeting
Contact Raymnond Pisani at (985) 380-4517 or www.lsrc.net

May 3–4
Plantsville, CT
CTSRC Super Symposium XXIX
Contact Susan Albino at (203) 527-8317 or www.ctsrc.org

May 4–6
Breckenridge, CO
CSRC State Conference
Contact Mindy Lemons at (303) 765-3854 or www.colosrc.org

May 4–6
Osage Beach, MO
40th Annual MSRC Conference and Business Meeting
Contact Lisa Newcomer at (573) 331-5191 or www.mosrcstatemeetings.com

May 9–11
San Diego, CA
43rd Annual CSRC Convention
Contact Abbie Rosenberg at (888) 730-CSRC or www.csrc.org

May 21–22
Anchorage, AK
ASRC Annual Educational Conference
Contact Liz Collins or Paul Drake at (907) 714-4438

June 1–3
Oak Brook Terrace, IL
ISRC 43rd Conference and Exposition
Contact www.isrc.org or Kelli DeBerry at (847) 981-3581 or deberryk@Alexian.net

July 18–20
(Monday–Wednesday)
Vail, CO
AARC Summer Forum
Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

October 23–29
Respiratory Care Week
Contact AARC, (972) 243-2272, www.aarc.org

November 5–8
Tampa, FL
AARC International Respiratory Congress
Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

Submissions for the next available issue are due March 24.

For information on submitting calendar events, contact: Beth Binkley, AARC Times
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