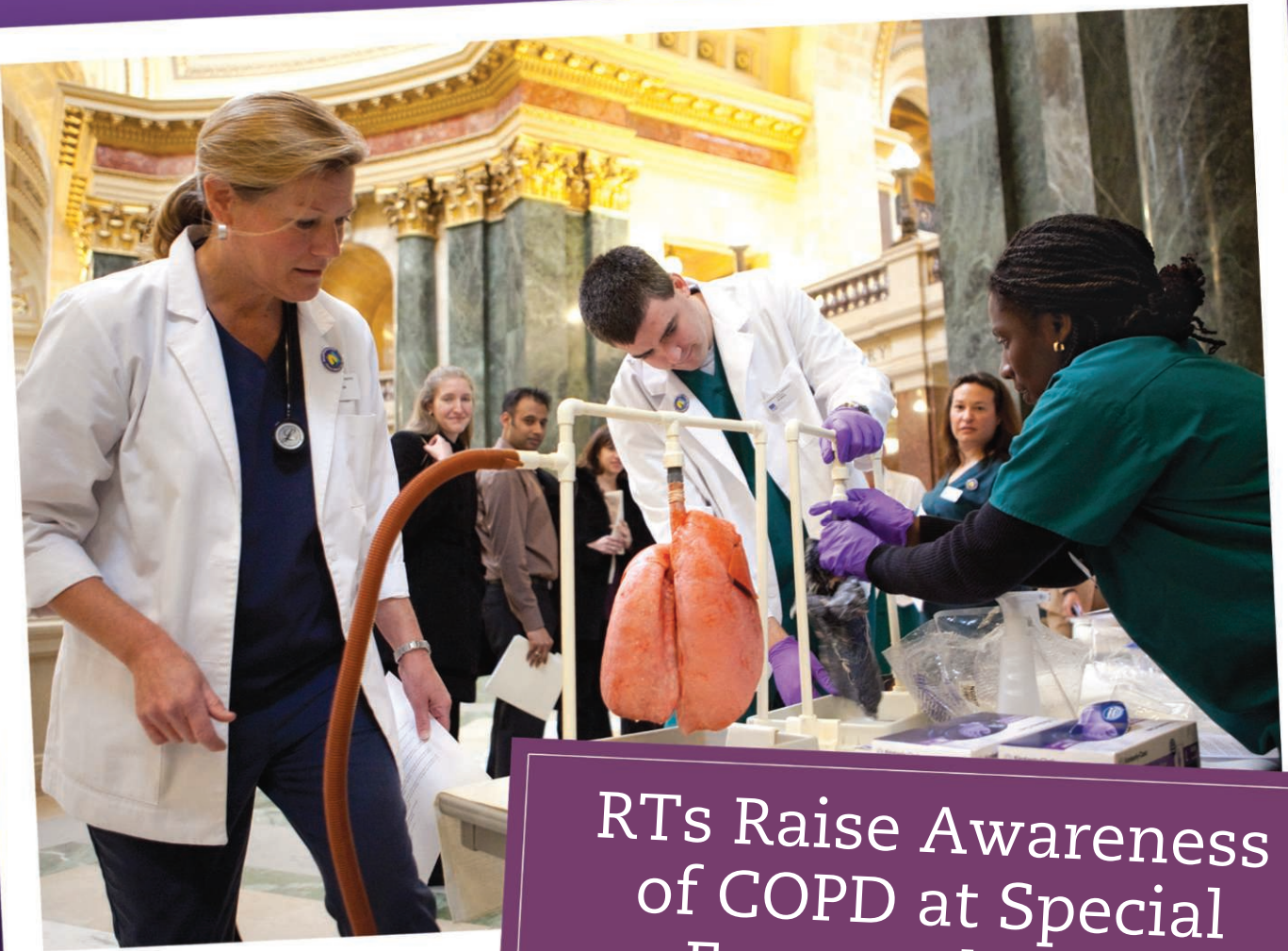




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## AARC Strategic Plan

**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](http://www.aarc.org/members_area/resources/strategic.asp).

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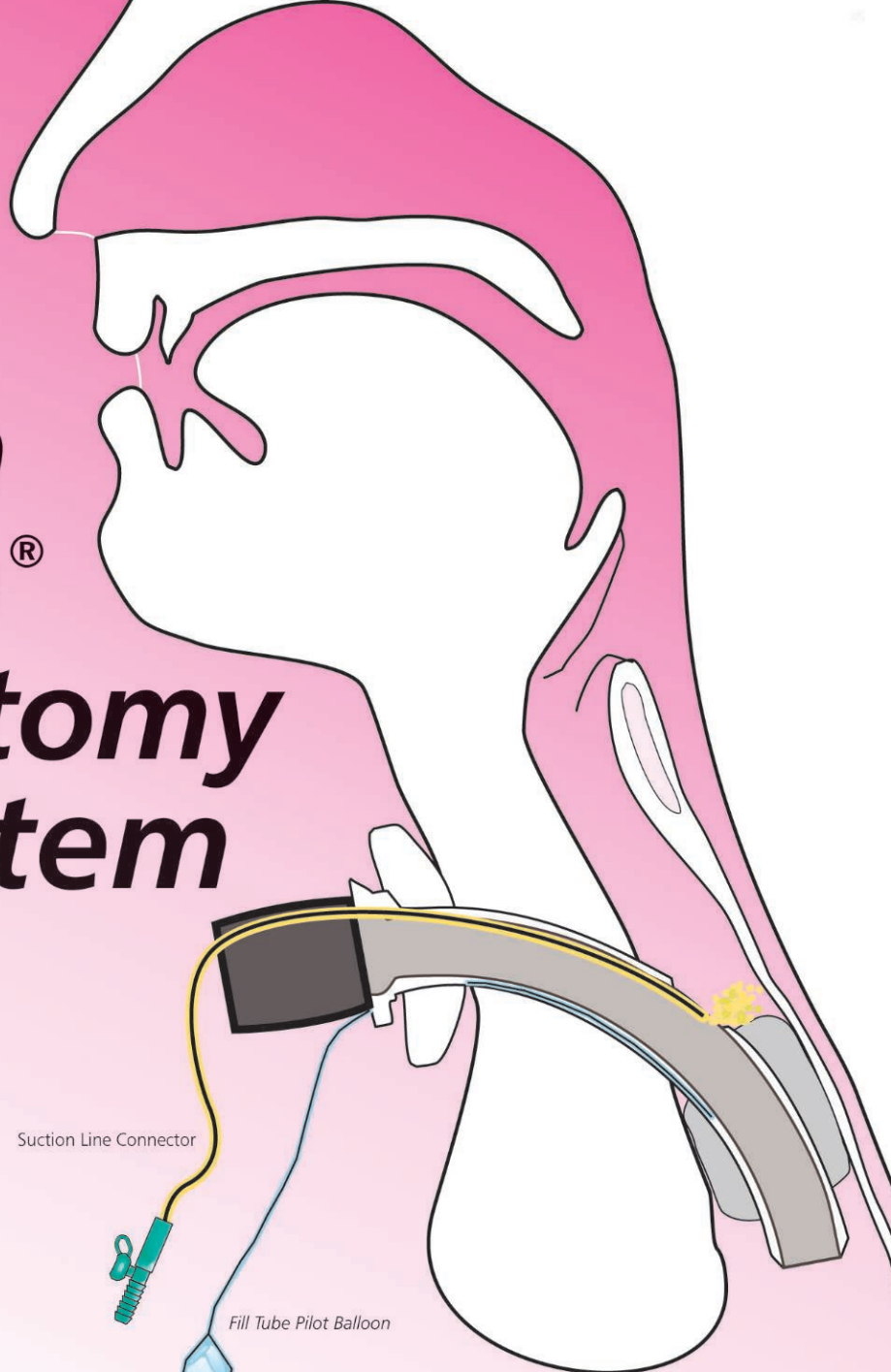
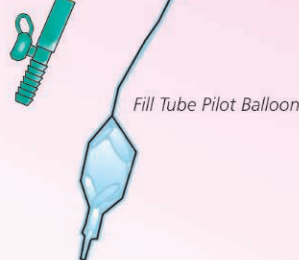
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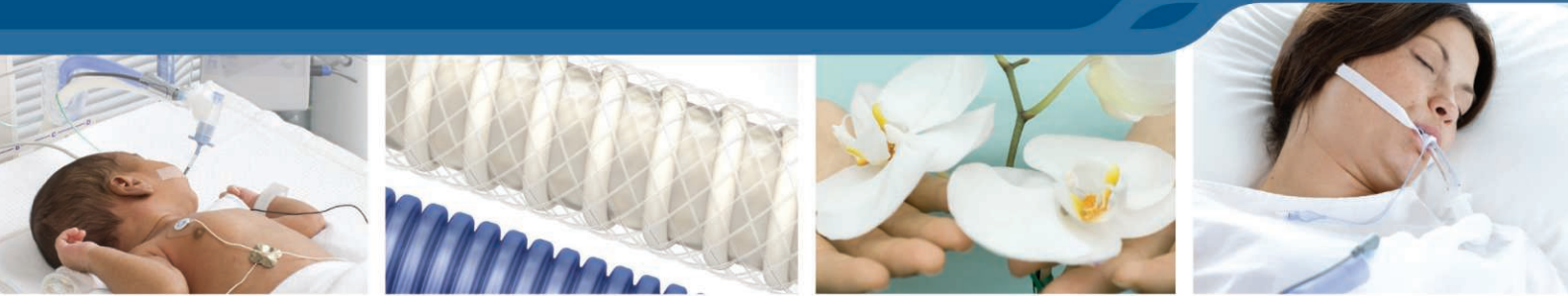
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## Differentiation and Management of Asthma and COPD

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

**A**sthma and COPD are two of the most frequently occurring diseases in the United States and the world. As respiratory therapists, most of us have daily contact with patients who have one or both of these diseases. The incidence of COPD and asthma is increasing, and the sheer number of patients with these problems places a multi-billion-dollar burden on our health care system. As most respiratory therapists are still hospital-based, we see patients with asthma and COPD primarily when they have an exacerbation. There is an interest and migration toward the primary care arena, since it is so much easier to treat these disorders before they exacerbate. The focus of this article is on differentiating these diseases and identifying the primary care management strategies.

### Asthma

Asthma affects more than 22 million people in the United States, including over 6 million children.<sup>1</sup> Asthma is characterized by variable and recurring symptoms, airflow obstruction, bronchial hyperresponsiveness, and underlying inflammation. Symptoms include but are not limited to: cough, wheeze, shortness of breath, and chest tightness. The pathophysiology consists of underlying chronic inflammation of the airways. When this inflammation worsens, the airways become hyperresponsive to environmental stimuli. Concurrently, inflammation causes swelling of the airways. These mechanisms combine to cause the clinical symptoms we see in our patients with asthma. Patients with asthma present differently when exposed to different triggers (factors that worsen asthma symptoms). Many phenotypes of asthma have been described, such as allergic asthma, exercise-

induced asthma, and cough variant asthma, each of which have slightly differing presentations and, recently, differing therapeutic approaches. Importantly, asthma is associated with exposure of the susceptible individual to allergies, exposure to environmental factors (smoke, perfumes, vapors), emotion, esophageal reflux, obesity, and many others. In children who develop asthma, this susceptibility to environmental stimuli seems to occur early in life as the immune system develops, at least in individuals who develop allergies. The other important factor differentiating asthma from COPD is that asthma symptoms are episodic and largely reversible with bronchodilators. Pulmonary function and radiographs are usually normal between exacerbations. Asthma may be recognized in individuals of any age, although it is sometimes difficult to differentiate it from other disorders that cause wheezing at an early age (e.g., bronchiolitis, congenital airway, and vascular anomalies). Diagnosis is made using a careful and complete history (including the presence of episodic symptoms), exclusion of mimics of asthma, exposure to substances known to be associated with asthma, allergy testing, and spirometry.

### about the author...



Timothy B. Op't Holt, EdD, RRT, AE-C, FAARC, is professor of cardiorespiratory care at the University of South Alabama in Mobile.

### Chronic obstructive pulmonary disease

COPD, another chronic inflammatory lung disease, encompasses what we have known for years as emphysema and chronic bronchitis. Statistics from the Centers for Disease Control and Prevention indicate that 9.8 million people in the United States were diagnosed with chronic bronchitis in the past year and 3.8 million people have been diagnosed with emphysema. Additionally, more than 13,000 people died of

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**Table 1. Differentiation of asthma and COPD**

	Asthma	COPD
<b>Age at diagnosis</b>	Any age	Usually > 40
<b>Primary predisposing factors</b>	Multifactorial, atopy	Cigarette smoking
<b>Spirometry</b>	Often normal between exacerbations	Always abnormal, progressive deterioration
<b>Symptoms of worsening</b>	Cough, wheeze, shortness of breath, chest tightness	Cough, wheeze, sputum production, change in sputum color, fever
<b>Natural history</b>	Episodic	Progressive
<b>Chest radiograph</b>	Usually normal between exacerbations	Progressive air trapping with worsening

**Management of asthma**

Once asthma is diagnosed, it is classified by severity. Severity is based upon the level of impairment: magnitude of symptoms, number of nighttime awakenings with symptoms, extent of beta-2 bronchodilator use, limitation of activity, and effect on lung function. Severity is also based on the exacerbation risk level: number of exacerbations requiring oral corticosteroids and severity since the last exacerbation. After classifying severity, an asthma action plan is formulated. The asthma action plan includes medications to take based on the stepwise plan of the National Asthma Education and Prevention Program's "Expert Panel Report 3," which includes instruction on how to use the medication devices, how to de-

COPD in the United States in the past year.<sup>2</sup> According to the Global Initiative for Chronic Obstructive Lung Disease (GOLD), "COPD is a preventable and treatable disease with some significant extrapulmonary effects that may contribute to the severity in individual patients. Its pulmonary component is characterized by airflow limitation that is not fully reversible. The airflow limitation is progressive and associated with an abnormal inflammatory response of the lung to noxious particles or gases."<sup>3</sup> Cigarette smoking is the most common risk factor for COPD. COPD is typically diagnosed when a patient has a significant history of cigarette smoking and an obstructive pattern on the pulmonary function test. Spirometry is used for both diagnosis and staging of COPD severity. Diagnosis is usually made after the fourth decade of life. The signs and symptoms of COPD include: increasing shortness of breath, sputum production, crackles and/or decreased breath sounds, and decreased exercise tolerance that is progressive and that may become disabling. With each exacerbation, pulmonary function does not return to values before the exacerbation.<sup>3</sup>

While both asthma and COPD are inflammatory obstructive lung diseases, there are important differences in clinical presentation, as shown in Table 1.

termine the need for additional medications, what to do if the asthma becomes more severe, and how to recognize and deal with asthma triggers.<sup>1</sup> The therapist will also provide education on asthma itself. After two to six weeks of care using the asthma action plan, the patient is reevaluated to determine the level of asthma control. Based on the criteria to determine severity and a standardized asthma quality of life tool, the asthma is determined to be well controlled, not well controlled, or very poorly controlled. If the asthma is well controlled, the patient continues therapy for an additional three to six months, after which they are re-evaluated to determine if therapy may be stepped down. If the patient is not well controlled or poorly controlled, consideration is given to stepping up therapy one or more levels. At the same time, the asthma educator reevaluates the patient or caregiver's ability and success in environmental control of triggers and evaluates use of inhaled medication devices. In the past, the hospital therapist had no role in what has just been described — he or she gave the ordered therapy to get the patient past the exacerbation and get them discharged. A contemporary approach is for the therapist to work with the patient's physician to establish an action plan, proceed with the steps described above, and provide a written asthma action plan before discharge. This aids in preventing the

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all-too-frequent relapses, repeated hospitalizations, and improves quality of life.<sup>1</sup> This places the therapist in the role of physician extender: one who participates in the plan of care and discharge planning. Efforts by the AARC are ongoing to improve reimbursement for therapists' services in physicians' offices, which offers a rich opportunity for respiratory therapists who wish to work in the primary care setting. Presently, this is not a reimbursement to the therapist but rather a reimbursement to the physician's office under Medicare Part B.

### Management of COPD

Once the diagnosis is made, the severity of the disease is determined using the criteria set forth by the GOLD guidelines. Obstruction is defined by the presence of an  $FEV_1/FVC\% < 70\%$ . Severity is then classified according to the  $FEV_1/FVC\%$  and  $FEV_1$  (see Table 2).<sup>3</sup> When the patient does not exhale completely, the volume over a shorter period of time (e.g., 6 seconds) may be used as an approximate surrogate for FVC. When this shorter time period is used, the volume label should reflect this shorter time

**Table 2. COPD severity, as defined by GOLD<sup>3</sup>**

	$FEV_1/FVC\% < 70\%$ and $FEV_1$
Mild COPD	$\geq 80\%$ predicted
Moderate COPD	50% – 80% predicted
Severe COPD	30% – 50% predicted
Very severe COPD	$< 30\%$ predicted or $< 50\%$ predicted, plus chronic respiratory failure

(i.e.,  $FEV_6$ ). The  $FEV_6$  has been considered to be a reliable substitute for FVC.<sup>4</sup> However, the  $FEV_6$  is not referred to in the GOLD guidelines for classifying severity of COPD.<sup>3</sup>

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of breath. This is followed by the addition of long-acting beta-2 agonists, tiotropium, inhaled corticosteroids, and continuous oxygen therapy as the disease progresses. The patient needs to be educated about the disease and given tobacco-dependence counseling if still smoking. Information about lifestyle changes, breathing exercises, and end-of-life issues counseling should be included in the plan of care as needed. Rehabilitation should be offered to all patients who have COPD that is moderate or worse.

In-hospital management of exacerbations should include these issues, or else relapse and readmission may follow quickly. Care for the patient with stable COPD or COPD exacerbation should include these patient education pieces to help avoid these almost inevitable relapses, which are costly both from health status (quality of life, morbidity, and mortality)<sup>5</sup> and financial viewpoints.

**Understand and implement the guidelines**

In summary, asthma and COPD are inflammatory, chronic airway diseases. While asthma is often associated with patients earlier in life and with allergies, COPD is di-

agnosed later in life, often after a long history of cigarette smoking. Evidence-based guidelines for both diseases are available, offering a stepwise approach to severity and therapy. Respiratory therapists need to understand and implement these guidelines in their practice in order to improve patient and economic outcomes. ■

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# Optimizing Adherence in the Treatment of Obstructive Sleep Apnea

**S**tatistics show more than 12 million Americans have some form of sleep-disordered breathing (SDB), with obstructive sleep apnea (OSA) being the most common disorder. Relief from the nighttime sleep disturbances and daytime sleepiness caused by these conditions is often only as far away as a positive airway pressure (PAP) device. But getting patients to comply with the therapy is an uphill battle in a significant number of cases. Indeed, about 50% of people who begin PAP therapy discontinue its use within the first year.

How can you convince your patients that PAP therapy is worth using? AARC's "The Clinician's Guide to PAP Adherence" (available at [www.aarc.org/education/pap\\_adherence/](http://www.aarc.org/education/pap_adherence/)) includes some good advice that any therapist can employ in his or her practice.

### Why people balk

The first step in overcoming patient resistance to the use of PAP devices is to understand why people balk at the therapy in the first place. According to the PAP adherence guide:

**It can be unpleasant:** Air pressure in the upper airway may be uncomfortable, and it can also cause irritation or drying of the nasal passages that can lead to a feeling of congestion and/or a reflex rhinorrhea, as well as epistaxis in some cases. At higher pressures, or in the event of the mouth opening with the use of the nasal interface, the patient may also experience a dry throat and mouth. A painful pressure in the ears caused by air in the Eustachian tubes has been noted in rare cases as well, and higher pressures may be associated with swallowing air, especially if the patient has a relatively low esophageal opening pressure.

**Too many side effects:** An ill-fitting mask interface can exacerbate the most commonly seen complaints: pressure sores, eye irritation, development of skin creases,

and air leaks. Up to 75% of patients will experience one or more of these problems.

**Not enough education:** Often patients fail to comply with PAP therapy because they never received adequate education about the treatment or how to handle side effects. Ideally, education on SDB starts at the initial physician evaluation; continues throughout the evaluation, testing, and equipment set-up process; and includes information on expected outcomes as well as an explanation of the therapy and use and maintenance of the equipment.

**In denial:** Because the sleep disorder has probably been with the patient for some time, and most likely was brought to the patient's attention by a spouse or family member, some patients may deny the seriousness of the diagnosis and remain reluctant to accept therapy. It is important to include family members in the education process to give them the opportunity to provide support to the patient.

**Cognitive impairments:** Patients with severe sleepiness from untreated SDB and/or other learning challenges may have less than an ideal ability to assimilate information, so repetitive instructions and return demonstration of equipment use is critical.

**Untrained clinicians/lack of reimbursement:** Sometimes the clinician who is providing education to the patient lacks the background and expertise in sleep disorders and treatment to adequately cover the subject. Other times, education falls short due to provider concerns over reimbursement for the services. Home medical providers are key in the education process, but dwindling reimbursement may be causing them to limit or even eliminate the time they spend educating the patient.



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**Not all PAP devices are created equal:** Sometimes a patient will receive a prescription for one device when another might better serve his/her needs. Again, having a qualified clinician who understands the different devices and interfaces can be invaluable in improving compliance.

**Getting it right**

Clearly, selecting the right devices for the right patient and then thoroughly educating the patient on the use of those devices is paramount to PAP compliance. The AARC PAP adherence guide suggests beginning the process with an assessment of patient, family, and/or caregiver needs. From there, clinicians should follow the manufacturer's orientation guide/manual to provide instruction in the use of the device, being careful to consider the patient's cognitive abilities and any physical limitations, such as finger strength or hand/eye coordination. Help the patient work through expected challenges before they arise and make sure the patient and/or family or caregiver understands maintenance issues, such as how to change filters. It's also important to ensure they un-

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The adherence guide was supported by an education grant from ResMed Corp. ■

derstand the ramp function, as well as how to adjust the humidifier heater setting. Use repeat demonstration to gauge the patient's understanding.

As noted earlier, the interface is crucial to PAP adherence, so take the time to select the device that will best



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suit each individual patient. Ideally, the interface will be chosen during the titration study; and, if possible, the patient should be encouraged to stick with that interface through the first few months of therapy so that he/she can have time to adjust to the therapeutic pressure before a new interface is introduced.

Two important factors in the selection of the interface are: choosing the interface that best fits the patient and asking the patient which interface feels most comfortable. The most effective method for determining fit and function is to have the patient sit at the bedside in a chair, block one nostril and sniff, then repeat the process on the other side to determine if there is a patent nasal airway. This will help determine if a full-face or nasal-oral interface should be considered.

Following PAP titration, some patients continue to have difficulty adjusting to their interface and/or therapeutic pressure. These patients can benefit from a reevaluation in the sleep lab. Once the patient has adapted to the lower pressure, the pressure can be gradually increased to the prescribed level to check for patient comfort, proper fit, and air leaks. This is a good time to inquire about side effects as well, as up to 75% of patients will experience symptoms like drying and sinus pain. A chin strap to keep the mouth closed can help with dry mouth and throat.

### Three proven strategies

What if you complete all of the above steps and your patient still doesn't want to use his/her PAP device? Here are three proven strategies you can use to get things moving back in the right direction:

#### Avoid four common traps:

1. The confrontational-denial trap: *Provider*: "Not using CPAP may increase the risk for a stroke." *Patient*: "I'm young. I'll take my chances."
2. The question-answer trap: *Provider*: "Why don't you want to use CPAP?" *Patient*: "Because I can't stand it." *Provider*: "Why?" *Patient*: "It's not very romantic."
3. The premature focus trap: This occurs when the provider starts giving advice that he/she thinks the patient needs before soliciting any patient input.
4. The expert trap: In this situation, the provider chooses the focus of discussion without asking the patient's opinion.

#### Use the three-step "Ask-Provide-Ask" formula:

1. Ask what the patient knows. ("Tell me what you know about CPAP.")

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2. Provide information with the patient's permission. ("May I share some additional information with you about CPAP?")
3. Ask the patient's reaction to the information. ("What are your thoughts about these additional benefits of CPAP?")

#### Employ the five skills inherent in motivational interviewing:

1. Use *reflective/active listening* to clarify the patient's understanding, diminish resistance, and provide empathy, thus encouraging a discussion of the reasons why the patient should change. ("Tell me your understanding of OSA" or "So you say you would rather not use CPAP.")
2. Ask *open-ended questions*, avoiding "yes/no" answers and trying to discuss the reasons for change. ("What worries you about OSA?" "What

do you think would happen if you don't use CPAP?" "How might CPAP help you?")

3. *Affirm the patient* to support self-efficacy, build a rapport, and reinforce the patient's efforts. ("Thank you for discussing this with me." "It's great you are using CPAP on most nights." "I appreciate your honesty about not using CPAP.")
4. *Summarize* during the interview to reinforce the issue discussed, identify the desire to change, and set an actual plan to change. ("You said that you're concerned about the effect of OSA on your heart. What else?")

**Follow-up is key**

Once your patient appears to be on board with positive airway pressure therapy, follow-up is important to avoid backsliding. Here are some key topics you can address during follow-up visits to gauge your patient's compliance:

- Frequency of use
- Nightly duration of use
- Knowledge of equipment operation
- Interface comfort
- Change in symptoms (snoring, dry mouth, frequent naps, etc.)
- Bed partner response
- Change in comorbid illness
- Change in weight
- Device download data
- Humidifier care.

No one ever said getting a patient to use PAP therapy was easy, but employing the methods described in this article — and covered in detail in the AARC's PAP adherence guide — can substantially increase the number of your patients who not only comply with their therapy but reap the many health benefits that come with adherence. ■

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## Ventilation Strategies in the Postoperative COPD Patient

by Roger Seheult, MD

**P**ositive pressure ventilator management of postoperative COPD patients is technically demanding and can lead to complications related to inadequate ventilator strategies. In one postoperative series, the pulmonary complication rate in severe COPD patients was 37% and the ventilatory failure rate was 5%.<sup>1</sup> It is important, therefore, to have an understanding of COPD pathophysiology for the successful ventilator management of the postoperative COPD patient.

### COPD pathophysiology

The cardinal manifestation of COPD is airflow limitation leading to an increased exhalation time and an elevated end-expiratory lung volume (EELV). The consequences of this problem are dynamic hyperinflation (DHI), increased autoPEEP, and increased work of breathing (WOB).

**Dynamic Hyperinflation:** This phenomenon describes the condition where each respiratory cycle is initiated before the completion of the previous breath, causing successive cycles to “stack” on one another. The effect is elevation of EELV and reduction of the vital capacity and minute ventilation leading to possible hypercapnia.

**AutoPEEP:** Reduced airflow through DHI causes an increase in the alveolar pressure above the atmosphere on end-exhalation. This difference (intrinsic end-expiratory pressure or autoPEEP) must be overcome by the inspiratory respiratory muscles before inhalational airflow can begin, thereby increasing WOB.

**Work of Breathing:** WOB can be affected by the compliance of the respiratory system and the resistance to airflow. In COPD, WOB is increased both during inspiration and expiration, primarily by the need to overcome autoPEEP and air-trapping respectively.

In more severe COPD patients, chronic respiratory failure will manifest itself by the presence of hypercapnia. This results in renal compensation and the retention of

bicarbonate in order to maintain a normal pH. Exacerbation of COPD causes a clinical downward spiral due to the interrelated nature of these factors. Tachypnea severely shortens the much-needed time for exhalation, accentuating DHI and leading to higher autoPEEP and an increase in WOB. A decrease in ventilation from increased dead space fraction eventually leads to hypercapnic respiratory failure.

### Intervention strategies

The goals of mechanical ventilation in the postoperative COPD patient are to provide ventilatory support for the muscles of respiration, adequately ventilate the patient at their baseline level, and avoid the pitfalls of airflow obstruction, DHI, autoPEEP, and increased WOB. Using the following ventilator strategies will avoid such pitfalls.<sup>2</sup>

**The Mode of Ventilation:** Ventilatory support is intended to prevent respiratory muscle fatigue and facilitate liberation from the ventilator as soon as possible. Based on clinical trials, synchronized intermittent mandatory ventilation fails to let the respiratory muscles rest during mandatory

### about the author...



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breaths and should be avoided as a weaning mode.<sup>3</sup> If the patient is heavily sedated or obtunded, assist control with a low back-up rate is preferable.<sup>4</sup> If the patient has an intact respiratory drive, the use of pressure support ventilation may limit preexisting DHI and autoPEEP.

**The Amount of Ventilation:** The possibility of over-ventilating a patient exists during mechanical ventilation, especially in the COPD patient where it is poorly tolerated.<sup>5</sup> The minute ventilation target should be adjusted to maintain a normal pH and not necessarily a normal partial pressure of carbon dioxide ( $p\text{CO}_2$ ). A reduction in minute ventilation was found to be the most important determining factor in preventing DHI.<sup>6</sup> Increasing the respiratory rate or tidal volume might serve only to decrease expiratory time, increase the EELV with air trapping, and lead to greater autoPEEP and hypercapnia. Increased autoPEEP makes triggering the ventilator more difficult since the patient must generate a negative pressure equal to or greater than the autoPEEP — potentially leading to ventilator dyssynchrony. Moreover, if over-ventilation occurs, the prior compensatory renal metabolic alkalosis would be uncovered, resulting in alkalemia and reduced respiratory drive. Sustained hyperventilation over a period of a few days in a patient with chronic respiratory failure and hypercapnia would cause loss of bicarbonate and diminish renal compensation. Subsequent liberation from the ventilator could cause acute respiratory acidosis and respiratory failure.

**The Rate of Inspiratory Air Flow:** Increasing the inspiratory airflow rate will increase the time available for exhalation time and decrease autoPEEP.<sup>7</sup> Flow rates in the range of 80–100 L/min may be preferable in COPD patients.<sup>8</sup>

**The Amount of External PEEP:** AutoPEEP caused by DHI mandates the intrapleural pressure generated on inspiration be greater than the amount of autoPEEP for airflow to begin. In the ventilated patient, this threshold must be met before the ventilator detects an effort and gives the prescribed volume. Reducing this phenomenon can reduce WOB and improve ventilator synchrony. Detection of autoPEEP can be performed in two ways: static and dynamic. Static autoPEEP can be measured only in patients without active effort as this maneuver requires time (two to three seconds) for the different lung units to equilibrate with the ventilator. The pressure measured is the total positive end-expiratory pressure (PEEP) from which the external PEEP is subtracted to get the autoPEEP. Dy-



amic autoPEEP requires the placement of an esophageal pressure transducer and simultaneous airflow tracings. The pressure measurement at end-expiration and zero-flow is the dynamic autoPEEP value.

Addition of external PEEP has two main effects. First, external PEEP ameliorates the threshold of triggering the ventilator and, therefore, WOB.<sup>9</sup> Secondly, external PEEP stents open collapsible airways, reducing resistance to airflow on exhalation and decreasing exhalation time.<sup>10</sup> The external PEEP selected should not exceed 80% of the measured autoPEEP, otherwise resistance to airflow on exhalation might increase and worsen DHI.<sup>11</sup>

**Extra-ventilation Interventions:** Extra-ventilator interventions can reduce the incidence of postoperative pneumonia. Incentive spirometer, chlorhexidine oral hygiene, ambulation, and head-of-bed elevation implemented in postoperative patients using a standardized protocol reduced postoperative pneumonia by 81% ( $p=0.006$ ), reminding us that intensive respiratory care does not end when the patient is liberated from the ventilator.<sup>12</sup>

### Understand the challenges

Postoperative ventilated COPD patients have distinct challenges: DHI, autoPEEP, and increased WOB. The understanding of these and their complex interactions yields specific ventilator strategies: targeting ventilation to normalize the pH, increasing the inspiratory airflow, and adding appropriate external PEEP. These interventions — along with maintenance of protocol-driven post-

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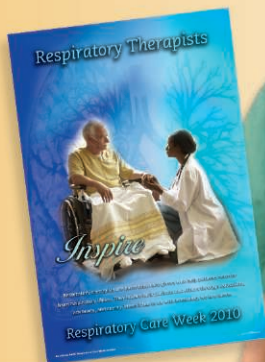
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## Coming of Age

# International Standardized Definition and Severity Classifications of COPD

by Janelle Gardiner, MS, RRT

A respiratory therapist treating a patient with chronic obstructive pulmonary disease (COPD) is like an accountant balancing a ledger or a teacher writing on the chalkboard. It's simply part of a routine day. Have you heard a COPD patient described as "severe" or "Stage III"? You may understand what that means and how the classification is made, but do others? Do your colleagues or other members of the health care team? What about health care providers throughout the world? COPD reaches far beyond the borders of the United States. It is a disease impacting many people worldwide and is currently the fourth leading cause of death in the world.<sup>1</sup>

Are patients in other areas of the world being classified and managed as they are in the United States? The definitions of COPD are many and varied. There are many national and international guidelines, especially related to the pharmacologic management of the COPD patient. Perhaps COPD is heterogeneous and there is no universal approach to managing or preventing COPD exacerbations.<sup>2,3</sup>

### Standardized definition

In an attempt to standardize a definition of COPD, the U.S. National Heart, Lung, and Blood Institute and the World Health Organization formed the Global Initiative for Chronic Obstructive Lung Disease (GOLD) in 1998. The desire was to increase awareness and work toward better management and prevention of the disease worldwide. The initial GOLD guidelines were published in 2001. Since then the standardized definition in these guidelines has been widely used, mostly due to their simplicity.<sup>4</sup> The guidelines also call for disease classifications for severity based primarily on FEV<sub>1</sub>. There are four severity classifications: mild,

moderate, severe, and very severe. The GOLD guidelines were revised in 2006 and again in 2009. The 2009 report included several revisions, one being a definition of exacerbation not previously included. There is mention of other publications that included information influencing the recommendations of the GOLD report. Based on those recommendations, the GOLD Science Committee made some modifications to the guidelines. However, there were other scientific papers that were identified as having impact that were not included in the 2009 report.

Therefore, another revision is planned for 2011.

### about the author...



Janelle Gardiner, MS, RRT, is an assistant professor at Weber State University and a respiratory therapist at McKay-Dee Hospital, both in Ogden, UT. She is also the president of the Utah Society for Respiratory Care.

### Other guidelines

The GOLD guidelines are certainly not the only ones that exist. The American Thoracic Society (ATS) issued guidelines in 1995, the British Thoracic Society (BTS) in 1997, and the American Thoracic Society/European Respiratory Society (ATS-ERS) in 2004. When evaluated more closely, these four systems showed significant difference in degree classifications of the disease and in the ability to predict mortality.<sup>5</sup> The BTS guidelines were better able to predict mortality than others. The BTS, ATS, and GOLD/ATS were equal in ability to predict hospitalizations for COPD exacerbations. There was no consistency among any of the guidelines in stratifying patients with regard to the Health-Related Quality of Life (HRQOL) and five-year mortality. However, BTS proved to have the best system for classifying severity and prognosis.<sup>5</sup> The Canadian Thoracic Society (CTS) also has published guidelines. "Although both the GOLD and CTS definitions and classifications of severity of COPD exacerbations may provide a useful practical tool for clinical studies, they have not been for-

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mally validated in clinical trials and are difficult to use in clinical practice.<sup>6</sup> Finally, Esteban suggests that other tools be used to aid in properly classifying the severity of COPD and its diverse nature.<sup>5</sup>

## Tools

**BODE Index:** This multidimensional grading system uses assessment of symptoms, nutritional state, exercise capacity, and spirometry (such as FEV<sub>1</sub>). Body mass index (**B**), airflow obstruction (**O**), dyspnea (**D**), and exercise capacity (**E**) make up the grading system used to predict hospitalizations and risk of death.<sup>7,8</sup> The BODE system was shown to have a statistically significant relationship to HRQOL and the St. George Respiratory Questionnaire (SGRQ).<sup>8</sup> The SGRQ and the Chronic Respiratory Questionnaire (CRQ) have both demonstrated validity and reliability and have been used in many clinical trials.<sup>9</sup> The BODE Index was also shown to provide a better explanation of anxious and depressive symptoms in COPD patients when compared with GOLD classifications.<sup>7</sup> The index was developed primarily to predict survival in COPD.<sup>10</sup>

**DOSE Index:** The DOSE Index is a tool developed and validated in international data sets to be used more easily in routine clinical settings and as a quick guide to COPD management. The Medical Research Council Dyspnea Scale score (**D**), airflow obstruction grade (**O**), smoking status (**S**), and the number of exacerbations (**E**) are used to make up this scoring system. It is derived mainly as a measure of health status but also indicates exercise tolerance and respiratory failure. Additional research is needed to determine the use of the index in predicting mortality and hospitalizations.<sup>10</sup> The DOSE Index contains items with clinical importance, and the suggested use is to manage patients with COPD in varying degrees of severity.<sup>10</sup>

**CAT:** The COPD (**C**) Assessment (**A**) Test (**T**) is a new instrument being developed to “reflect the range of symptomatic effects that COPD has on patients.”<sup>11</sup> From the information published in 2009 by Jones, 21 items will be used in prospective studies and then be reduced to approximately five to seven items. These remaining items will make up the CAT that will then be studied for validity.

**COPD Severity Score:** This survey-based score consists of five areas of COPD severity including: degree of respiratory symptoms, prior systemic corticosteroid use, other COPD medication use, previous hospitalization or intubation for respiratory disease, and home oxygen use. This score was effective in predicting the use of health care resources and was responsive to changes in COPD status over time.<sup>12</sup>

## International standard needed

It is clear that an international standardized definition and severity classification of COPD is a work in progress.

However, improvements are being made. More emphasis needs to be placed on finding a system that can be used in all parts of the world, regardless of available resources. Perhaps the best definition and stage classifications can be achieved by combining the GOLD guidelines with one or more of the tools discussed here. ■

More emphasis needs to be placed on finding a COPD grading system that can be used in all parts of the world, regardless of available resources.

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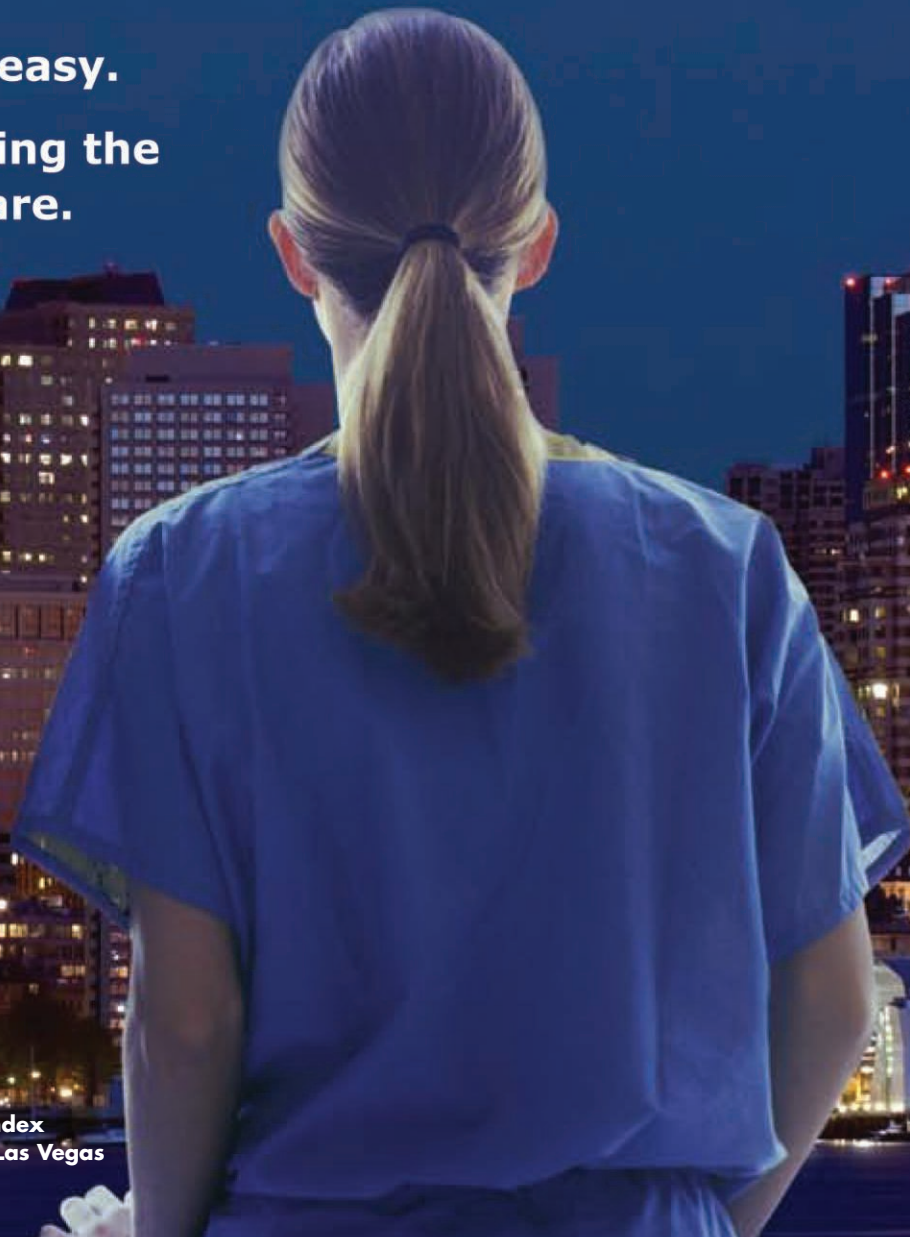


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# Raising the Bar in Long-Term Care

by Gene Gantt, RRT

**I**t's hard to believe, but up until recently there was very little focus on best practice standards when it came to long-term ventilator care in skilled nursing facilities (SNFs). Patients who were difficult to wean or in need of chronic ventilator care were often housed in SNFs (nursing homes), where there was little or no respiratory therapist involvement. Registered nurses (RNs) were scarce and usually were required to cover entire buildings; and even then, nursing homes were not required to have an RN on duty 24 hours per day. Licensed practical nurses (LPNs) provided the bulk of the patient care; and more often than not, for ventilator patients only very basic ventilation was provided. In fact, the only regulation of record in my home state of Tennessee was that the facility providing ventilator care was required to have a back-up generator outside the building in the event of main power loss.

In 1998, Medicare implemented a completely new system of payment for SNF care. A prospective payment system (PPS) replaced the previous retrospective reimbursement (e.g., do a service/procedure, bill for it, and get paid for it). Essentially, under PPS, payment for patient care was paid up front regardless of what the cost to the facility was for the care of a patient. As a result of the SNF PPS, even those facilities that were providing ventilation care, even suboptimal care, no longer wanted to bring in this population. Ventilator care was not really covered by Medicare, and a patient with a fractured hip was much more financially rewarding than those with a tracheostomy and on a ventilator. Under most state Medicaid programs the extra services and care required for a ventilator patient were not reimbursed at all.

By 2000, the backlog of patients taking up precious space in hospital ICUs reached a breaking point here in Tennessee, as it did across the United States. We were keeping more patients alive, our technology was improving, and the population was aging. Most states responded by creating Medicaid waiver services that would cover home ventilation and in-home nursing services and care. The problem was that this benefit soon got way out of hand due to the large numbers of patients, with each case costing the state up to \$500,000 per year.

### about the author...



Gene Gantt, RRT, is the manager of business development for REMEO® Ventilation USA, Linde RSS, Livingston, TN. He also serves the AARC as chair of the Long-Term Care Section.

### Setting the standard

In Tennessee, we tried to find a solution by opening a ventilator-specific unit in a wing of an SNF. Instead of sub-optimal care, we decided to provide state-of-the-art best practice services (e.g., 24/7 respiratory therapist, portable ventilators, battery back-up, pulmonology consults, and clinical monitoring for safety). We began with eight beds and discovered quickly that the patients we were receiving could still be liberated from the ventilator given the appropriate time and effort. Our unit soon went to 16 beds and was successfully weaning 75% of the ventilator patients referred to us, a rate consistent with various studies in the literature.

It came to mind a few years later that the situation of caring for ventilator-dependent patients — and in a significant number of cases, how to wean the ventilator patient — would only continue to grow; and without best-practice standards, there would be a hodgepodge of care models popping up across the states. In order to protect the patients and develop similarity of care models, an idea took hold that we needed

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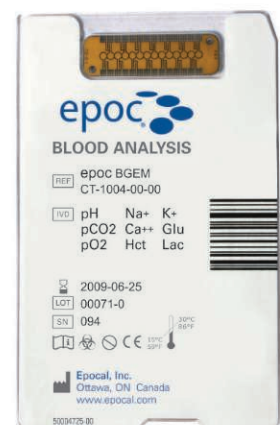
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best-practice standards implemented proactively rather than in response to future situations. With that in mind, a set of nine basic best-practice standards were developed. The question was how to get them recognized by SNFs and insurance payors, including Medicare and Medicaid, and turn these standards into required regulations. Requiring ventilator standards could have been achieved through legislation, but that would take a long time and would be very politicized along the way. Convincing Medicaid officials first was also a daunting task as they have their hands full with many other issues and, although important, this only affected a small group of individuals. So we took another route that worked out very well.

In 2004 a set of nine simple best-practice standards were originally jotted down on a napkin, further refined, and later presented to the Tennessee Society for Respiratory Care Board of Directors for their consideration as recommended best practice. The Tennessee Society agreed and formally recognized the standards and sent them to the Tennessee Respiratory Care Board



The AARC Position Statement can be downloaded at [www.aarc.org/resources/position\\_statements/delivery\\_of\\_services\\_in\\_snf.html](http://www.aarc.org/resources/position_statements/delivery_of_services_in_snf.html).

(TRCB). In the spring of 2005 the standards were endorsed by the TRCB and were posted on the Department of Health website, thus making them “official” in defining the community standard of care. In 2009 the standards were adopted as state government policy requirements in Tennessee for anyone providing ventilator care, and in essence became Tennessee law.

In 2009 at the request of the Long-Term Care (LTC) Section of the AARC, these standards were considered by the AARC Board of Directors for publication as a position statement. In December 2009 they were approved and referred to the Board of Medical Advisors and were approved.

**Raising the standard**

In 2010 the LTC Section and AARC Director of Regulatory Affairs, Anne Marie Hummel, presented the ventilator standards to the Centers for Medicare and Medicaid (CMS) through the Medicare Agency in Baltimore for future consideration in the conditions of participation for Medicare and Medicaid. Also in 2010, AARC sent every state Medicaid director a copy of the standards and a cover letter urging state Medicaid programs to adopt them under their own state nursing home requirements. Thus far, the Medicaid programs in Florida and Pennsylvania have responded in writing, indicating their agencies intend to adopt the specific additional standards they currently are not requiring already. Georgia Medicaid has adopted them in total, and Maryland Medicaid has reviewed them and plans to adopt them. Several other state Medicaid directors have requested more information. Overall, the response has been very positive; and the outcome is that these best-practice standards jotted down on a napkin back in 2004 have created a new community standard of care that raised the bar significantly in SNFs across the country. By creating the community standard of care, the AARC LTC Section has effectively made these best-practice standards the benchmark in ventilator care in the SNFs.

As we see the number of prolonged ventilator cases rise over the next 10 years, we are hopeful that this effort has made a significant impact in the care for our ventilated population across the United States. ■

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## Concurrent Therapy Is Hard To Defend

by Anthony L. DeWitt, JD, RRT, FAARC

**M**any of the respiratory therapists out there who know me also know that for many years I've been working on a novel that would marry my love of the law with my love for patient care. Here is an excerpt.

The courtroom was hushed as Quentin Calvin, the defendant's lawyer, sat down. Looking into the eyes of the jury, Fisk could see that they were siding with the young therapist who had just explained, through the smooth questioning of his defense lawyer, that sometimes accidents happened. It wasn't his fault. Fisk moved to the podium, opened his notes, and began.

"Just a few moments ago you told this jury that you took good care of Mr. Carleton, isn't that what you said?"

"Yes sir."

"Well, let's examine that a bit, because I don't think you told our jury the whole story."

Calvin leapt from his chair and started slinging together objections, spluttering about prejudice and relevance, but Fisk just withdrew the statement and continued.

"You went into Mr. Carleton's room, and you poured some medicine into his nebulizer, isn't that right?"

"Well, first I took his pulse and respirations and listened to his chest. That's required in our policies."

"Sure, and you always follow policies, don't you?"

"You bet."

"Right, and then you put some medicine in. That medicine has an effect on the heart, doesn't it?"

"It's very safe, we've used it in thousands of patients without a problem."

"But that's not my question, sir. It has an effect on the heart."

"Yes."

"Makes it beat faster."

"Yes."

"Then what did you do?"

"I started his treatment and chatted with Mr. Carleton for a moment."

"And then you went to your next patient, right?"

"Yes."

"You didn't stay in his room for the entire treatment."

"No, I didn't have time."

"And now, one of the things you're taught as a respiratory therapist is to monitor the patient when they're taking therapy, isn't that true?"

"Yes, but that doesn't mean you have to be in there all the time."

"You're taught to observe the patient's color, right?"

"Yeah."

"And you're taught to look for the use of accessory muscles of ventilation?"

"In some patients."

"And you need to be alert for changes in cognition and in how rapidly or shallow a patient is breathing?"

"That's true."

"You've seen what we marked as Exhibit 15, the Policy Statement from your professional organization, the AARC?"

"I've seen it."

"Tell our jury what you understand it to say."

"Just that you shouldn't do concurrent therapy because it's not standard of care."

"But, that's what you did, isn't it?"

"The AARC doesn't run my hospital. I work for a boss. He expects treatments to get done. And he doesn't accept any excuses."

### 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.

“So, you called your boss and you said you had too many patients and that you couldn’t get to them all, and he told you to do concurrent therapy?”

“No, I couldn’t call him every time I had too many patients. I’d get fired. I just knew what he expected.”

“Now, I’d like for you to look at Exhibit 12, which is your policy and procedure for aerosol therapy, and I’d like for you to read what it says about concurrent treatments.”

“Paragraph 13(d) says that concurrent treatments should not be done.”

“So you, as a therapist, made the decision to ignore both your hospital policy and your own professional organization to do two treatments at once?”

“No.”

“No?”

“No, that’s not how it was. I know what my boss expects. He wants the treatments done. The policy says one thing, the expectation is for something else.”

“The next room you went to was 307, on the same floor as Mr. Carleton, who was in 301, is that right?”

“Yes.”

“Could you see Mr. Carleton from 307?”

“I don’t have x-ray vision, Mr. Fisk.”

The jurors chuckled at the therapist’s retort, and Fisk forced a smile that looked more like indigestion, and continued.

“So, could you hear Mr. Carleton from 307?”

“No.”

“Could you see if his lips were turning blue from 307?”

“No.”

“So all those things you’re taught to monitor — color, and breathing depth, etc. — you can’t monitor when you’re in another room, because you’ve just told our jury you don’t have x-ray vision, isn’t that right?”



“I would have assessed all that at the beginning and at the end of the treatment.”

“Except that Mr. Carleton had the bad taste to die in the middle of your treatment, right?”

Calvin jumped up again, and this time the judge looked crossly at Fisk, who immediately withdrew the question because he knew that the answer didn’t matter: only the question did. He was just asking what the jury was already thinking.

“Now, when you set up the patient in 307, you next went right back and checked on Mr. Carleton, right?”

“No. I went to 310 and started a treatment there.”

“So, again, you didn’t assess those things we talked about on Mr. Carleton at any time after you started your treatment?”

The therapist’s answer was “no,” but this time he mumbled it. That was OK, though, because the jury already knew the answer.

“So, now you have two treatments going, is that what you’re telling me?”

“Well...” he looked away for a moment, then said, “yeah.”

“And, when you finished in 310, you went right back to Mr. Carleton, right?”

“No. I was in 316 when the code was called.”

“How long did it take you to see the patient in 307?”

The therapist shrugged. “Five minutes, maybe.”

“The same for 310?”

“Yeah.”

“And you never went to check on Mr. Carleton between either 307 or 310, right?”

“No, I told you that.”

“You just went on to 316?”

The irritation showed in the therapist’s “yes,” which he punctuated with a little too much emphasis. The jurors could see the therapist was getting angry.

“So you never heard the nurses yell for help?”

The therapist began to fidget in his seat. A thin bead of sweat began to form above his upper lip, and he glanced nervously at his lawyer.

“No.”

“So, you left the treatments going in 307, and 310, and 316, and went to the code?”

“Yes.”

“And those patients were getting similar treatments with similar drugs.”

“Yes.”

“And you left them alone, because Mr. Carleton, whom you had not bothered to check on in 10 minutes, was dying from a heart attack.”

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“He had a sudden fatal arrhythmia. It was nothing I did.”

“Well Mr. Taylor, how would you know that? You weren’t even there.”

*In the story, the hospital and therapist are defending a medical malpractice claim. Things are not going well for them, but the department director is sure that when he takes the stand, he can explain everything. The defendant’s lawyer leads him through the cost-benefit analysis, the recommendations of the consultants hired from New York City, the statistics that showed that on average every patient got 15 minutes with their therapist each treatment, and that it was only a sudden rush at flu season that had caused the therapist to decide to give multiple therapies. While he didn’t condone it, and he normally didn’t allow it, patients needed their treatments. And he could not hire therapists to staff for the peaks, because that would cost the hospital too much money. The cross-examination that followed sealed the case.*

“Now. Mr. Norbert, these consultants from New York City, they weren’t therapists, were they?”

“They were very qualified. Every one of them had an MBA, and the lead guy had an MBA from Harvard.”

“But they weren’t therapists.”

“No.”

“They were bean counters, right?”

Norbert smiled. “Every hospital needs them, Mr. Fish.”

“It’s Fisk.”

“Oh, sorry.”

One of the jurors smiled weakly at the attempt at humor. Two of the others were wearing a frown.

“So, it’s safe to say that none of them has ever coded a patient.”

“I couldn’t say. Maybe they’ve done CPR on a fallen lawyer.” This time no one on the jury even broke a smile.

“OK, fair enough.”

“You’ve read Exhibit 15, the AARC Policy Statement?”

“Sure, I even support it for the most part. But I can tell you, Mr. Fish, er, Fisk, that I’ve personally done over 10,000 therapies, and I’ve had medication reactions in maybe two of those.”

Fisk appeared not to have heard him. He continued with his questions.

“Now, you wrote this policy that says no concurrent therapy, right?”

“I did.”

“And your job, as you understand it, is to enforce the hospital policies, right?”

“When I can.”

“So enforcing policy is optional?”

“Well, no, I didn’t mean it like that. I meant, well, there are just times when you have to throw out the best way in order to get the job done.”

“So you encourage your therapists to do less than their best in order to get the number of therapies done every month?”

“No, it’s not like that. I have a budget. I have to stick to it. If I don’t, I get fired.”

“And you don’t want to get fired, do you?”

“No.”

“And did you say this kind of thing happens maybe twice in 10,000 patients?”

“A medication reaction, sure.”

“So, you’re willing to gamble the lives of the patients in this hospital who come in here trusting you and your staff to do your best, when everything in your policies and everything in your professional organization’s literature says not to do it?”

“If I can’t keep the doors open, I can’t treat any patients.”

“So, it’s really about the money?”

“At the end of the day, yes, money is important.”

“And the budget?”

“Yes, that’s important too.”

“Because you don’t want to get fired?”

“No, I don’t.”

“So, let me summarize this. You think the budget is more important than your own professional organization’s standards because you need to keep your job.”

Calvin erupted from his chair again, spewing objections, and Fisk withdrew the question. He turned and looked at the jury. They were watching him now, and not the therapist in the witness chair.

“So, Mr. Norbert, would you say you’re more interested in keeping your job than you are in doing your job?”

Fisk didn’t wait for an answer. He walked slowly back to counsel table and sat down. He wasn’t psychic, but he could see large numbers in his future.

*Everyone knows that medication reactions are rare. And this story is pure fiction. At least, today it is. ■*

#### EDITOR’S NOTE

The “AARC White Paper on Concurrent Therapy” mentioned in this column is available at [www.aarc.org/resources/concurrent\\_therapy.html](http://www.aarc.org/resources/concurrent_therapy.html). A solution to the problem of concurrent therapy is for respiratory care managers to ensure that respiratory care protocols become accepted throughout their institutions so that concurrent therapy is no longer tolerated. AARC members can access protocols on the Association website at [www.aarc.org/resources/protocol\\_resources/protocols\\_and\\_pathways.asp](http://www.aarc.org/resources/protocol_resources/protocols_and_pathways.asp). ■

## AARC Supports Rhode Island Society During Recent Floods

by William Ozga, RRT-NPS, RPFT

I am the president of the Rhode Island Society for Respiratory Care (RISRC) and would like to thank the American Association for Respiratory Care for helping us refund conference pre-registration fees to a number of therapists during our recent floods.

In March of this year, Rhode Island was hit with consecutive spring storms that resulted in oversaturation of the ground, ultimately leading to massive flooding throughout the state. Our governor declared a state of emergency. The flooding resulted in the closure of I-95, our state's largest highway, for several days because it was impassable. Businesses and neighborhoods were under water.

The Federal Emergency Management Agency (FEMA) was activated and assisted the state with the clean-up process. The flooding just happened to coincide with our state society's annual respiratory conference. As expected, we experienced a low turn-out for on-site registration and a decrease in pre-registered attendees. Generally, our conferences do not generate a great deal of revenue; and being the smallest state in the country, financially we rely on every attendee and vendor's participation. Any slight financial shift can result in our society "going in the red" quickly.

A day after the conference our state Board of Directors started receiving calls from pre-registered therapists who were requesting reimbursement because they were unable to attend the conference due to the flooding. Under normal

circumstances we would not reimburse if a pre-registered attendee was unable to make the conference. But this situation was different, and I felt that something needed to be done. A post-conference board meeting was already scheduled, so I added this topic for discussion. We decided that I would contact the AARC and request reimbursement for the pre-registered therapists unable to attend the conference.

I sent an e-mail to AARC Executive Director Sam Giordano and asked if the AARC could assist us. Within minutes Sam responded and forwarded my e-mail to Association President Tim Myers. I believe it was the same day when Tim approved the funding and assigned Associate Executive Director Sherry Milligan to work out the details with me.

I sent out letters to all respiratory departments in hospitals in Rhode Island, informing them that all pre-paid RISRC members who were unable to attend the conference due to the flooding would be reimbursed by the AARC. We also posted it on our website for those outside the state who were unable to attend. We submitted our final tally to the AARC, and within a couple of days the AARC mailed the reimbursement checks directly to the therapists.

On behalf of the Rhode Island Society for Respiratory Care and all the therapists who received these checks, I would like to say thank you to the AARC for assisting our small state in its time of need. ■

### about the author...



William Ozga, RRT-NPS, RPFT, is director of respiratory and neurodiagnostic services at St. Vincent Hospital in Worcester, MA. He also serves as president of the Rhode Island Society for Respiratory Care.

### AARC Disaster Relief Fund

The AARC Disaster Relief Fund helps AARC members in times of natural disasters.

Seeded with monies from the AARC and state societies, grants are made to members experiencing loss or damage as a result of a federally declared disaster situation. Hurricanes, floods, tornadoes, and fires have been some of the catastrophes for which members have tapped into the fund.

Many of our AARC Plus members have also donated money in the past year by allocating a portion of their dues to the fund.

When the next disaster strikes, stay tuned to the AARC website ([www.AARC.org](http://www.AARC.org)) and you can see how to donate and how you can help. ■

## Attention All Veterans — Thank You from the Rest of Us

by Sam P. Giordano, MBA, RRT, FAARC

This month on Nov. 11, we here in the United States will once again observe this date when in 1918 the armistice was signed that ended World War I — and which is regarded as the end of “the war to end all wars.” Now known as “Veterans Day,” the holiday is observed to show appreciation to all persons who served their country. I want to describe a special opportunity to show that appreciation.

### Offering a strong arm

As many of you know, we lose approximately 1,000 elderly World War II veterans a day. The 12 million strong who defended our country and, indeed, the free world, are dwindling fast. But since the completion of the National World War II Memorial six years ago, there’s been a project underway that not only recognizes the sacrifices of our veterans of World War II but also provides them with an opportunity to visit the National World War II Memorial in Washington, DC. The program I’m referring to is called Honor Flights. These flights are organized in cities throughout the country and help make World War II veterans aware that they have an opportunity to fly to Washington to visit their memorial at no charge.

Moreover, the ones who make this flight possible must necessarily include medical professionals — including RTs — given the fact that so many of our veterans are medically frail. As I write this, there’s a flight being organized out of Dallas. The average age of the veterans is 86 years old. Some require oxygen. Some require

a wheelchair. They all need assistants to help them make the trip. The assistants are referred to as “guardians,” and I’m proud to say that many respiratory therapists have already participated — and continue to participate — in the Honor Flight program. But it’s not just here in Texas, there are chapters throughout the United States. Your expertise and compassion is appreciated by the veterans.

They also appreciate that if folks like you don’t volunteer, they may not be able to go. So that makes it extra special for them.

### about the author...



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

### In giving, we receive

During this time of uncertainty, it’s good to know that basic human compassion is still alive and well. It’s even better now because respiratory therapists and other health care professionals are volunteering their time and, yes, paying their own way on the honor flights just so they can work and help these veterans have a memorable experience. It’s always better to give, because it’s been said many times that “in giving, we receive.” Our veterans gave. They answered the call when our country was threatened. This continues today. Now the veterans of other conflicts such as Korea, Vietnam, the Gulf

wars, Iraq, and Afghanistan still answer the call on behalf of a grateful nation.

On Nov. 11 please make a special effort to thank all military veterans regardless of age or era of service. If you want to do more, go to the hub website for Honor Flight Network, which is [www.honorflight.org/](http://www.honorflight.org/). This site can get

If you want to do more, go to the hub website for Honor Flight Network at [www.honorflight.org](http://www.honorflight.org) and “show ’em how much you care.”

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“We can’t all be heroes.  
Some of us have to stand  
on the curb and clap as  
they go by.”

– Will Rogers

you connected to the Honor Flight initiative in your community. I encourage you to participate if you can. We not only thank our veterans and provide for them a once-in-a-lifetime experience, but we also demonstrate that respiratory therapists, and indeed our colleagues, are not too busy to care about those who cared for us.

To all of you veterans, I salute you for your service. Please accept our heartfelt thanks for a job well done. ■

*Turn to page 40 of this issue to read the story about a recent honor flight in which RTs participated.*



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# Tour of

## Program sends WWII veterans to Washington, DC, to see their memorial

by Debbie Bunch

Statistics from 2008 show the United States is losing the last of its World War II veterans at a rate of about 1,000 a day. The Honor Flight Network wants to make sure those who remain have a chance to see the National World War II Memorial in Washington, DC, before it's too late, and AARC members are stepping up to help make these trips a reality.

Our nation's capital features numerous memorials honoring many who have served in armed conflicts around the world. But by the time the National World War II Memorial was officially dedicated on May 29, 2004, most of the veterans of this great war were already in their 70s and 80s. Getting to Washington, DC, to view their memorial is a challenge most of them are no longer able to handle on their own.

Enter a physician assistant and retired Air Force captain named Earl Morse. Morse was working in a small Veterans Affairs clinic in Ohio and started asking his WWII veteran patients if they were planning to travel to Washington to see their memorial. The veterans said they would like to do that. But as time went on and he saw the same patients again for follow-up visits, it became clear that wanting to see the memorial and actually getting there were two different things. The veterans he spoke with were simply unable to make it happen.

As a private pilot, Morse decided to do something about that, and by May of 2005 he had organized the first World War II Honor Flight, taking 12 veterans to DC to view the memorial and other sights around town. By the end of 2005, 137 vets had made the trip, and the program just mushroomed from there, garnering support from commercial airlines and volunteers all over the United States. By the end of last year, the Honor Flight Network had transported 35,996 veterans from WWII and other



# Honor



Two of the veterans place a wreath at the Tomb of the Unknowns.



## Snapshots of our memorial journey



*"Every time we got off the plane or arrived at a memorial there were large groups of people, often times assembled on the spur of the moment, who greeted the vets with their applause and thanks." – John Hiser*

wars to see their memorials in the nation's capital — all at no cost to the veterans.

### Easy decision

AARC members John Hiser, MEd, RRT, FAARC; Linda A. Smith, BS, RRT, FAARC; Steve Sittig, RRT-NPS, C-NPT, FAARC; and Melaine "Tudy" Giordano, MS, RN, CPFT, are among the many volunteers who have made these special trips possible. Hiser, Giordano, and Smith served on an Honor Flight out of Dallas, TX, last May, while Sittig took part in a flight that originated in Mason City, IA, in April.

"I actually found out about the Honor Flights several years ago while waiting for my Southwest flight at Baltimore Washington International Airport," says Smith. "The Southwest gate agents announced that the arriving plane was an Honor Flight containing some very special passengers, WWII veterans who were landing in Baltimore to go to DC to visit their memorial." Passengers were invited to help welcome the veterans as they deplaned, and Smith and her traveling companion joined the gauntlet. "My friend and I got to the front of the line to give hugs and express our gratitude for their service. It was the most wonderful way to begin a vacation."

When Smith's long-time friend and colleague, Tudy Giordano, an active volunteer with the USO at DFW International Airport, called last year asking if Smith, who works for a durable medical equipment company

in Baltimore, could help provide wheelchairs for another Honor Flight, she jumped at the chance to help — and when Giordano called again this year to ask if she would like to meet her and John Hiser at the airport to help escort another group of veterans around Washington, DC, she was elated. "There was no hesitation. I was on board — and I was bringing eight wheelchairs with me."

Hiser learned about the Honor Flight Network from Giordano as well and says he was equally excited to have the chance to honor our nation's veterans. "It took me about 30 seconds to decide I wanted to participate," says the program director at Tarrant County College in Hurst, TX, who himself is a Vietnam veteran.

Like Smith, whose father and uncle served in WWII, Hiser wanted to honor his dad and other WWII vets in his family. "None of them had the chance to see the WWII memorial, and I always thought that was a shame; so to get the chance to help other vets see their memorial was something I felt would be a great honor."

### Well equipped

Along with Giordano and 13 other guardians, Hiser boarded a Southwest Airlines plane on May 24, accompanying 35 veterans on the two-day trip. A "meet and greet" held the week before departure gave them a chance to get to know the vets and visit with those who had identified medical is-

(Continued on page 44)



Photo 2: In the red shirts (from left), John Hiser, Linda Smith, and Melaine Giordano gather with some of the veterans they accompanied on the trip from Texas.

Photo 3: Former Marine Steve Sittig visited the adjoining Vietnam Memorial during his visit with a group from Iowa.

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For more information about the Honor Flight Network, visit [www.honorflight.org](http://www.honorflight.org).



sues on their applications to make sure they had all of the medications and supplies they would need to ensure a safe and successful trip. "Both Tudy and I packed a first-aid kit with everything we thought would be needed. I took a blood pressure cuff, stethoscope, portable battery-operated nebulizer with extra meds, a few spacers, and a pulse oximeter."

Smith met them at the airport with the wheelchairs donated by her company and a knapsack full of supplies of her own, including a pulse oximeter, blood pressure cuff, stethoscope, and bottles of water. Fortunately, no major medical problems occurred during the trip, although Hiser says they did use the blood pressure cuff and pulse oximeter to assess two vets who began feeling ill on the plane, and bandages from the first-aid kit for some minor scrapes and cuts. "Luckily, we didn't have to use the portable nebulizer or the spacers. No one needed oxygen, so that was a great relief."

Rhonda Ensey, president of Honor Flight of Dallas, says having the respiratory therapists on board the flight and during the sightseeing excursion was a godsend. "Taking WWII veterans in their 80s and 90s has many challenges," she says. "John Hiser, Tudy Giordano, and Linda Smith were so attentive, caring, and professional in dealing with our vets. With their medical training they were able to help in numerous situations. We cannot thank them enough for their support, time, skill, and hours volunteering for Honor Flight of Dallas."

### Flag signing

A little earlier this year a similar scene unfolded in Mason City as Steve Sittig traveled from his home in Rochester, MN, where he works for the Mayo Clinic as a flight RT, to join a physician and two nurses on the medical team participating in an Honor Flight carrying another group of veterans to see their memorials in Washington, DC. "We were not scheduled to depart until 7 a.m., but by 5 a.m. the veterans were already arriving with their family members," recalls the former Marine. "Despite the early hour and their advanced age, you could see the excitement in their eyes. For many of them this would be their first airline flight in many years, and many had never been to Washington, DC."

Once the flight was in the air, Sittig began making the rounds among the vets with pulmonary problems, using his pulse oximeter to check their oxygen saturation. "If any veteran needed oxygen, we had six portable concentrators with extra batteries stowed in the overhead bin in first class."

Like the Dallas flight, the one from Iowa was successful, and passengers and guardians were soon on the ground in DC, ready for a day-long trek across the nation's capital to see not only the WWII memorial but also many of the other sights — including Arlington National Cemetery, where the group was scheduled to watch the changing of the guard ceremony at the Tomb of the Unknowns. "The veterans became very quiet as we passed row upon row of perfectly aligned

(Continued on page 46)



Photo 2: These veterans pose in front of a field of 4,000 sculpted gold stars on the WWII Memorial Freedom Wall, which commemorate the 400,000+ Americans who died during the war.

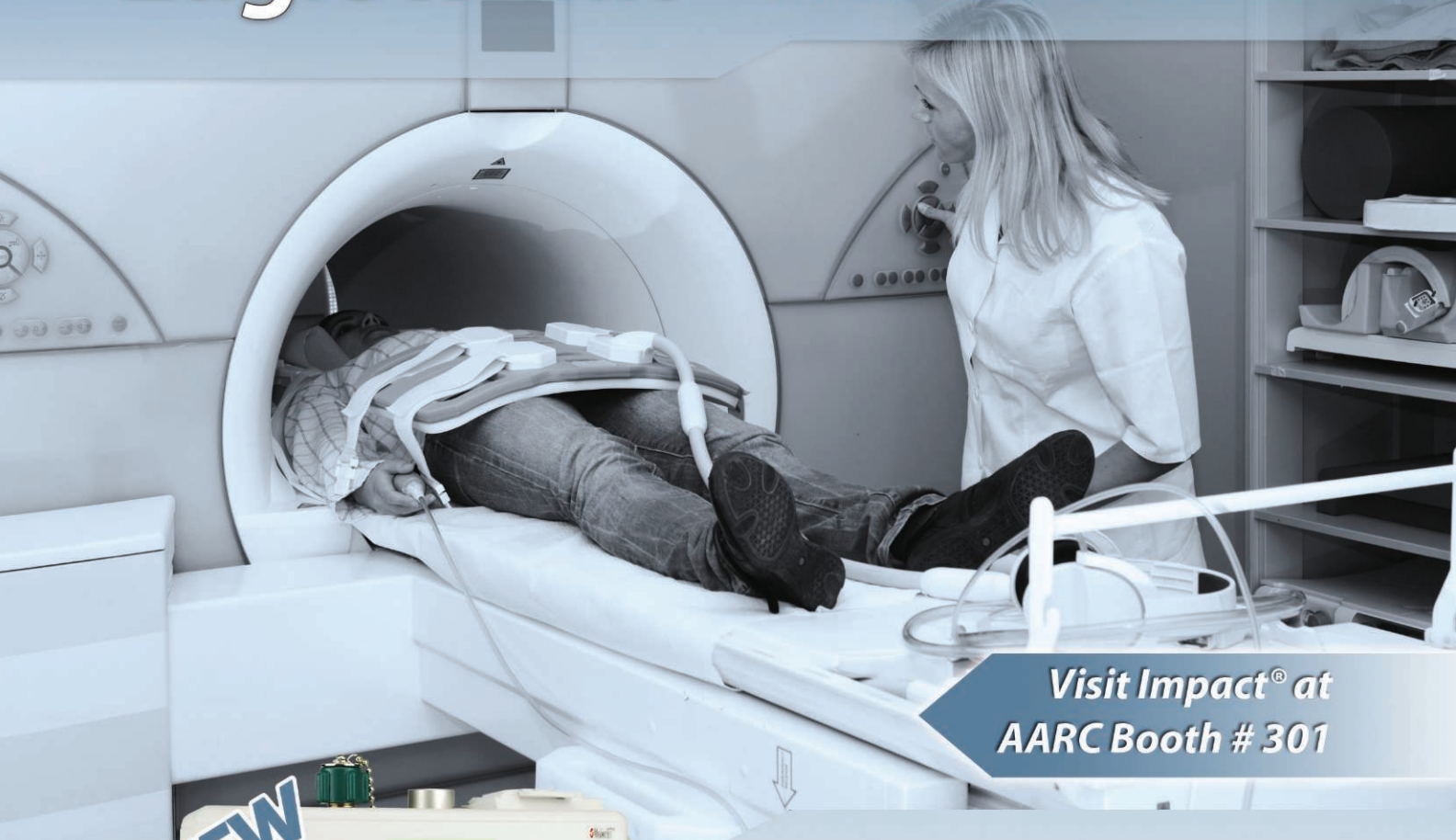
Photo 3: One of the veterans on Steve Sittig's trip signs flag for a young girl from his community.

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## AARC Supports Those Who Serve

Two special programs from the AARC are for supporting respiratory therapists in uniform:

✦ Established in 2008, our **Military Roundtable** provides an online forum for members currently serving in the armed forces, veterans, and anyone else who would like to show their support for the troops. The Roundtable is open to any AARC member free of charge. Go to [www.aarc.org/community/military/](http://www.aarc.org/community/military/) to add your name to the list.

✦ Active-duty military personnel in respiratory care and other medical fields may attend the **AARC International Respiratory Congress** (Dec. 6–9 in Las Vegas, NV) free of charge. The Association has been offering the free registration to military personnel for the past several years. For more information, log on to [www.aarc.org/member\\_services/military/congress.htm](http://www.aarc.org/member_services/military/congress.htm). For information on the Congress sessions, log on to the home page at [www.aarc.org](http://www.aarc.org). ■

(Continued from page 44)

white tombstones," he says. "One could only imagine what may have been going through their minds at this time."

After the service was over and the group was heading back to the buses, Sittig noticed a teenaged girl carrying an American flag. As the veterans passed by, she asked each one to sign her flag. "I had to ask what type of project this was and where she was from," he says. The girl told him she and her mother were from Mason City and had flown to DC on a separate flight expressly for the purpose of getting their local vets to sign the flag while they were in the nation's capital. The flag was to be displayed at the local high school the next Monday. "We invited them to ride with us on our bus as we proceeded to our final stop of the day at the Iwo Jima Memorial," says Sittig. "This way she could ask all the veterans on our bus to sign her flag."

### The rest of the story

Hiser, Giordano, and Smith were equally busy during their trip, accompanying the veterans to memorials all around DC. Like Sittig, they were humbled by the vets' reaction to the experience. At the Tomb of the Unknowns, which was the first stop for her group, Smith says the veterans saluted throughout the playing of "Taps," even though some of their arms were quivering near the end. "This set the tone for the trip."

Next up was the WWII memorial, where some of the veterans strolled around to take it all in, while others became very somber,

obviously remembering experiences during the war and friends they had lost. "Our lone Marine became the quietest of all. He had been rather boisterous earlier, but his memorial obviously moved him as he wiped tears from his eyes."

One of the most touching moments occurred when a middle school chorus sang the national anthem to the veterans. "During the song, it became evident that several of the kids were crying," says Smith. Since the children were so young, she and her fellow guardians were a bit surprised at the reaction. However, one of the vets asked her to hold his cane and went over and began hugging the children. Others soon followed.

"As Paul Harvey said, 'And now for the rest of the story,'" says Smith. "The chorus was from a predominantly Jewish area in Boston. Earlier during the day the students had been to the Holocaust museum where they learned of the great sacrifices made by these vets." The children realized those sacrifices made it possible for them to practice their religion. "It was an incredibly moving moment — one I will never forget."

### The honor was theirs

Hiser says the reaction from the schoolchildren was just one of many displays of gratitude the group experienced throughout the day. "Every time we got off the plane or arrived at a memorial there were large groups of people, often times assembled on the spur of the moment, who greeted the vets with their applause and thanks."



Veterans on the trip out of Dallas-Ft. Worth render honors at the Changing of the Guard at Arlington Cemetery.



A tip of the hat from this veteran acknowledges the Marine bugler at the WWII Memorial.



That gratitude extended beyond the crowds to the guardians themselves. “Personally, I was honored to sit between two of the veterans on the outgoing trip,” says Hiser. “They were Harry Thompson, a 96-year-old and the oldest veteran to take the trip to date, and Roy Hill, who served in both WWII and Korea.” Hill had served in the Battle of the Bulge and was wounded three times. Thompson was captured on the second day of that battle and forced on a 241-mile march to flee the Allied troops. “He was bombed by both the enemy and his own American Air Force but never stopped believing he would survive,” says Hiser. Both men were awarded the Purple Heart, and Hill also received the Silver Star.

“To be able to sit with both of them and join in their conversations is something that I will never forget,” says Hiser. “It was an amazing experience for me.”

Steve Sittig also had a really memorable moment on the return flight. As he made the rounds to recheck oxygen saturations, he asked the veterans what they thought of the day, receiving overwhelmingly positive replies. “As I checked one of the last veteran’s oxygen saturations, his saturation was slightly low; but when I asked him how his breathing felt, he said he was fine. He then told me part of his medical history that somehow was not relayed to us preflight.” It turns out, the man was concerned that his internal defibrilla-

tor may trigger, since it had triggered seven times in the week before the trip. “As I looked at him with some concern, he stated that his doctor had adjusted it some so that he could be a part of this flight. So, you can see how important this experience was to him.”

Smith says the most personal experience for her took place as the group visited wounded soldiers from Iraq and Afghanistan who were being treated at Walter Reed Army Medical Center. “The WWII veterans were standing along the wall in the auditorium. I was escorting a soldier who had shattered both of his legs when his truck was blown up in Iraq,” she recalls. “As we got to each veteran, I introduced my soldier. They exchanged gratitude with their eyes, their lingering handshakes. They gave my soldier a prayer cloth that expressed the passing of the torch from one generation to the next.” Later that day, one of the veterans gave her a similar prayer cloth to give to her son, who is currently serving as a lieutenant in the Navy.

“When I first heard of Honor Flight, I thought the title was such because the entire purpose was to honor the vets,” Smith says. “After this experience I now know I had it all wrong. The honor was mine. It was an honor to be in their presence.”

For more information about the Honor Flight Network, visit [www.honorflight.org](http://www.honorflight.org). ■





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# Nonconventional Pulmonary Screening Outside the Physician's Office

by Steven B. Nelson, MS, RRT, CPFT, FAARC

Screening for COPD has been going on since spirometry was first described in the 1850s. Wintrich in Germany, Hutchinson in England, and Simon in Austria started investigating what the new devices they had created — called spirometers or gasometers — could tell them.<sup>1-3</sup> They each screened thousands of people in the general population with their devices and concluded that they could differentiate healthy people from diseased people based on the amount of air they could exhale. The instrumentation has improved considerably since the water-sealed devices these early pioneers used.

Spirometry is considered the gold standard today for diagnosing COPD. However, there are many problems with using spirometry as a screening test. It is difficult for patients to perform, it is fraught with the potential for technical errors, it is time consuming, and it can be expensive. In addition, the number of people in the general population who may have COPD is small, estimated by the BOLD Study to be around 7% in the United States.<sup>4</sup> Those with moderate to severe disease requiring treatment falls to around 2%. Lin shows that in smokers over age 40, 833 people would have to be tested to prevent one COPD exacerbation.<sup>5</sup> In asymptomatic non-smokers, the number climbs to more than 2,500. With all these considerations and the low a priori probability of the disease, spirometry conducted in public screenings tends to over-predict the disease, resulting in people needlessly being told they might have lung disease.

Mislabeling a person as having COPD can lead to unnecessary treatment, expenses, and adverse effects

that may follow as a result. To reduce the effects of all the false-positive tests, there have been efforts recently to reduce the number of spirometry tests done. The new screening options are aimed at being simple to administer to the general public. They may require as little as checking a few boxes and counting up a score, reviewing prescription medications, or using analogues to spirometry tests. The screenings can be administered by minimally trained personnel in most cases. "Screening" no longer means just spirometry, and it should not be considered a dirty word.

### about the author...



Steven B. Nelson, MS, RRT, CPFT, FAARC, is an associate executive director for the AARC in Irving, TX. He is also the MSU project liaison for the Association.

### Mass spirometry screenings for COPD

For many people, public health fairs and events are the only contact with health care providers during the year. Spirometry is commonly used at these public events to draw people to information booths. There is generally a lot of activity at the event that attracts people's attention. Participants may have their height measured, be asked a number of questions, and get to interact with health care professionals. In the end, they are given a result that they can carry away with them.

While the numbers themselves may be meaningless to the participant, they feel they have been given something of value and they can continue on to the next booth to obtain the free test or giveaway being offered there. In this setting, it is essential to those without

access to health care that the provider take the necessary time to explain the test procedure and results so that they are understood before leaving. If the results are abnormal, they should be advised to take the results to a local physician.



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Unfortunately, these public events have a poor record for quality. Even in the controlled environment of a physician's office, acceptable test rates can fall below 40%.<sup>6</sup> Since unacceptable performance always lowers the observed values, all of the people with poor quality tests tend to get classified as having disease.

The European Lung Foundation has held events in conjunction with the European Respiratory Society meeting for the past several years.<sup>7</sup> In Berlin in 2008, they set up testing kiosks in the rail station and tested 3,918 people during a two-and-a-half-day event. In six events, they have tested more than 12,500 people. In general, they have advised up to 20% of the people to see their physician for follow-up due to evidence of airway obstruction.

### Screening questionnaires

There have been two questionnaires developed recently in the United States, the Lung Function Questionnaire (LFQ) and the COPD Population Screener™ or COPD-PS™.<sup>8-10</sup>

The LFQ was developed to identify patients who were appropriate to refer for diagnostic evaluation for COPD, and 387 patients at least 40 years old who identified themselves as having bronchitis were surveyed. Five variables were found to provide the best accuracy using an unweighted sum scale: age  $\geq 50$ , wheeze, dyspnea, phlegm, smoking for 20+ years. A positive answer to three or more questions was used to refer patients to spirometry. The LFQ was able to correctly classify 72% of the patients with airway obstruction. The self-

### AARC-sponsored Screenings

The AARC has recently signed on as a sponsor for the DRIVE4COPD campaign, which uses the COPD-PS screener. The goal is to have this screener completed by a half-million respondents by the end of 2010. If you have not already participated or planned an event, contact your state society coordinator. Additional information is available at [www.aarc.org/drive4copd](http://www.aarc.org/drive4copd) ■

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reported history of “bronchitis” helped to increase the sensitivity. Specificity of 54% means that it was slightly better than a coin toss at predicting absence of disease; there were many false-positive results that required further testing. Using this screener in the general population would have an adverse effect on the results since it was done in a preselected population. It does not require staff expertise to administer and does not require the patient to try and classify the extent of a condition, just the existence.

The COPD-PS started by interviewing almost 700 patients for easily identifiable symptoms and conditions common to patients with COPD: dyspnea, cough, phlegm, colds, bronchitis, congestion, wheezing, functional impact, and personal characteristics. Breathlessness, productive cough, and activity limitation, along with lifetime smoking history of more than 100 cigarettes and age  $\geq 35$  were the five factors determined most predictive for airway obstruction. A weighted sum score of five or higher correctly classified 80% of the patients with airway obstruction. The paper screener can be quickly filled out in a public event without the need for trained people to administer the test. Unfortunately, it does require the patient to estimate the amount that they agree with a statement, which can increase the time necessary to complete the screen and decrease the likelihood that a person completes it.

### Prescription profiling

Recently, Mapel et al in New Mexico took a different tack.<sup>11</sup> They looked at the use of prescription medication in outpatient pharmacy settings to determine the likelihood of COPD in undiagnosed patients. The advantage to this method is that no patient input is required, either subjective or objective. Patients in a managed care program have this information tracked automatically in most cases. They tend to have increased health care utilization for several years before they are given a diagnosis of COPD. Managed care pharmacy data indicated an increased use of antibiotics, respiratory, and cardiovascular drugs. Monitoring for this pattern identified patients who needed to be referred for diagnostic testing and those who might benefit by more aggressive interventions. An earlier article by Mapel discussed the direct cost of undiagnosed COPD.<sup>12</sup>

### Mobile Spirometry Unit

In June 2008, the National Heart, Lung, and Blood Institute and the COPD Foundation hosted a consensus conference to determine a better method to screen people likely to have COPD. The conference was in response

**Table 1. COPD Risk Factors Promoted by the MSU Screening**

Wheeze  
Mucus/phlegm  
Asthma history  
Increasing dyspnea  
Environmental exposure  
Smoking history  
Age  $>35$

to papers published by the Agency for Healthcare Research and Quality<sup>13</sup> and the U.S. Preventive Services Task Force<sup>5</sup> that labeled spirometry as a poor tool for screening. The result was development of a multi-part protocol that used a questionnaire and peak flow, then spirometry as the final step only to be used in those identified as being at risk. The questionnaire for risk factors was modified from the previously discussed screeners to require only yes/no responses and included seven factors (see Table 1).

The Mobile Spirometry Unit (MSU) was chosen as the vehicle to implement the suggestions from the consensus conference. The MSU was originally organized by the AARC almost 10 years ago and has been supplemented by support from the COPD Foundation over the last four years.

Initially, the MSU was using a cutoff on questionnaires of more than two risk factors to proceed to peak expiratory flow (PEF), but the additional time and expense were negligible and participants were upset if they didn't get to do something more than just stand in line. Therefore, everyone proceeded to PEF regardless of risk factor score.

Participants were recruited from the general population at health fairs and other public events. In the course of the study, we recruited 5,761 people and obtained valid histories and PEF from 5,638. The peak flow device used was a Vitalograph asma-1™ that reported PEF and FEV<sub>1</sub>. It was simple to clean and used valved mouthpieces to reduce the possibility of cross-contamination. Of these, 5,323 had PEF  $\geq 70\%$  predicted and were told they were not currently at risk for COPD. They were given information about tobacco-dependence treatment if they were current smokers. The remaining 315 (5.7%) qualified for follow-up spirometry. In addition, a random sample of normal people were selected for spirometry. A total of 729 people had spirometry.

The combination of a set of simple yes/no questions and peak flow had the same ability to detect disease as

the previously described screeners. Those with airway obstruction were correctly identified 79% of the time. However, in contrast to the paper-based screeners, the number of correctly classified people without airway obstruction jumped to 88%, greatly reducing the number of false-positives.

Adding a simple, easy-to-perform peak flow measurement to a paper-based screener prevents most of the problems associated with high numbers of false-positive results. It is easy to administer and does not require great skill from patients or clinicians.

### Screening made simple

COPD screening is useful for detection of the disease. While COPD cannot be cured, it can be treated effectively if caught at an early stage.

The methods described here show that alternatives to spirometry are available for use in dealing with the general public. Spirometry is still the standard for detecting airway obstruction, but it requires an abnormal act on the part of the patient and well-trained respira-

tory technicians to ensure that the results are accurate. Spirometry has been notoriously blamed for causing too many people to be needlessly treated, when, in fact, the shortcoming lies in the technology.

Finding the people who are most likely to benefit from accurate spirometry done by well-trained respiratory therapists in a proper setting can be made simpler by using screening tests. A step-wise approach can reduce the number of people requiring spirometry to about 5% of the general public. ■

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# Tailoring Tobacco-dependence Treatment to the Elderly Patient

by Helen M. Sorenson, MA, RRT, FAARC

The “upstream, downstream” metaphor often used to emphasize the importance of smoking prevention states that we are so busy pulling drowning people out of the water downstream that we don’t have the time to go upstream and see who is pushing them in. Are our older patients who continue smoking in danger of “drowning”? Do we know how they got into the water to begin with? The answer to both questions is yes. But a third and fourth question remain: Do they want to be saved? And, how can we encourage them to “get closer to the shore” so we can reach out and help? Nicotine addiction is strong, and often the desire to quit is weak. But the consequences of continuing to smoke are deadly.

### Statistics point to the need

In 2003 there were an estimated 3–4 million geriatric smokers in the United States.<sup>1</sup> The percentage of adults over 60 who currently smoke ranges from 13–28%, depending on the state of residence. Smoking is the number one preventable cause of morbidity and mortality. About 444,000 people die annually from smoking-related disorders, and 300,000 of those are over the age of 65.<sup>2</sup>

America is also facing an unprecedented rise in the absolute number of older adults. According to federal statistics, there are currently about 40 million people 65 and older. By 2030, those numbers could swell to 71 million, almost doubling in size in a period of 20 years.<sup>3</sup>

At the same time, health care costs are rising. Between 1996 and 2006, prescription drug costs increased 66%, and the price of a doctor’s office visit went up 58%.<sup>4</sup> Tobacco-dependence treatment programs for older adults make sense on just about every level because reducing morbidity in our older patients is going to be a necessity, not just a good idea.

### Targeting the older generation

Because many older adults have little to no desire to quit smoking, it may be necessary to “think outside the box” when you plan a tobacco-dependence treatment program for this segment of the population. One strategy may be to look at programs that have been successful. Another thing to consider is timing. The “if you build it they will come” concept has not always been effective. Good smoking-cessation interventions start at a number of specific times — and for specific reasons. Several studies have tried

to determine optimal timing. Lang et al looked at smoking cessation as transitional behavior. Their study showed that those who are soon to retire may be interested in changing their habits. The study included more than 1,700 smokers over the age of 50. Only 29.3% of those still working quit, compared to 30.2% who were already retired. However, 42.5% who recently retired quit smoking — a 12–13% increase in smoking cessation at the time of retirement.<sup>5</sup>

Another study found those with a new diagnosis of chronic disease were three times more likely to quit smoking, and patients with a diagnosis of more than one major disease were six times more likely to quit.<sup>6</sup> Counseling hospitalized patients has also shown promise. A 1997 study found a 17% quit rate for patients who received counseling versus a 14% quit rate for those who did not.<sup>7</sup>

One of the simplest things we can do as respiratory therapists is to ask our older patients who smoke if they have ever tried to quit. If the answer is yes, encourage them to keep trying — to never quit quitting. If the answer is no, a simple smile and a “why not?” may at least get them thinking about it. While our queries are important, physician advice/counseling is also an effective approach. Lancaster and Stead concluded that even when

### about the author...



Helen M. Sorenson, MA, RRT, FAARC, is an associate professor with the department of respiratory care at the University of Texas Health Science Center at San Antonio, TX.



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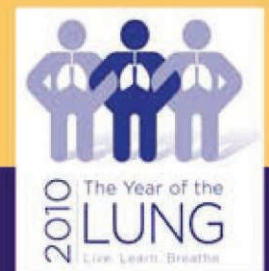
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To understand nicotine addiction in older adults, you only need to hear some of their statements: “Smoking was like adding punctuation marks to my day” or “Cigarettes wake me up in the morning and put me to sleep at night.” Published in a book entitled “Tobacco Free After 50,” they speak to the attachment many older adults have to smoking.

—After 50 Press

physicians provide only simple, brief tobacco-dependence treatment advice, the likelihood that a smoker will quit and remain a nonsmoker 12 months later is increased.<sup>8</sup>

### The age barrier

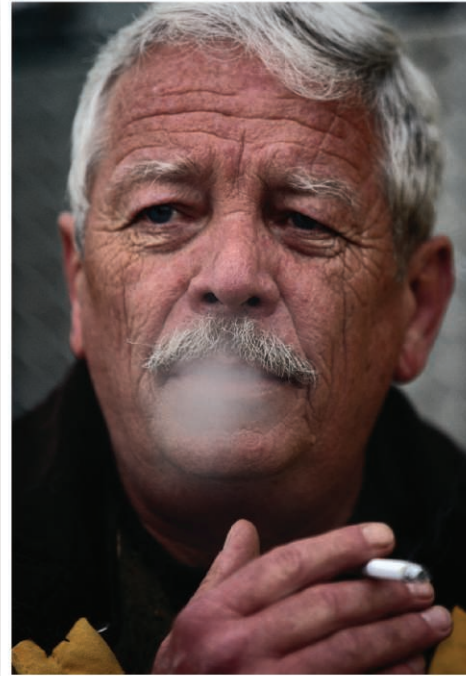
Unfortunately, age alone is a barrier to smoking-cessation interventions. Studies cited in published guidelines for tobacco-dependence treatment strategies are usually limited to those involving adults under the age of 50. A study conducted from January 1994 to July 1995, however, retrospectively reviewed the medical records of 788 current smokers over age 65 who were admitted with confirmed acute myocardial infarction (AMI) and discharged alive from an acute care facility in North Carolina. Smoking-cessation counseling was provided to 40% of the AMI patients prior to discharge. Women and blacks were less likely to receive counseling. Increasing age; discharge to a skilled nursing facility; and a history of hypertension, heart failure, and stroke were associated with no smoking-cessation counseling being provided prior to discharge.<sup>9</sup>

What was interesting about that study was that inpatient smoking-cessation counseling, even without confirmation of smoking cessation, made an impact on the five-year mortality rate: 488.3/1,000 enrollees who received counseling died, compared to 579.3/1,000 of those who did not receive inpatient counseling prior to discharge.<sup>9</sup>

In another study, Doolan and Froelicher also noted that tobacco-dependence treatment interventions were offered to older adults at suboptimal rates, despite the fact that health care literature showed the importance of having people of all ages be provided with tobacco-dependence treatment interventions.<sup>10</sup>

### Approaches to smoking cessation

The Agency for Healthcare Research and Quality provides a number of specific recommendations for clinicians and provider organizations regarding successful



approaches to tobacco-dependence treatment.<sup>1</sup> The five key recommendations are:

- 1 **Smoking status as a vital sign:** Every patient encounter should include a documented chart notation on smoking status. Regard it as another vital sign.
- 2 **Intervention for all smokers:** Based on the dangers associated with smoking, all smokers who present to a medical facility, regardless of the reason, should be counseled to quit, even if it is just a brief consultation.
- 3 **Dose-response relationship:** More intensive treatment yields better results than brief treatment. Provide person-to-person counseling instead of pamphlets and printed materials.
- 4 **Optimal types of counseling:** Provide patients with practical problem-solving skills, intra-treatment social support, and assistance with extra-treatment social support.
- 5 **Pharmacotherapy:** The antidepressant bupropion and nicotine replacement are considered first-line therapies that RTs should consider offering to smokers who are trying to quit, unless there are specific contraindications.

These guidelines can be adapted to any age group, including older adults. Pharmacotherapy may need to be



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adapted specifically for patients who cannot chew gum or who have decreased liver function, but these are the exceptions, not the rule.

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Obviously, smoking is a choice that individuals make, but it is important to remind your patients that no one is forcing them to smoke and that their choice may be associated with unpleasant consequences. Information provided in a one-on-one, concerned, non-threatening tone, may over time help them change their mind about continuing to smoke. The realization that diseases associated with smoking may severely compromise their ability to care for themselves — and even stay independent — may open their eyes to what lies ahead if they continue to smoke. It is also important to let older smokers know that cessation rates for adults over age 65 are actually quite good. For patients who are resistant to counseling and express no desire to quit, tobacco-dependence treatment programs may not be successful.

As health care professionals, however, we have a responsibility to at least try to help our patients quit this harmful habit. Handing out tobacco-dependence treatment information and providing even brief, personal counseling should be encouraged by every respiratory therapy department in all medical facilities.

How will you know if your patient is a smoker? Ask! ■

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As the nation gets ready to mark National COPD Awareness Month and World COPD Day — this year on Nov. 17 — it seems like a great time to revisit the top five ways your professional association has been involved in combating the nation's fourth leading cause of death this year. Consider how you can get more actively involved in efforts to support your patients with this chronic respiratory condition.

# 5 <sup>The Top</sup> Ways the AARC Raised Awareness of COPD This Year

1.

## DRIVE4COPD

The biggest news on the COPD front this year has been our partnership with the new DRIVE4COPD program. Spearheaded by celebrities Danica Patrick, Patty Loveless, Bruce Jenner, Michael Strahan, and Jim Belushi, this nationwide effort is promoting the use of a simple COPD population screener to help identify more people with the condition while they are still in the early stages of the disease when treatment is more effective.

The program is hosting a website — [www.DRIVE4COPD.com](http://www.DRIVE4COPD.com) — where people can complete the screener and enter to win an Ultimate NASCAR Weekend or a CMA Awards Trip Package. The site also includes lots of great information about COPD and how it's diagnosed and treated. The overall goal is to find at least one million people who have COPD but don't know it.

That's the national effort. The AARC, however, has planned its own DRIVE4COPD effort to get members involved. In August we launched the AARC DRIVE4COPD challenge to encourage all of you to use the screener to each test 10 members of the public for COPD. With our 50,000+ membership, that means the AARC alone has the potential to screen 500,000 of the one million people in the national goal.

Screeners were delivered to the AARC Executive Office in late August and were immediately distributed to state societies around the country that have graciously volunteered to head up the program in their local areas. The national DRIVE4COPD program also set up a special website for AARC members — [www.aarc.org/DRIVE4COPD/](http://www.aarc.org/DRIVE4COPD/) — to help promote your active participation. AARC President Timothy R. Myers, BS, RRT-NPS, interviewed the lead spokesperson for the program, NASCAR driver Danica Patrick, and the interview was featured in a podcast on [www.aarc.org](http://www.aarc.org) and in the September issue of *AARC Times*.

If you've already gotten involved in DRIVE4COPD, thanks for your help. If you have yet to sign up, go to the AARC website and get started today.



## November is National COPD Awareness Month, and the AARC is working to educate the public about this lung health problem.

# 2.

## The Year of the Lung and World Spirometry Day

As most of you have heard by now, 2010 is the International Year of the Lung, and the AARC has been actively promoting this special observance all year long through Year of the Lung Web pages and press releases targeting various lung conditions.

The international organizers decided to zero in on spirometry by hosting the first-ever World Spirometry Day on Oct. 14, and once again the AARC was on board, asking its state societies to host spirometry testing and educational events in their state capitol buildings or state department of health buildings on that day. These events were built on the success we had with last year's World COPD Day @ the State Capitol events, which were hosted by six AARC state societies across the nation. (Stay tuned to *AARC Times* for more on this year's events, which were

just wrapping up at press time.)

The AARC also issued a special press release in October to use the Year of the Lung to connect respiratory therapists with all of the COPD awareness activities that are taking place this fall. The press release highlights the vital role spirometry plays in diagnosing COPD in its earliest and most treatable stages and also lists the other positive steps people can take to minimize the ill effects of the condition: quitting smoking, asking their physicians about medications, and enrolling in a pulmonary rehabilitation program.

*World Spirometry  
Day Oct. 14!*

3.

### The Mobile Spirometry Unit Rolls On

One of the best ways the AARC serves the public when it comes to COPD, is through our ongoing partnership with the COPD Foundation's Mobile Spirometry Unit (MSU); and this year we have continued that effort. This traveling program uses AARC members to conduct handheld spirometry testing and deliver device and medication education at public health fairs and other events around the country. Since its inception four years ago, the MSU has screened more than 8,500 people.

Most recently, the Association validated a new method to screen people for testing that's based on a six-question quiz. People who answer "yes" to two or more of the questions proceed to peak flow testing, and those with a peak flow less than 70% of predicted go on to be tested by spirometry. The new method has significantly reduced the number of false-positives normally seen with screening spirometry events and is helping to ensure that the MSU offers the public only the most reliable of results.



4.

### YourLungHealth.org

People who are newly diagnosed with COPD, and even those who have had the diagnosis for awhile, often have questions that don't always get answered during their regular physician's appointments or hospitalizations.

That's where the AARC's YourLungHealth.org COPD pages come into play. Written by Association members especially for patients, these online resources can go a long way in helping to ease the concerns of patients and family members alike. Here's what is on the site:

- Comprehensive information for you and your patients about symptoms, diagnosis, stages, flare-ups, and treatment, plus sections on COPD facts, what causes the disease, how to decrease the risk of getting it, and other factors.
- Great advice for patients on how to quit smoking, including a list of phone numbers for quitlines around the country and links to other sources that can provide help.
- An explanation of spirometry and how patients can maximize their effort on the test.
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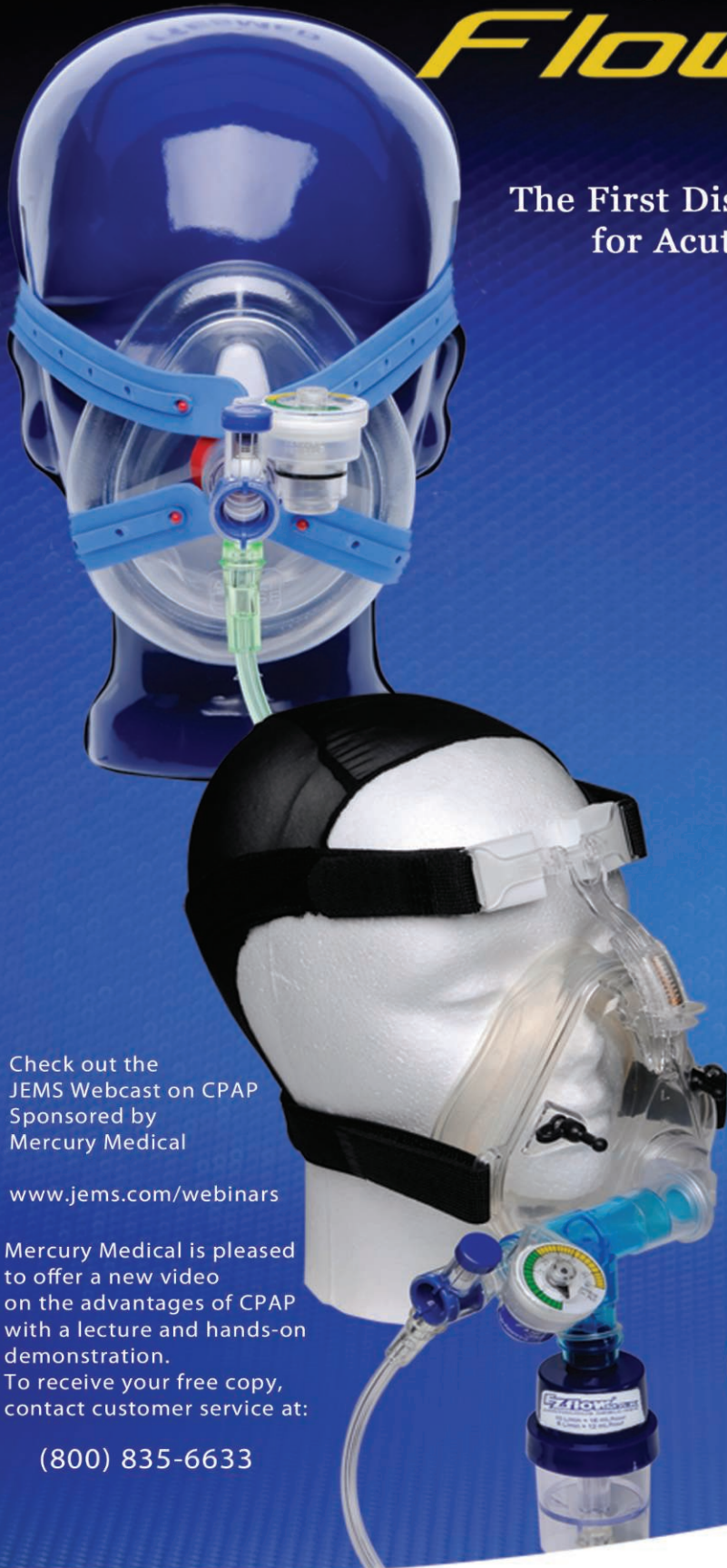
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12/ 6 - 9, 2010 in Las Vegas, Nevada.

5.

## Adding Our Voice to Lobbying Efforts on Capitol Hill

COPD has a lot of champions on Capitol Hill, from the COPD Foundation, to the Emphysema Foundation for Our Right to Survive, to the U.S. COPD Coalition. As the national organization representing respiratory therapists, the AARC adds an important dimension to the discussions, bringing your perspectives to the forefront on decisions ranging from funding for COPD research at the National Institutes of Health to the National Heart, Lung, and Blood Institute's Learn More, Breathe Better® campaign. Association leaders are always front and center whenever COPD is addressed in Washington, DC, and we make a difference by advocating for the care and resources our patients deserve.

These efforts produce fruit every year during our annual Capitol Hill Lobby Day in early spring. Members of our Political Advocacy Contact Team (PACT) join AARC leaders and our legislative team in the nation's capital to visit their members of Congress and advocate for an array of issues important to the profession.

As the fourth leading cause of death and one of the most common conditions treated by RTs, COPD is always at the top of the list; and PACT members take advantage of the Lobby Day to educate their elected officials about the great need for earlier

Tom Corron (an alpha-1 patient shown left), met with Rep. Tom Latham along with Iowa PACT members Anne Stark and LuAnne Heemstra.



Kelda Lea and pulmonary patient R.Cristy McPherson at Rep. John Sarbanes office



testing and diagnosis and more research into new treatments. As they have in the past, this year many of them brought COPD patients from their communities along for Lobby Day, which significantly enhanced the messages they were trying to deliver to their members of Congress and congressional health staffs. ■



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\*FiO<sub>2</sub> measured at the trachea of a head extension model of a mechanical lung with I:E ratio of 1:1, 16.5 bpm, and tidal volume of 500 ml. Actual FiO<sub>2</sub> will vary with rate and depth of breath.



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# It's Time To Choose the January 2011 Cover of *AARC Times Magazine*

The AARC has been collecting photos from Association members this year for our **photo contest**. Now it's time to select the winning photo for our January 2011 *AARC Times* cover.

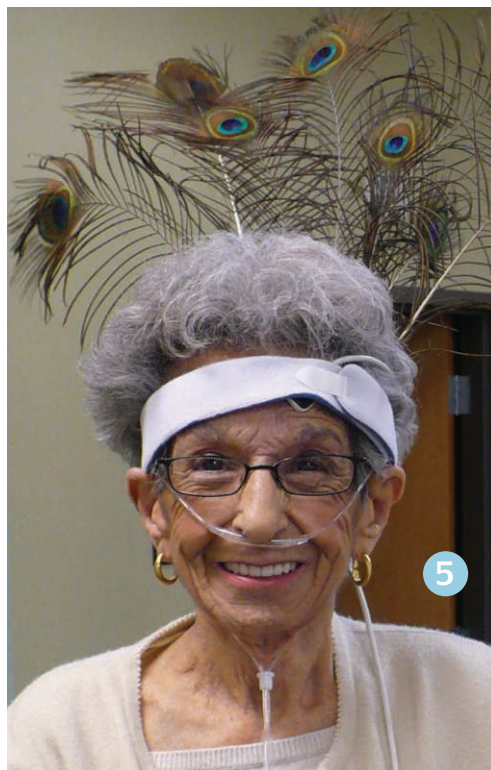
Go to [www.aarc.org](http://www.aarc.org) now and click on the "Photo Contest" button to cast your vote. The winning photo will be the cover photo for the January 2011 issue of *AARC Times*.




**Congratulations to this year's Photo Contest finalists, who each received a **free annual AARC membership renewal!****



1. Alan Roth, MBA,  
RRT-NPS, RPFT, FAARC,  
of Modesto, CA
2. Shirley Schultz, RRT,  
AE-C, of Belleville, IL
3. Kristi Guffey, CRT, of  
Papillion, NE
4. Deborah Schmidt, RRT,  
of West Union, IA
5. Lynne Leach, RRT, of  
Davisburg, MI
6. Lynne Leach, RRT, of  
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# Congress Preview: More Sessions NOT To Be Missed

- ▶ **The 56th AARC International Respiratory Congress is now just weeks away — Monday, Dec. 6, through Thursday, Dec. 9. As we count down the days, we're taking another opportunity to point out some sessions everyone will want to attend. Here are our top five picks for this month.**



## 1.

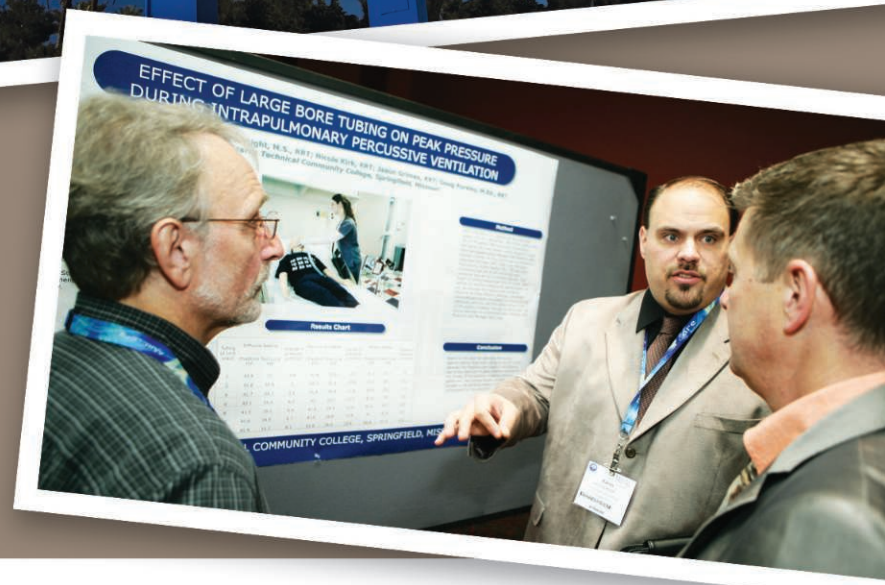
### Defending Your License

You earned your state license to practice, you keep up with the CRCE® requirements to maintain that license, but if you're like most therapists, the idea that you might one day be called up on a disciplinary charge by your state board has never entered your mind. It should, says Anthony L. DeWitt, JD, FAARC, a former respiratory therapist who is now a practicing attorney in Jefferson City, MO; and he'll explain why in a session that will delve into the intricacies of the process.

"Most professionals go through their professional careers without ever thinking that they could be the subject of discipline," he says. "This causes them to assume that they don't need to know how the process works, and that's a dangerous assumption."



According to DeWitt, there are hidden traps in the law and procedural landmines in every disciplinary case that people without legal training would be hard pressed to spot. He'll illustrate these pitfalls by relating the case of a nurse charged with administering two large bolus doses of Diprivan to his patients. "The presentation will use actual trial transcript to show attendees what kinds of questions get asked and how evidence is taken," says DeWitt. "At the conclusion of the presentation, attendees will understand why having a lawyer in a disciplinary case is absolutely necessary."



## 2.

### Professor's Rounds: Therapeutic Application of One-Lung Ventilation

Most patients on mechanical ventilation have two lungs that need respiratory support. But one-lung ventilation (OLV) can be required as well, and Randal S. Blank, MD, PhD, and Charles G. Durbin, Jr., MD, FAARC, will deliver need-to-know information about this less frequent yet vital ventilation strategy.

“OLV is used to optimize surgical conditions during a variety of surgical procedures in the thorax,” says Dr.

Blank. “These include general thoracic surgeries, as well as various cardiac, vascular, pediatric, and spine surgeries.” The technique is also used in patients with severe unilateral lung disease states and those with pulmonary infections, hemorrhage, or bronchopleural fistulae.

Dr. Durbin says that while routine use of OLV outside the operating room is rare, it can be a lifesaving therapy in some patients. “Single-lung ventilation provides an interesting model of controlled ventilation-perfusion mismatching,” he says. “Patients with unilateral lung disease, bronchopleural fistula, or massive hemoptysis can benefit from endobronchial intubation — double lumen tube placement — and different strategies of ventilation applied to each lung.”

3.

## The Ethics of Using Noninvasive Ventilation at the End of Life

Should patients with “do not attempt resuscitation” or “do not intubate” orders receive noninvasive ventilation (NIV) at the end of life? That’s a tricky question for many clinicians who wonder whether the comfort provided by the therapy outweighs the patient’s desire to avoid lifesaving therapies. In this presentation, Shawna Strickland, PhD, MEd, RRT-NPS, AE-C, will review the current literature on the use of NIV at the end of life and attempt to clarify some of the ethical issues that invariably come up in these situations.



“In the emergency department, the intensive care unit, or on the medical-surgical

floors, using noninvasive mechanical ventilation for patients with ‘do not attempt resuscitation’ or ‘do not intubate’ orders can be difficult for respiratory therapists,” Dr. Strickland says. “The ability to assess and address these issues can help alleviate a good deal of stress in these situations as well as assist the clinician in providing high-quality patient care.”

## ► Book by Nov. 4 for Great Rooms and Dining Deals

The AARC has negotiated some great room rates at the Las Vegas Hilton, and if you’re going to the Congress this December, you’ll want to take advantage of them. Here’s why:

- All of the rooms at the Hilton have been newly upgraded, and many have been completely renovated, so you can be sure your room will have the latest in creature comforts, including ultra soft bedding, plasma TVs, and more.
- There are three different room levels to choose from to accommodate a wide range of visitor needs.
- Each room booked at the Hilton comes with Las Vegas Hilton Dining Deal coupons worth \$100 in food and beverage specials. The coupons are valid at the hotel’s food outlets, including TJ’s Steakhouse, the world-famous Benihana, Paradise Café, and more.

The location can’t be beat either — the Las Vegas Convention Center, home to all the lectures and symposiums, is right next door, and the official social functions and pre-Congress courses will take place in the hotel itself.

In order to take advantage of these great deals, you must book your room in the official AARC room block by Nov. 4. Detailed instructions are posted on [www.AARC.org](http://www.AARC.org) (click on “Meetings” and then “International Respiratory Congresses”). That will take you to the 56th Congress page. From there, click on “Site and Hotel Info” to find the “Instructions” paragraph.) ■



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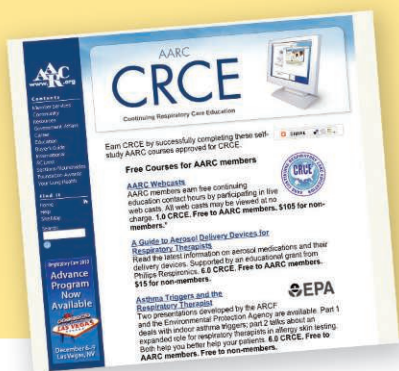
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## 25+ CRCEs

With more than 250 sessions featuring over 170 speakers, plus the biggest respiratory care Exhibit Hall in the business, the AARC International Respiratory Congress is clearly the best place all year long to learn about the latest developments in the profession. But attendees come away with more than just knowledge — you can also earn 25+ CRCE® credits. In many cases, that's enough to cover your licensure requirements for the whole year. ■

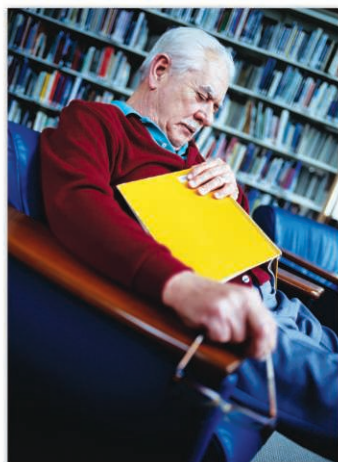
4.

## Sleep-disordered Breathing in CHF

Breathing disorders during sleep are common in patients with congestive heart failure (CHF) and affect up to 76% of these patients. Patients with CHF may suffer from either obstructive sleep apnea (OSA) or central sleep apnea (CSA) with Cheyne-Stokes respiration. Treatment options include optimization of CHF treatment, cardiac resynchronization therapy, and positive airway pressure therapy.

While CPAP therapy may suffice in CHF patients with OSA, patients with CSA may need newer modalities of therapy, namely, adaptive servo-ventilation. Moreover, some patients with OSA and CHF may manifest central apneas when receiving CPAP therapy — termed “complex sleep apnea” or “CPAP-emergent central apneas.” Such patients may also require adaptive servo-ventilation if clinically indicated.

In this presentation, Sairam Parthasarathy, MD, will outline the key factors involved in sleep-disordered breathing in CHF patients. Learn how the condition can be treated and why it is important for respiratory therapists to help identify patients who could benefit from therapy.



5.

## RT as Inventor: How To Invent, Analyze, Develop, and Protect New Product Ideas

As a respiratory therapist, you are known for your ability to think outside the box when it comes to re-vamping equipment to solve clinical problems. As more and more hospitals seek out new revenue streams based on the development of new technology, this is a trait that can boost your value to your health care organization — if you know how to make the most of it.

In this talk, Daniel Grady, MEd, RRT, FAARC, will discuss the steps in the invention process, from idea conception to licensing agreements with manufacturers. He will also explain how to document and protect new product ideas from a manufacturer's perspective, and how to approach manufacturers with new product ideas. “I also plan to discuss inventor ‘do’s and don’ts’ so that participants can avoid very costly mistakes,” Grady notes. “Many of these recommendations will come from a patent attorney’s advice and 30 years of personal experience with this process.” ■





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## 2010 Jimmy A. Young Memorial Lecture Focused on Challenges and Opportunities in Credentialing

**D**uring the 2010 AARC Summer Forum in July, the National Board for Respiratory Care (NBRC) sponsored the 33rd Annual Jimmy A. Young Memorial Lecture. Since 1978, the NBRC has sponsored this lecture series to honor Jimmy A. Young, MS, RRT, who began his career in respiratory therapy in 1960 by working as chief inhalation therapist at the Peter Bent Brigham Hospital in Boston, MA. In 1965, Mr. Young earned the RRT credential and Registry #263. He served his profession in many roles, including director of the respiratory therapy program at Northeastern University in Boston. In 1970, Mr. Young became director of the respiratory therapy department at Massachusetts General Hospital. He was elected the 22nd president of the American Association for Respiratory Care (AARC) in 1973. He was serving as a trustee and member-at-large of the Executive Committee for the NBRC when he unexpectedly passed away in 1975. The NBRC honors his memory and the many contributions he made to respiratory care through this annual program.

This year's Jimmy A. Young Memorial Lecture was titled, "The New Decade — Challenges and Opportunities in Credentialing." NBRC Associate Executive Director Lori M. Tinkler, MBA, introduced the program and her two copresenters, Gregg L. Ruppel, MEd, RRT, RPFT, FAARC, and Robert Shaw, Jr., PhD, RRT, FAARC. Tinkler is the chief operating officer and associate executive director for the NBRC and also the chief operating officer and executive vice president of the NBRC's wholly owned subsidiary, Applied Measurement Professionals (AMP). She has been with NBRC/AMP for 19 years and works with the NBRC Board of Trustees to carry out its mission by managing the day-to-day operations of the NBRC Executive Office and serving as a liaison between the Board and staff who work to fulfill the Board's mission.

Ruppel has been a respiratory therapist for over 30 years. He is the current president of the NBRC Board of Trustees and also serves as the current chairperson for the Long Range Planning Committee. He has been involved with the NBRC Board of Trustees and examination

committees since 1988. He is an adjunct professor at St. Louis University Hospital, as well as the director of the pulmonary function laboratory. He is a contributor to several respiratory care textbooks and author of the "Manual of Pulmonary Function Testing."

Dr. Shaw is an assistant executive director for the NBRC and serves as the psychometric program director for all NBRC examination programs. Dr. Shaw earned his degree in respiratory therapy in 1982 and a doctorate degree in higher and adult education in 1994. Both degrees were from the University of Missouri. He worked as a respiratory therapist from 1982–1987. He then taught in the respiratory therapy program at the University of Missouri until 1995. He has been a program director with Applied Measurement Professionals since 1995.

### Report of Lori M. Tinkler, MBA

Lori Tinkler opened the presentation by reflecting on many NBRC activities and accomplishments over the last decade. She first outlined the five-step process that the NBRC uses to create a new credentialing program. The five steps are: viability study, personnel study, job analysis study, test specification development, and criterion-related validation study. The NBRC established the policy to use this five-step process so the Board of Trustees would have a standard method of response to requests for new credentialing programs from its sponsors. This is the only way a new credentialing program can be started. She emphasized that this process has been in place since the implementation of the hierarchical system in 1983. In addition to standardizing the NBRC's response to proposals for new programs, the five-step process yields results that can be legally defended as valid.





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She then guided the audience through a reflection of the last 10 years and pointed out that as the profession has evolved, so has the credentialing system. In 2000, the NBRC transitioned six credentialing programs to computer-based testing. As a result of the transition, candidates can submit applications online and schedule examination appointments year round. Candidates also receive their results on the day they take the test. This provides benefits to candidates still today. Job analysis studies were also conducted for the Certified Pulmonary Function Technologist (CPFT) and the Registered Pulmonary Function Technologist (RPFT) examination programs in the year 2000.

On July 1, 2002, the Continuing Competency Program (CCP) was implemented. The CCP ensures that credentialed practitioners continue to demonstrate the knowledge, skills, and abilities necessary to continue to practice in the field of respiratory care. Starting the CCP was necessary for the NBRC to maintain accreditation with the National Commission for Certifying Agencies (NCCA). Respiratory therapy was one of the last allied health professions to require mandatory recertification. Job analyses were also conducted for the Certified Respiratory Therapist (CRT), Registered Respiratory Therapist (RRT), and Neonatal/Pediatric Specialist (NPS) examination programs in 2002.

In 2003 and 2004, the main focus was conducting criterion-related validation studies for the CRT and RRT examinations. Conducting a validation study is the fifth step in the five-step process. The purpose of these studies is to replace the assumption that test scores positively relate to job performance with direct evidence. In 2005, a viability study was conducted at the request of the AARC for a potential new specialty examination for Sleep Disorders Specialists. In 2006, a viability study was conducted for a potential new specialty examination for Adult Critical Care Specialists. Since the job analysis process is repeated approximately every five years, job analyses were conducted for most examination programs in 2006 and 2007. In 2008, the first test forms of the Sleep Disorders Specialty Examination were developed and then launched in 2009, making the total time from start to finish only 2 1/2 years.

**Report of Gregg L. Ruppel, MEd, RRT, RPFT, FAARC**

Gregg Ruppel then guided the audience through what is expected of a typical NBRC Board member and the workload that a Board member must accomplish each year. The NBRC Board of



Trustees is made up of 31 members: five physician representatives from the American Thoracic Society, five physician representatives from the American Society for Anesthesiology, five physician representatives from the American College of Chest Physicians, 15 respiratory therapist representatives from the American Association for Respiratory Care, and one public advisor. All of the work completed by the Board is made possible by the volunteer work of its members.

A typical yearly work-load of a Board member includes two week-long meetings each year to develop new items for examination forms. In addition, there are numerous hours of homework and teleconference work that is performed each year. The Executive Committee also meets for one weekend meeting each year. Although it takes time and money to accomplish this tremendous amount of work, the NBRC has not raised examination fees since 2000.

Ruppel used Pamela L. Bortner, MBA, RRT, FAARC, as an example of the responsibilities of a typical Board member. Pam is the chairperson of the Clinical Simulation Examination Committee, a member of the Adult Critical Care Examination Committee, as well as a member of the Admissions, Nominations, and Examination Committee Chairmen standing committees. Bortner's total volunteer time commitment in 2010 is 18 1/2 days.

Ruppel also outlined some of the challenges that the NBRC is facing for the upcoming decade. He stressed that maintaining high standards for credentialing while balancing health care cost reductions and quality improvement is a challenge, as well as providing exams that meet the states' needs to protect the public and promote excellence in respiratory care and promoting respiratory care credentials in health care workplaces. Some opportunities that he outlined include developing credentialing examinations for areas of specialty practice in respiratory care as they emerge, adapting content of examinations to reflect evidence-based respiratory care, meeting the changing needs of consumers, and evaluating the changing competencies of respiratory therapists.

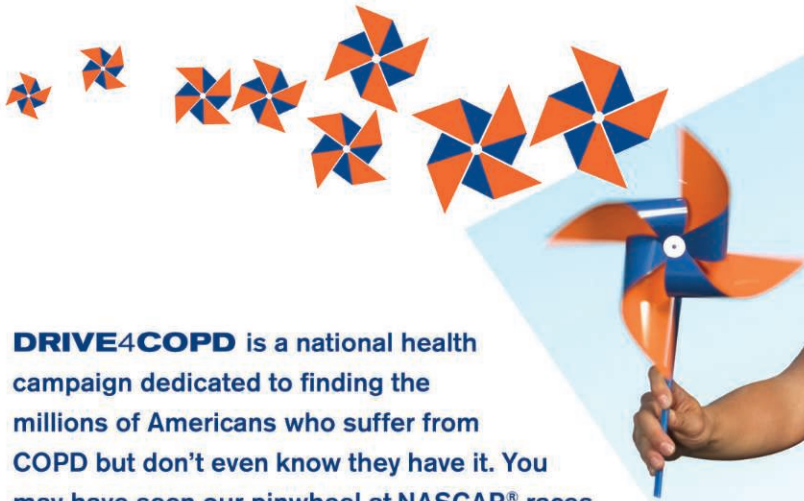
**Report of Robert Shaw, Jr., PhD, RRT, FAARC**

Dr. Shaw continued the presentation by detailing the new Adult Critical Care Specialty Examination, plus a significant change in the Neonatal/Pediatric Specialty Examination. A new element



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C. Total Paid Distribution	34,451
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1. Free or Nominal Rate Outside-County Copies included on PS Form 3541	913
2. Free or Nominal Rate In-County Copies Included on PS Form 3541	0
3. Free or Nominal Rate Copies Mailed at Other Classes Through the USPS (e.g. First-Class Mail)	0
4. Free or Nominal Rate Distribution Outside the Mail	191
E. Total Free or Nominal Rate Distribution	1,104
F. Total Distribution	35,555
G. Copies Not Distributed	162
H. Total	35,717
I. Percent Paid	96.89%
- No. of Copies of Single Issue Published Nearest to Filing Date**

A. Total No. of Copies (Net Press Run)	35,869
B. Paid Circulation (By Mail and Outside the Mail)	
1. Mailed Outside-County Paid Subscriptions Stated on PS Form 3541	34,307
2. Mailed In-County Paid Subscriptions Stated on PS Form 3541	0
3. Paid Distribution Outside the Mail Including Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Paid Distribution Outside USPS®	262
4. Paid Distribution by Other Classes of Mail Through the USPS (e.g. First-Class Mail®)	0
C. Total Paid Distribution	34,569
D. Free or Nominal Rate Distribution (By Mail and Outside the Mail)	
1. Free or Nominal Rate Outside-County Copies included on PS Form 3541	765
2. Free or Nominal Rate In-County Copies Included on PS Form 3541	0
3. Free or Nominal Rate Copies Mailed at Other Classes Through the USPS (e.g. First-Class Mail)	0
4. Free or Nominal Rate Distribution Outside the Mail	385
E. Total Free or Nominal Rate Distribution	1,150
F. Total Distribution	35,719
G. Copies Not Distributed	150
H. Total	35,869
I. Percent Paid	96.78%
16. Publication of Statement of Ownership of this general publication will be printed in the November 2010 issue of this publication.
17. **Signature and Title of Editor, Publisher, Business Manager, or Owner:** Marsha Cathcart, Editor 9/27/10

I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).

featured in both of these examinations will be items that will demand mastery of concepts in ethics. The Adult Critical Care Examination will include five ethics items out of 150, while the Neonatal/Pediatric Specialty Examination will include three ethics items out of 120.

Dr. Shaw also outlined two sets of secondary specifications that will be implemented for the Adult Critical Care and Neonatal/Pediatric Specialty Examinations. The intent behind each set of secondary specifications is to standardize examination content by the diseases and disorders that therapists encounter while working with patients. The relative weighting one will find in the primary and secondary specifications were based on results of job analyses that concluded in 2009. These new examinations are under development. The new Neonatal/Pediatric Specialty Examination will be released Aug. 1, 2011. The Adult Critical Care Examination is expected to be available in the spring of 2012. Both of these new outlines are available for review on the NBRC website, [www.nbrc.org](http://www.nbrc.org).

Dr. Shaw concluded the 2010 Jimmy A. Young Memorial Lecture by summarizing that challenges and opportunities will continue through this decade. He stressed that the credentialing system continues to evolve and the NBRC continues to build on the hierarchical structure of the examination system, assuring minimum competency in respiratory care and pulmonary function technology.

### Your questions invited

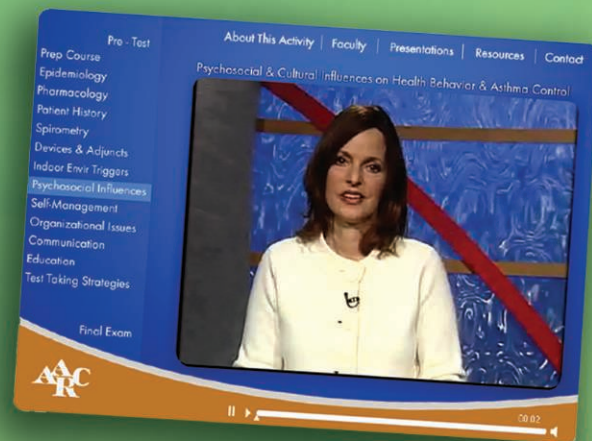
The NBRC Board of Trustees and its committees are interested in your questions, comments, and concerns. You may contact the NBRC at 18000 W. 105th St., Olathe, KS 66061-7543, by e-mail at [nbrc-info@nbrc.org](mailto:nbrc-info@nbrc.org), by phone at (913) 895-4900, or visit the NBRC website. ■

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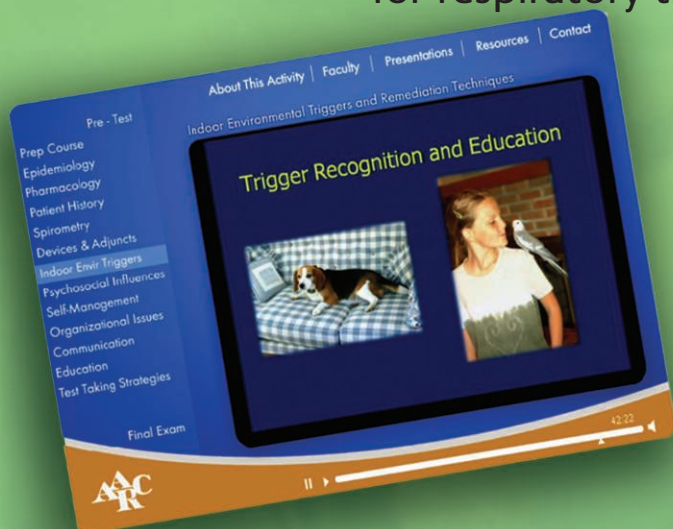
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# Industry Watch

## JCR's Flu Vaccination Challenge making headway

Results from the second annual Flu Vaccination Challenge sponsored by Joint Commission Resources finds participating health care organizations reached a 76% flu vaccination average in the 2009–2010 flu season, a 13% increase over the average reported for the previous year's challenge and 27% above the national average. This year JCR is challenging health care organizations to raise their rate of vaccination to 95%, 85%, or 75%. Organizations that meet these levels will be recognized with a gold, silver, or bronze recognition award, respectively, for their dedication to helping keep their employees and patients healthy by vaccinating against the flu. More information is available at [www.FluVaccinationChallenge.com](http://www.FluVaccinationChallenge.com).

## Abbott reports supplemental new drug application

According to Abbott Laboratories, the FDA has approved a supplemental new drug appli-

cation for its CREON® (pancrelipase) Delayed-Release Capsules, adding new safety and efficacy data to the prescribing information specifically in children age 7–11 who have exocrine pancreatic insufficiency due to cystic fibrosis. The label also includes new information noting that CREON® significantly improves key measures of both fat and protein absorption in children and adults with EPI due to CF.

## HIV/AIDS point-of-care testing

Continuum is collaborating with Daktari Diagnostics to create the Daktari CD4, an HIV/AIDS point-of-care test that can provide CD4 counts with a finger stick in about eight minutes by directing a drop of blood into an assay chamber on a small plastic card, where antibodies grab onto CD4 cells while letting other white blood cells pass by. The process (known as microfluidic cell chromatography) overcomes the need for complex preparation techniques, resulting in a simple, inexpensive, and hand-

held device that's ideal for caregivers traveling to remote areas of the world and working outside traditional medical facilities.

## Dräger expands with ventilator equipment rentals

Dräger recently announced it has made available to its customers a fleet of Evita XL ventilators that can be rented under a short- or long-term agreement. "During our recent customer outreach meetings, many directors of respiratory care departments indicated a strong need to fill this gap, and we are pleased to provide this new service," said Ed Coombs, MA, RRT, regional director of marketing for Respiratory Care Systems at Draeger Medical Inc. "The rental fleet of Evita XL ventilators will be delivered with the latest software platform to ensure customers have the newest technology that the Evita XL can offer."

## CareFusion acquires Medegen

CareFusion has completed its acquisition of Medegen, an innovator in clinically differentiated needleless access

connectors and administration sets that deliver I.V. medication to patients. Medegen's needle-free I.V. disposable products are designed to help health care providers reduce catheter-related blood stream infections (CRBSI) and prevent catheter occlusions. These infections have been shown to increase a patient's hospital stay by 10–24 days, with approximately 25% of the 250,000 annual incidents resulting in death. CMS has identified CRBSI as a "never event" and no longer provides reimbursement for patient care related to these cases, which cost an average of \$29,000 per patient to treat.

## VirtuOx enters into agreement for Watermark Medical's sleep platform

VirtuOx Inc. has entered into an agreement with Watermark Medical to utilize the Watermark ARESTM device in its VirtuOx Home Sleep Test solutions. "VirtuOx chose Watermark Medical's sleep platform because it combines the scalability and flexibility

of cloud computing with a user-friendly Web interface that enables higher accuracy and accessibility for health care providers and patients,” VirtuOx COO Felix Krupczynski was quoted as saying. “Clinically and operationally, it is an outstanding device that enables us to enhance our national service by adding Level II clinical testing to our market-leading home sleep testing program, as well as provide patients with an easy to use, in-home diagnostic option.”

#### **Masimo announces new agreement with Premier Purchasing Partners**

Masimo has announced an expanded supplier agreement that adds Masimo Rainbow Pulse CO-Oximetry and patient monitoring solutions to the purchasing contract with Premier Purchasing Partners LP, the group purchasing unit of Premier Inc. Effective Aug. 1, 2010, through May 31, 2012, Premier members can purchase Masimo stand-alone (Radical-7<sup>®</sup>, Rad-87<sup>®</sup>) and portable (Rad-57<sup>®</sup>, Pronto-7<sup>™</sup>) Rainbow Pulse CO-Oximeters on contract, along with ReSposable, adhesive/disposable, and reusable sensors for all categories of patients.

#### **Discovery Labs realigns executive management**

In August, Discovery Laboratories Inc., a

biotechnology company developing KL4 surfactant therapies for respiratory diseases, announced the realignment of its executive management. The new executive managers will report directly to W. Thomas Amick, chairman of the board and interim chief executive officer, who said they “intend to recruit for the chief executive officer role with the goal of filling this key leadership position in 2011.” Thomas F. Miller, PhD, MBA, was appointed chief operating officer. He will have responsibility for product development, regulatory affairs, and corporate and commercial development for the company. His biopharmaceutical experience includes product development and commercial operations. John G. Cooper is now president and chief financial officer, responsible for the strategic and organizational development of the company while retaining overall responsibility for its financial operations. He has more than 25 years of experience in the life sciences industry. Charles F. Katzer is chief technical officer and will have responsibility for manufacturing operations, aerosol device development, formulations development, quality control and assurance, and analytical services. He has over 35 years of experience in drug manufacturing and supply,

device development, and quality operations within the biopharmaceutical industry.

#### **HHS report addresses need for better countermeasures**

HHS has released a report examining the federal government’s system of producing medications, vaccines, equipment, and supplies needed for a health emergency. The report cites a need to upgrade science and regulatory capacity at the FDA, foster ways to more quickly develop manufacturing processes that can be used for multiple medications or vaccines, nurture discoveries in their earliest stages to push them to greater maturity, upgrade flu vaccine manufacturing, and explore ways to help small companies attract investors to develop promising countermeasures.

#### **CPF announces new honorary board members**

The Coalition for Pulmonary Fibrosis has announced a new Honorary Board of Directors made up of celebrities and other noted public figures who are committed to finding treatments and a cure for pulmonary fibrosis. Members include newsman Tom Brokaw, “Tonight Show” host Jay Leno, actors James Marsden and Paul Reiser, former CNN chair Tom Johnson, two-time All-American basketball player Tommy Hawkins, and former governor of Utah and PF patient Olene Walker, among others.

**Brief submissions and photos for this column may be sent to: Marsha Cathcart, AARC Times editor, at [cathcart@aacrc.org](mailto:cathcart@aacrc.org).** ■

### **How Much Is Your AARC Membership Worth?**

If you're unsure of the value of a membership in AARC, try the Member Savings Calculator and you'll see how much your membership saves you. Try it at [http://www.aarc.org/member\\_services/calculator/](http://www.aarc.org/member_services/calculator/)



# Marketplace

Featuring information on products and equipment from manufacturers



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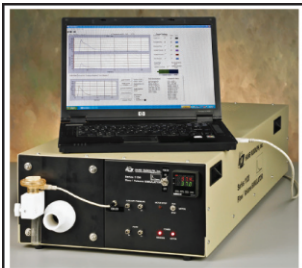
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PI#87



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The new VAR-Plus Model PTM-5001 from Vortran is being billed as the company's most cost-effective automatic resuscitator. The device delivers FiO2 at 50% or 100%, doubling the tank life at the 50% setting. The company is offering the device at a special introductory price through Dec. 31. [www.vortran.com](http://www.vortran.com) PI#97



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# A Salute to our 2010 Corporate Partners

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

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

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





# RC Currents

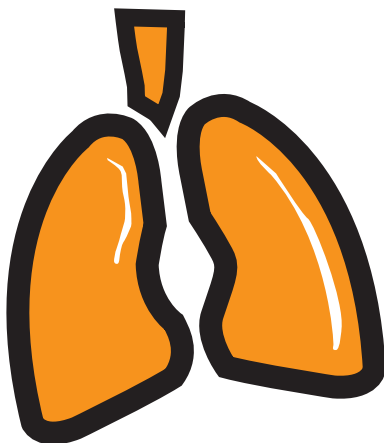
IN THE NEWS

## ► Share Your Protocol

The AARC is producing an online compilation of best practices in areas of mechanical ventilation and lung protection strategies. Members are invited to participate by submitting protocols in the following sample categories: lung recruitment strategies/techniques, patient positioning, ongoing management, and effectiveness assessment.

After you submit a protocol, an expert in mechanical ventilation will review it and we will post the accepted protocols on a "Best Practices" Web page at [www.AARC.org](http://www.AARC.org). The program is sponsored by an unrestricted grant from Draeger Medical.

For more information, log on to [www.aarc.org/resources/adjprot/](http://www.aarc.org/resources/adjprot/). ■



## 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:

### Sam Giordano, AARC Executive Director

- Representing the AARC at the American College of Chest Physicians Meeting in Vancouver, BC, Canada
- Discussing oxygen issues at the conference of the National Association for Medical Direction of Respiratory Care in Atlanta, GA
- Representing the AARC at a committee meeting of the National Health Council in Washington, DC



## Correction

In our October 2010 cover story about Jimmy A. Young Medalist Peg Traband (page 65), *AARC Times* incorrectly stated, "She joined the American Registry of Inhalation Therapy (now the AARC) that same year [1972] and by 1973 was ready to take her RRT exams."

The sentence should have said: "She joined the American Association for Inhalation Therapy (now the AARC) that same year and by 1973 was ready to take her RRT exams." ■

## Did You Celebrate Respiratory Care Week?

We want to hear about what you did to celebrate National Respiratory Care Week this year. Send us a few high-resolution photographs of your event along with a 100-word description, and you just might find your story on the AARC website or in an upcoming issue in "RC Currents." Please include a cover letter and contact information (phone, fax, e-mail). Send submissions to us **before Nov. 5** using this address: *AARC Times*, RC Week, 9425 N. MacArthur Blvd., Ste. 100, Irving, TX 75063-4706; or e-mail [debbunch@aol.com](mailto:debbunch@aol.com). ■

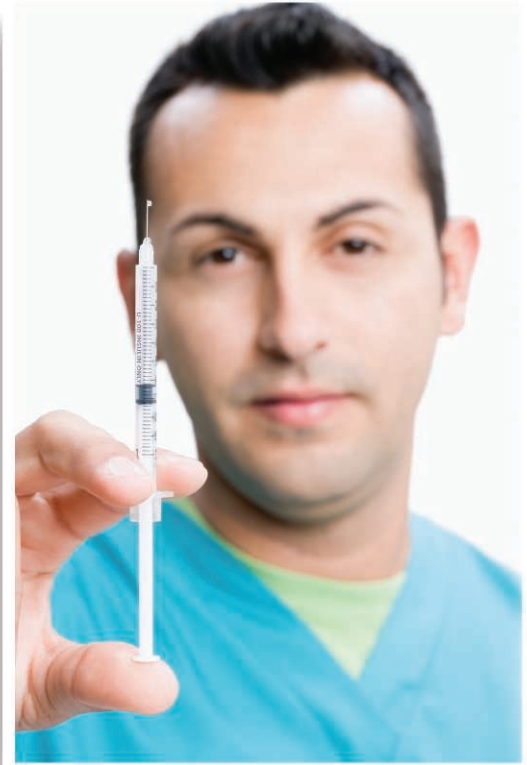
## CDC Gets Early Start on Flu Vaccination Season

National Vaccination Week doesn't kick off till Dec. 5, but the Centers for Disease Control and Prevention (CDC) decided to get a head start this year. Their "Flu Ends with U" campaign was unveiled in September in an attempt to encourage more people to be vaccinated earlier in the season.

According to the CDC, improving vaccination rates continues to be an uphill battle. In a study involving 64 focus groups held in six U.S. cities, officials found:

- Flu vaccine myths are common, especially the "I got the vaccine and it gave me the flu" myth. Since the flu shot does not use a live virus, it is impossible for it to give anyone the flu, and the weakened live virus in the intranasal vaccine cannot grow in the lungs.
- Even though the 2009 H1N1 swine flu vaccine included in this year's seasonal flu shot underwent the most intense safety testing ever, many still fear the vaccine is more dangerous and unpredictable than the flu itself.
- The new universal vaccination recommendation calling for everyone over the age of six months to receive the shot is causing concern.
- People who received the 2009 H1N1 flu shot last year often wrongly believe they are still protected.

Here's a take-home message for RTs from the focus group findings: People say they would be more likely to get a flu shot if it were recommended by their health care providers — or even by a friend who works in health care. ■



## Is There an Acetaminophen-Asthma Link in Kids?

Parents have long avoided the use of aspirin by their kids due to concerns it may cause Reye's syndrome. But most believe acetaminophen is safe.

Maybe not, report researchers from New Zealand participating in the International Study of Asthma and Allergies in Childhood (ISAAC). As part of the ISAAC program, two written questionnaires and one video questionnaire were administered to more than 300,000 13- and 14-year-old children in 113 centers in 50 countries. The children were asked to quantify their use of acetaminophen — none, medium (defined as at least once in the last year), or high (defined as at least once in the last month) —



along with their asthma, eczema, and allergy symptoms.

The risk of asthma was 43% higher in medium users than non-users. High users had 2.51 times the risk of non-users. Similarly, the risk of rhinoconjunctivitis was 38% higher for medium users and 2.39 times greater for high users. For eczema, the relative risks were 31% and 99%, respectively. "This study has identified that the reported use of acetaminophen in 13- and 14-year-old adolescent children was associated with an exposure-dependent increased risk of asthma symptoms," study author Richard Beasley, MD, was quoted as saying. The study was published in a recent issue of the *American Journal of Respiratory and Critical Care Medicine*. ■

## RT to the Rescue

Volunteer fire departments are well known for delivering vital services in small towns all across the country. Less known but equally as important are volunteer emergency services. Made up of people from all walks of life, these squads rush to the scene of a medical emergency to provide lifesaving care until more definitive emergency services can arrive on the scene.

In Westfield, NJ, a town of around 29,000 located about 25 miles southwest of New York City, AARC member Lynn Feldman, RRT, is well acquainted with the concept. She's been serving on her community's Rescue Squad for the past 19 years, most recently as captain. In fact, it was the Rescue Squad that led her to become an RT in the first place. A former teacher and administrator, she says she'd always had an interest in medicine; and when she moved to Westfield in 1991 and found out about the Rescue Squad, she signed up. "While going through my emergency medical technician (EMT) training, I saw a brochure on respiratory therapy and returned to school to pursue what has become a very rewarding career."

For the past 16 years, she has been working as an RT at Overlook Hospital in nearby Summit; but on Fridays, the Rescue Squad captures her full attention. "My official duty period is Friday morning, 9 a.m.–1 p.m., although I am usually there by 6 a.m. and stay into the afternoon hours," says the AARC member. As the 2010 captain of the group



**Lynn Feldman enjoys being a part of her community's Rescue Squad.**

— the position alternates between members on a yearly basis — she has other responsibilities, as well. "I am ultimately responsible for the daily operation of the squad, which counts over 100 members, including scheduling, ambulance maintenance, training, and equipment. I am grateful for the EMTs who assist me as lieutenants in those positions."

Feldman says her respiratory care training has greatly facilitated her role on the team. "My background as a respiratory therapist is priceless when a patient is experiencing difficulty breathing," she says. "Because the rescue squad is usually on scene prior to paramedics — they are *advanced* life support, we are *basic* life support — my assessment skills often help to diagnose and treat the patient immediately, particularly if they are vented/trached patients in our local nursing facility or suffering from congestive heart failure or COPD."

The squad has had its fair share of exciting moments and close calls over the years too. Feldman remembers one case in particular involving a two-year-old girl

who was choking on a grape. "When we arrived moments after the incident, she was not breathing but had a pulse," she says. The crew was not able to open the child's mouth, so they couldn't look for the object, which was also not expelled with back blows and compressions. So Feldman performed rescue breathing all the way to the hospital. Upon arrival, the child finally opened her eyes and began crying. "What a wonderful sound!" says her rescuer. ■

### Members, Send Us Your Human Interest Stories

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

If you have a human interest story to share with our readers, please contact *AARC Times* Editor Marsha Cathcart at [cathcart@aacrc.org](mailto:cathcart@aacrc.org). ■

## ► Strange But True

**A Growing Problem:** A Massachusetts man who was suffering from a chronic cough got a big surprise when physicians looked into his lungs: A pea got stuck there and started growing. After removal of the inch-and-a-half long plant, the patient was breathing much better. Would he ever eat peas again? Yep — they were on the plate served to him post surgery, and he just laughed and ate them.

**Follow the Light:** Helping patients remember to take their medications is the goal of a new product called “Glow-Caps.” The caps, which can be screwed onto any standard medication bottle, light up when it’s time to take the next dose.

**A Nose for Disease:** Tanzanian researchers are using dog-sized rats to sniff out tuberculosis in sputum samples. In tests, the rats improved TB detection by 44% over standard microscopic studies.

**Leap Frog:** Biochemists from the United Arab Emirates say frog skin contains natural substances that could be the basis for powerful new antibiotics, and they’ve been asking colleagues from around the world to ship secretions from dif-

ferent frog skins to their lab for further testing. Results have revealed more than 100 antibiotic substances so far — one of which fights *Iraqibacter*, the bacterium responsible for drug-resistant infections in wounded soldiers returning from the war in the Middle East.



**Brain Freeze!** Physicians gave a man who shattered his skull in more than 10 places a 90–95% chance of dying, but that was before physicians at McKay-Dee Hospital in Ogden, UT, decided to use a novel therapy. In a last-ditch effort, they removed each side of his head, patched up the skull with micro-screws and plates, and then put it in the freezer. According to the physicians, freezing the skull while the brain has a chance to recover from the swelling is better than placing the skull in the abdomen (the previous practice) because it keeps the calcium from being leached from the bone. ■

## Paint Away That MRSA

Researchers at the Rensselaer Polytechnic Institute have created a nanoscale coating for surgical equipment, hospital walls, and other surfaces that safely eradicates methicillin-resistant *Staphylococcus aureus* (MRSA). Studies found 100% of MRSA bacteria were killed within 20 minutes of contact with a surface painted with latex paint containing the coating.

The new coating combines carbon nanotubes with lysostaphin, a naturally occurring enzyme used by non-pathogenic strains of Staph bacteria to defend against *Staphylococcus aureus*, including MRSA. The resulting nanotube-enzyme “conjugate” can be mixed with any number of surface finishes; and unlike other antimicrobial coatings, it is toxic only to MRSA, does not rely on antibiotics, and does not leach chemicals into the environment or become clogged over time. It can be washed repeatedly without losing effectiveness and has a dry storage shelf life of up to six months.

“At the end of the day, we have a very selective agent that can be used in a wide range of environments — paints, coating, medical instruments, door knobs, surgical masks — and it’s active and it’s stable,” study author Ravi Kane was quoted as saying. Kane and his colleagues published their findings in the July issue of the journal *ACS Nano*. ■



## National Health Observances

- **Lung Cancer Awareness Month;** November; Lung Cancer Alliance; (202) 463-2080; [www.lungcanceralliance.org](http://www.lungcanceralliance.org)
- **COPD Awareness Month;** November; AARC, (972) 243-2272, [www.aarc.org](http://www.aarc.org); COPD Foundation, (866) 316-COPD, [www.copdfoundation.org](http://www.copdfoundation.org)
- **World COPD Day;** Nov. 17; Global Initiative for Chronic Obstructive Lung Disease (GOLD); [www.goldcopd.org](http://www.goldcopd.org)
- **Great American Smokeout;** Nov. 18; American Cancer Society; (800) ACS-2345; [www.cancer.org](http://www.cancer.org)
- **National Handwashing Awareness Week;** Dec. 5–11; Henry the Hand Foundation; (513) 769-3660; [www.henrythehand.com](http://www.henrythehand.com)
- **National Influenza Vaccination Week;** Dec. 5–11; Centers for Disease Control and Prevention; (800) 232-4636; [www.cdc.gov/flu/nivw](http://www.cdc.gov/flu/nivw)

## A Day at the Races

Respiratory therapists need continuing education to stay up-to-date in the profession. But no one ever said you couldn't interject a little fun into the process.

That's what AARC members from Sharp Grossmont Hospital in La Mesa, CA, thought back in 1992 when they launched the first Day at the Races event for RTs in their community. Co-sponsored by the California Society for Respiratory Care (CSRC), the program takes place in a sky box at the Del Mar Race Track, where therapists and other health professionals gather for a morn-



**Attendees at the Day at the Races event combine continuing education with fun, food, and fellowship.**

ing of education followed by an afternoon watching the ponies run against the beautiful backdrop of the Pacific Ocean.

“Our skybox is located near the finish line, which adds to the excitement, and the racetrack names a race for our group, the California Society of Respiratory Care, which adds to the fun,” says Donna Murphy, RRT, who came up with the racetrack idea along with fellow CSRC members Dick Cook, RRT, Michael West, RRT, Nini Frank, RRT, and Eddie Costa, RRT. “At the end of the race we send two people down from our group to the winners’ circle to have their picture taken while presenting roses and champagne, provided by the racetrack, to the horse’s owner.” The event generally attracts 100–120 attendees, with a core group of about 50 RTs who almost never miss it.

This year’s speakers included Dr. Timothy Morris, respiratory medical director at the University of California San Diego (UCSD), who kicked things

**The Surfside Race Place at Del Mar is the site of the annual CSRC/Sharp Grossmont Hospital Day at the Races continuing education event.**



off with a presentation on “Vent Modes and the Hard-to-Oxygenate Patient.” Jeri Eiserman, MBA, RRT, FAARC, past president of both the AARC and CSRC, followed with “High Flow Nasal Cannulas,” and Mike West, MBA, RRT, offered his take on “Contemporary Issues of Aerosol Delivery.” Steven McBrayer, CRT, spoke on “Decreasing Floor Transfers to the ICU.”

Up until this year’s program in August, the event also benefited greatly from the “master of ceremony” talents of Jeff Henk, RRT. “Jeff added magic to the day with his humor, background music, and added videos,” says Murphy. “With his untimely passing last year, it was a great loss to our event and the whole respiratory community, and he is greatly missed.”

Murphy says the CSRC offers discount memberships to both the state society and the AARC during the event, which helps to draw in new members, and she also believes the event provides a great way for RTs to network with each other. “This event has been responsible for building fellowship within the respiratory community as well as sustaining respiratory relationships by giving people from various hospitals a chance to reconnect and renew friendships,” she says. “Our vendors also love it because they are invited to attend the education, as well as bring materials or products to show after the speaker presentations and stay and network with the therapists in a fun, relaxed environment.”

The co-sponsorship between Grossmont and the CSRC has spurred similar co-sponsorships around the state as well. According to Murphy, UCSD and Scripps Hospitals now have also shared seminars with the CSRC. ■



## Reaching Across Borders To Help Someone in Need

The AARC recently joined several industry leaders in reaching across borders to help an Ecuadorian police lieutenant who was paralyzed in the line of duty. The story began when Lt. Sammy Vinueza was shot while assigned to the protective detail of the Ecuadorian minister of justice. His assailants, who were never apprehended, stole his firearm and radio as they fled, leaving him to die.

Lt. Vinueza survived the incident but was relegated to a dilapidated wheelchair and a \$300 monthly pension. The National Police Defense Foundation (NPDF) stepped in to help, contacting Sunshine Medical of California, which agreed to donate a motorized wheelchair painted in NYPD blue. Unfortunately, Lt. Vinueza’s condition soon deteriorated to the point where he required mechanical ventilation. Without a portable ventilator, which was not available in his country, he would have had to leave his new wheelchair behind and spend the rest of his life in a hospital bed.

Enter AARC Corporate Partner Draeger Medical Inc. When the NPDF called asking for assistance to purchase a state-of-the-art portable ventilator for the lieutenant, the company generously agreed to provide the device free of charge. Knowing Lt. Vinueza would also need an array of support equipment, AARC member Ed Coombs, MA, RRT-NPS, CPFT, Draeger’s director of marketing for respiratory care systems, then phoned the AARC to see if the Association could assist. One call to AARC member Joe Lewarski, BS, RRT, FAARC, vice president/GM of the respiratory group at Invacare Corporation, was all it took. The company quickly added its name to the list of benefactors, offering to donate airway care equipment for the paralyzed policeman.

“Lt. Vinueza has been through an extraordinary ordeal — everyone at Draeger and Invacare wish him the best as he continues this life-long hardship,” Coombs and Lewarski stated. ■

# Extreme Makeover, the Megan Parker Edition

by Jamie Bickel

When I started attending North Central State College in Mansfield, OH, three years ago, I didn't even know what a respiratory therapist was. I was determined to become a registered nurse. Then I came to know a sweet little girl who struggles with muscular dystrophy and as a result became determined to become a respiratory therapist. Now, after finishing my first year of respiratory school and entering my second, I couldn't be happier with my decision.



Megan Parker was born with muscular dystrophy nine years ago. I first saw her at my daughter's school, so full of life,

**Thanks to the new house spearheaded by Jamie Bickel (right), Megan can use her electric wheelchair at home as well as at school.**

zooming around in her electric wheelchair. You always saw a smile on her face as well as a determination to keep up with her fellow classmates.

Sadly, she soon became ventilator dependent as a result of her neuromuscular disorder. While she was in the hospital with her mother at her side, her father was taking care of her four brothers and sisters in their singlewide trailer.

After calling the school and asking what I could do to help this family, I

**Jamie Bickel (left) joins Megan in front of the home Bickel and her community built for the girl and her family after Megan began needing her ventilator for most of the day.**



brought them a prepared dinner. This is when I saw little Megan sitting in the middle of her living room, no longer able to be mobile due to her reliance on a mechanical ventilator. Before her surgery she would scoot around her home on a skateboard and was a very independent little girl, but afterwards she was a prisoner to her ventilator. If her home were bigger with wider doorways, she would be able to move around freely with her portable ventilator attached to her electric wheelchair. I left my first visit with Megan very sad, searching my heart and mind for a way to help this sweet little girl.

After much thought and prayer I became determined to build this little girl a customized home so she could regain some of the independence that was stripped from her when she became ventilator dependent. My first thought was to contact “Extreme Makeover Home Edition,” but after visiting their website I found they had already cast the upcoming season. So I decided to pull our community together and do our own Extreme Home Makeover, which we actually did less than a year later. After much determination, a lot of fundraisers, and many hours of hard work, our wonderfully generous community built Megan a home that is custom made for her needs, and at no cost to her or her family.

My experience with Megan opened my eyes to the needs of children with respiratory disorders and how important it is to have caring professionals in respiratory care to offer them help, hope, aid, and relief. Upon graduation I hope to work in a children’s hospital. I feel that I am meant to take care of children’s respiratory needs. ■

Jamie Bickel is a second-year respiratory therapy student at North Central State College in Mansfield, OH. This article is excerpted from the essay she wrote to win the Ohio Society for Respiratory Care’s 2010 Scholarship Award for Scholastic Achievement in the Field of Respiratory Care.

## ► Transitions

**Ralph Webb, BAS, RRT**, has been named the recipient of the 2010–2011 Keihin Endowed Faculty Chair, the highest honor bestowed on faculty at Edgewcombe Community College in Rocky Mount, NC. Webb is currently serving as chair and instructor of respiratory therapy at the school. (Photo 1)



1



2

**Douglas Masini, EdD, RRT-NPS, RPFT, FAARC**, has published a new book titled “The Promise of an Accidental Pedagogy” that delves into the learning experiences of people with catastrophic neuromusculoskeletal injury or disease. Masini is the RT department director at Armstrong Atlantic State University in Savannah, GA. (Photo 2)

**Patrick M. Johnson, Sr., MBA, RRT**, has joined the faculty at Genesee Community College in Batavia, NY, where he is serving as an instructor/coordinator of respiratory care/clinical care. Johnson came to the position from Lakeside Memorial Hospital in Brockport, NY. (Photo 3)



3

**Barry Winn, RRT**, retired from his position as professor of respiratory care at Grossmont College this past August. Winn started the program in 1969 and is also credited with helping to get licensure passed in California. He served on the Respiratory Care Board set up following passage of the licensure act and has also been active with the California Society for Respiratory Care and the American Lung Association, as well as the AARC.



4

**Joseph Huff, BS, RRT, CPFT**, has been named the first recipient of the Outstanding Contributor Award established by the Ohio Society for Respiratory Care. Huff was honored for his years of service to the state society, including serving as president in 1989 and significantly improving the annual state society meeting as program committee chair. Huff currently serves as coordinator of respiratory care at Marymount Hospital in Bedford Heights, OH. (Photo 4)

We welcome news about AARC members. Submit job changes, awards, and death notices online at [www.AARC.org/transitions](http://www.AARC.org/transitions). ■

## 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@aacrc.org](mailto:cathcart@aacrc.org) with “Success Stories” in the subject line. ■

## Partnering with Patients for Successful COPD Care

Improving care coordination for COPD patients is essential to ensuring these patients have the information and support they need to stay healthy and out of the acute care hospital. But in most hospitals, COPD patients are treated for their acute exacerbations and then sent home with little more than advice to call their physician if they have any more problems.

At Crouse Hospital in Syracuse, NY, that is changing; and respiratory therapists are key players in the paradigm



shift. “The concept we are attempting to prove is that if respiratory therapists are positioned to care for patients with COPD in a primary care, disease manage-

**Patient care coordinator Renee Bear, RRT, CPFT, with patient**

ment model we can improve clinical, efficiency, and financial outcomes,” says AARC member Russell Acevedo, MD, FAARC, clinical professor of medicine at Upstate Medical University and director of respiratory care at the facility.

The new program, kicking off now, is called Lung Partners™ and aims to utilize RTs in a role traditionally spread among charge nurses, nurse practitioners, disease managers, and care coordinators. “RTs have a better understanding of their patient’s needs and should be able to better match



**Matthew Ripke, RRT, Linda Raut, RRT, Edward Veaudry, RRT, Renee Bear RRT, CPFT, David Wolfe, MS, RRT, RPSGT, supervisor, are part of the Lung Partners™ program at Crouse Hospital in Syracuse, NY.**

medications, devices, and other interventions to those needs,” continues Dr. Acevedo. “In addition, the RT will assume the role of a transition coach upon discharge, following the patient at home.”

AARC member Robert S. Pikarsky, RRT, CPFT, administrative director of cardiac and respiratory care services, says the new program will partner individual RTs with individual patients, establishing a bond between patient and clinician that will build trust and give the patient someone to turn to with questions and concerns. The process will start in the hospital, where the RT will screen patients for COPD-related problems, including anxiety, depression, nutrition, and functionality. They will also receive education about their disease, disease triggers, medications, devices, self-management tools, and action plans. Ongoing contact after discharge ensures patients have the care and services they need to minimize the chance of another exacerbation that could land them back in the hospital. If the patient does have to be readmitted, the primary RT continues to care for the patient.

“This continuity of care will decrease the fragmentation seen in inpatient care,” says Pikarsky. “With the primary RT as the ‘point guard,’ communication between the patients and their physicians and other caregivers will improve.”

Outcomes to be measured include length of stay, cost per case, readmission rates, medication error rates, need for stat treatment rates, patient functioning, and timeliness of treatments. The group will assess the program’s effect on patient, RT, and physician satisfaction. Pikarsky credits the department’s ability to embark on this new initiative in part to a previous plan that implemented auto-substitution from racemic albuterol and small-volume nebulizers to levalbuterol and breath-actuated nebulizers, markedly freeing up RTs to engage in higher level functions like disease management and patient education.

“At a recent COPD conference, a speaker stated that COPD care should be 90% education and 10% intervention,” Pikarsky says. “We were nowhere near that.” He and his colleagues believe the new Lung Partners program will bring the Crouse numbers more in line with that ideal. “With the increasing burden of COPD, the respiratory therapist can be positioned to be the major physician partner in the management of COPD,” says Dr. Acevedo. “This disease management model will demonstrate the value of the RT in this new role.” ■

## New Evidence Shows No Level of Smoking Is Safe

What can you say to convince occasional smokers to quit? Cite findings from a new study out of New York-Presbyterian Hospital/Weill Cornell Medical Center. Investigators there tested urine levels of nicotine and cotinine to classify 121 people as either nonsmokers, active smokers, or low exposure smokers, then scanned each person’s entire genome to determine which genes were either activated or deactivated in cells lining the airways. All levels of nicotine and cotinine correlated with genetic abnormalities.

“Even at the lowest detectable levels of exposure, we found direct effects on the functioning of genes within the cells lining the airways,” study author Dr. Ronald Crystal was quoted as saying. “This means that no level of smoking, or exposure to secondhand smoke, is safe.” ■



## Biomarkers May Predict Alzheimer’s Disease

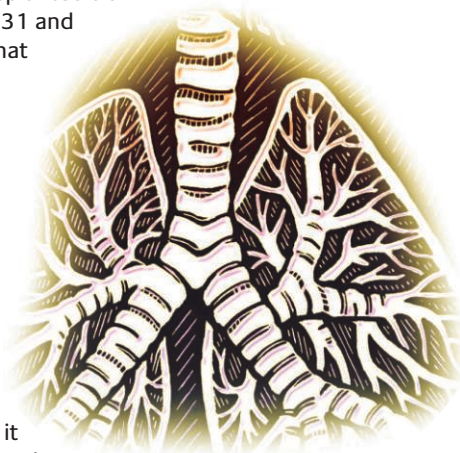
Many older patients with chronic respiratory disease also suffer from Alzheimer’s disease, so understanding the cognitive condition is important for respiratory therapists. A new study out of Belgium finds three biomarkers in the cerebrospinal fluid could be used to determine whether a clinically healthy person might suffer from Alzheimer’s or dementia.

The finding is based on cerebrospinal fluid specimens collected from 114 older adults who were cognitively normal, 200 with mild cognitive impairment, and 102 who were diagnosed with Alzheimer’s disease. Researchers looked for three specific biomarkers: CSF A $\beta$ 1-42, total CSF tau protein, and P-Tau181P. Results showed 90% of those with Alzheimer’s disease had a profile or signature of the three biomarkers. The profile was found in 72% of those with mild cognitive impairment and 36% of those with normal cognitive function. The study was published in the August issue of the *Archives of Neurology*. ■

## New Technique for Trachea Transplants Uses Patient's Own Stem Cells

According to an article published on Intelihhealth.com, Italian physicians have successfully transplanted tracheas in two patients, ages 31 and 19, with a new technique that uses stem cells to allow the donated trachea to regenerate tissue and create an organ biologically similar to the original. The most recent cases build on a previously successful trachea-stem cell transplant carried out in a patient from Colombia two years ago.

The physicians note that it takes about two to three months for the stem cells to cover the trachea and create a new organ. While that process is unfolding, the transplanted trachea acts as a sort of mechanical windpipe. Since the new trachea is free from organic substances foreign to the patient, the need for anti-rejection drugs is eliminated. Both patients were suffering from tracheal cancer. ■



## Contribute to Writer's Corner

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



## Honoring Military RTs

If you are a respiratory therapist currently serving your country in the military, *AARC Times* would like to publish a story and photo about your service or deployment.



Please go online to [www.AARC.org/go/mm](http://www.AARC.org/go/mm) where you will find an online form you can fill out to provide information about your deployment. You can also download your photo there.

Once we receive your information, we may use it to prepare an "RC Currents" story about your service in the military. The AARC honors those who serve, and we would like to share your story with your respiratory care colleagues here and abroad. ■

## Read the Rest of the Story at AARC.org

- CMS expands smoking cessation as a preventive measure — [www.AARC.org/headlines/10/09/cms\\_smoking\\_cessation.cfm](http://www.AARC.org/headlines/10/09/cms_smoking_cessation.cfm)
- Declines in cigarette smoking rates stall — [www.AARC.org/headlines/10/09/smoking\\_rates.cfm](http://www.AARC.org/headlines/10/09/smoking_rates.cfm)
- HRSA reports scholarship opportunities for RTs — [www.AARC.org/headlines/10/08/scholarships.cfm](http://www.AARC.org/headlines/10/08/scholarships.cfm)





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

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





# New Members

## Welcome to the AARC

### U.S. Members

#### A

Brymer, Lara, Birmingham, Al  
Bubois, Amy, Birmingham, Al  
Colby, Kari, Cullman, Al\*  
Colley, Katherine, Prattville, Al\*  
Collier, Canissius, Birmingham, Al  
Cooper, Tashia, Birmingham, Al  
Crosby, Joshua, Birmingham, Al  
Crumpton, Jason, Birmingham, Al  
Darji, Nikita, Birmingham, Al  
Diplacido, Stephen, Birmingham, Al  
Dunn, Whitney, Birmingham, Al  
Dunning, Jazmine, Birmingham, Al  
Fall, Devon, Birmingham, Al  
Fisher, Kala, Birmingham, Al  
Franklin, Casie, Birmingham, Al  
Glaze, Ashley, Birmingham, Al  
Glover, Brittany, Birmingham, Al  
Govada, Elvin, Birmingham, Al  
Guy, Courtney, Birmingham, Al  
Haas, Amanda, Birmingham, Al  
Harris, Tiffany, Birmingham, Al  
Huddleston, Rebecca, Birmingham, Al  
Jemison, Alexis, Birmingham, Al  
Johnson, Emma, Birmingham, Al  
Levins, Keyondra, Birmingham, Al  
Marshall, Gabriel, Birmingham, Al  
Monroe, Kathryn, Birmingham, Al  
Moody, Brooke, Birmingham, Al  
Mooney, Shayla, Birmingham, Al  
Mooris, Tiara, Birmingham, Al  
Nelson, Jessica, Birmingham, Al  
Reeves, Anna, Birmingham, Al  
Robinson, Amanda, Birmingham, Al  
Rollins, Justin, Birmingham, Al  
Sellers, Paul, Birmingham, Al  
Springfield, Kiera, Birmingham, Al  
Thomas, Shabreka, Birmingham, Al  
Thomas, Shundale, Birmingham, Al  
Turney, Brad, Birmingham, Al  
Whitsey, Nykia, Birmingham, Al  
Wimbish, Sterling, Birmingham, Al  
Wyatt, Justin, Birmingham, Al

Ackley, Joshua, Bryant, Ar\*  
Alphin, Jessica, Pocahtontas, Ar  
Beasley, Jonathan, Hermitage, Ar  
Black, Minae, Jonesboro, Ar  
Brackeen, Melissa, Texarkana, Ar  
Brenke, Whitney, White Hall, Ar  
Brevard, Amanda, Pocahtontas, Ar  
Burns, Michael, Jacksonville, Ar  
Clopper, Megan, Cabot, Ar  
Colvin, John Adam, Evening Shade, Ar  
Costa, Cody, North Little Rock, Ar  
Curbo, Michael, Batesville, Ar  
Finch, Kathryn, Pine Bluff, Ar

French, Heather, Pocahtontas, Ar  
Gault, Belinda, Benton, Ar\*  
Gilliland, Richard, Little Rock, Ar  
Guilliams, Tiffany, Hoxie, Ar  
Hanvy, Lauren, Timbo, Ar  
Hardy, William Kyle, North Little Rock, Ar  
Hart, Kimberly, Little Rock, Ar  
Hartness, Katie, Prattsville, Ar  
Hensley, Kevin, Conway, Ar  
Hughey, Milus, Desha, Ar  
James, Drew, Rison, Ar  
King, Amanda, Gurdon, Ar  
King, Amanda, Texarkana, Ar  
Kittany, Mary, Bryant, Ar\*  
Lott, Kendall, Hackett, Ar  
Mai, Phuong, Sharwood, Ar  
McMullen, Morgan, Jonesboro, Ar  
Medsker, Jacklynn, Paragould, Ar  
Mercer, Farron, Warren, Ar  
Michelle, Hart, Center Ridge, Ar  
Moore, Nathaniel, Trumann, Ar  
Morrison, Stephanie, Paragould, Ar  
Potter, Sarah, Paragould, Ar  
Powell, Karen, Hope, Ar\*  
Reynolds, Morgan, Sheridan, Ar  
Rodriguez, Pablo (Paul), Alexander, Ar  
Russell, Stefanie, Jonesboro, Ar  
Sandoval, Jeffery, Little Rock, Ar  
Sherman, Cody, Conway, Ar  
Stecks, Ryan, Sherwood, Ar\*  
Stone, Stephanie, Brookland, Ar  
Story, Joshua, Cabot, Ar  
Tammy, Tucker, Star City, Ar  
Thompson, Jeff, Pine Bluff, Ar  
Todd, Shana, Pocahtontas, Ar  
Vanwinkle, Kendra, Batesville, Ar  
Vinson, Rebecca, Paragould, Ar  
Waldrupe, Jessica, Hoxie, Ar  
Walker, Melissa, Little Rock, Ar  
Wallace, Elizabeth, Conway, Ar  
Wharton, Alison, Little Rock, Ar  
Williams, Ana, Jonesboro, Ar  
Williams, Kyle, Little Rock, Ar  
Yates, Melissa, Jonesboro, Ar  
Zeledon, Keila, Russellville, Ar

Adams, Stephen, Gilbert, Az\*  
Aleksandrova, Viktoriya, Phoenix, Az  
Andrews, Karen, Mesa, Az\*  
Baeza, Belinda, Glendale, Az  
Bambi, Adrecca, Surprise, Az  
Bockelman, Connie, Prescott, Az  
Bognanno, Jon, El Mirage, Az  
Bright, Shawn, Willcox, Az  
Bryant, Darrell, Green Valley, Az\*  
Campuzano, Hector, Tucson, Az  
Chief One Salt, Karen, Glendale, Az\*  
Duistermars, Jan, Phoenix, Az  
Gunseth, Sarah, Phoenix, Az  
Hanson, Helen, Tempe, Az\*  
Koenig, Karen, Phoenix, Az  
Koerschner, James, Phoenix, Az  
Kub, Daniel, Peoria, Az\*

Long, James, Tucson, Az  
Matchette, Jodie, Phoenix, Az\*  
Montoya, Charlene, Glendale, Az  
Parks, Suzanne, Mesa, Az  
Pounders, Vicki, Mesa, Az\*  
Price, Amon, Glendale, Az  
Reaves, Dawn, Scottsdale, Az\*  
Rome, Lisa, Queen Creek, Az\*  
Sanchez, Stephanie, Peoria, Az  
Smithson, Steve, Bellemont, Az  
Sullivan, Donna, Peoria, Az  
Tsosie, Marjorie, Page, Az  
Vogan, James, Lake Havasu City, Az\*  
Watzek, Diane, Peoria, Az  
Williams, Lorea, Buckeye, Az\*  
Winter, Julie, Chandler, Az\*  
Yngelmo, Eduardo, Phoenix, Az

#### C

Acosta-Salgado, Nathalie, Tracy, Ca  
Adcock, Torrence, Fresno, Ca  
Adzhabamyan, Mariana, North Hollywood, Ca\*  
Aguayo, Martin, Bakersfield, Ca  
Alcantara, Ailene, Lawndale, Ca  
Alvarez, Jennifer, Ladera Ranch, Ca  
Anderson, Thomas, Yucaipa, Ca\*  
Archuletta, Vanessa, Orange, Ca  
Arechiga Jimenez, Carmen, San Diego, Ca\*  
Bajan, Matthew, Watsonville, Ca\*  
Baldovino, Dennise, Bellflower, Ca  
Bombardi, Vince, Laguna Niguel, Ca  
Bono, Tim, San Bernardino, Ca  
Broyles, Stacy, Napa, Ca\*  
Bruce, James, Anaheim, Ca  
Bruce, Shane, Anaheim, Ca  
Cachero, Rommel, Cypress, Ca  
Carman, Jon, Long Beach, Ca  
Caro, John, Glendale, Ca\*  
Casem, Justin, Lakewood, Ca  
Chico, Megan, Redlands, Ca  
Cornelius, Clay, Garden Grove, Ca  
Cosa, Eliazar, Fullerton, Ca\*  
Cuchon, Dom, La Palma, Ca  
Dario, Francis, Harbor City, Ca  
Davis, Mark, El Centro, Ca\*  
Day, Colin, Redlands, Ca  
Delaney, Leah, Oceanside, Ca\*  
Dennis, Sheila, Red Bluff, Ca\*  
Desmarais, Jennifer, San Bernardino, Ca  
Dudhat, Smita, Orange, Ca  
English, Ali, Norwalk, Ca  
Ford, Carly-Jo, La Habra, Ca  
Foss, Holly, Huntington Beach, Ca  
Garcia, Anderson, National City, Ca\*  
Garcia, Brandon, Whittier, Ca  
Garcia, Matt, Anaheim, Ca  
Garcia, Nicole, Ceres, Ca\*  
Glaser, Brandon, Banning, Ca  
Gonzalez, Cecilia, Highland, Ca  
Goodwin, Dan, Lawndale, Ca  
Gradney, Chrie, Fontana, Ca

Guarrasi, Alyssa, Rancho Palos Verdes, Ca  
 Gutierrez, Jesus, Alta Loma, Ca  
 Halabi, Bernard, Rancho Cucamonga, Ca\*  
 Hayworth, Nicholas, West Sacramento, Ca\*  
 Hernandez, Joaquin, Roseville, Ca\*  
 Heyman, Joshua, Anaheim, Ca  
 Hibbert, Linda, Riverside, Ca  
 Ho, Don, Westminster, Ca  
 Houdek, Kern, Lincoln, Ca\*  
 Hulse, Lisa, Bakersfield, Ca\*  
 Huynh, Thai, Colton, Ca  
 Huynh, Tony, Colton, Ca  
 Imhof-Wood, Gina, Sacramento, Ca\*  
 January, Anita-Angel, Monterey, Ca\*  
 Jose, Jonathan, San Diego, Ca  
 Keller, Janet, San Bernardino, Ca  
 Kennedy, Anne, Hillsborough, Ca\*  
 Kinney, Stephanie, Riverside, Ca  
 Laffleur, Bridgette, Redlands, Ca  
 Laumer, Lisa, Highland, Ca  
 Luva, Martha, San Bernardino, Ca  
 Mann, Harpal, Highland, Ca  
 Marasigan, Marc, West Covina, Ca  
 Marini, Vanessa, Holtville, Ca\*  
 Matondang, Bernard, Loma Linda, Ca  
 McCracken, Brian, Milpitas, Ca\*  
 Mina, Eric, Diamond Bar, Ca  
 Mitchell, Stacy, Davis, Ca\*  
 Moises, Nagiel, San Diego, Ca\*  
 Mooney, Jonah, Spring Valley, Ca\*  
 Morrison, Stanley, Benicia, Ca\*  
 Nguyen, Erick, Santa Ana, Ca\*  
 Nguyen, Kevin, Fountain Valley, Ca  
 Nilsen, Elizabeth, Redlands, Ca  
 Okoye, Christina, Hawthorne, Ca  
 Ong, Michael, Westminster, Ca  
 Owen, John, San Diego, Ca  
 Paredes, Melissa, Long Beach, Ca  
 Perez, Gino, Anaheim, Ca  
 Pham, Andrew, Yucaipa, Ca  
 Phan, Dieuha, Huntington Beach, Ca  
 Pinera, Giovanni, Fullerton, Ca\*  
 Puente, Andrew, Perris, Ca  
 Quinton, Lisa, Bakersfield, Ca\*  
 Rabcicheva, Bella, Valley Village, Ca\*  
 Ramirez, Alejandra, Rialto, Ca  
 Ramirez, Cristal, Fontana, Ca  
 Ramirez, Summer, Redondo Beach, Ca  
 Rehman, Mohsin, Anaheim, Ca  
 Reimold, Ronald, Murrieta, Ca  
 Riggins, Brandon, Bakersfield, Ca\*  
 Rives, Ryan, Redlands, Ca  
 Rodil, Geoffrey, Torrance, Ca  
 Rosales, Luz, Corona, Ca  
 Rosete, Geraldine, Grand Terrace, Ca  
 Rubio, Sara, Union City, Ca\*  
 Saul, George, Fresno, Ca\*  
 Shagiakhmetova, Alfia, Redlands, Ca  
 Shah, Tanvi, Placentia, Ca  
 Shen, Li, Alhambra, Ca\*  
 Sieng, Theany, Redlands, Ca  
 Sieng, Theavy, Redlands, Ca  
 Stockton, Derrick, Pinole, Ca\*  
 Suruy, Margarita, Colton, Ca  
 Tillman, Michelle, Fresno, Ca\*  
 Topalovic, Sanja, Tazana, Ca\*  
 Tran, My, Garden Grove, Ca  
 Turpin, Danielle, Redondo Beach, Ca  
 Vrab, Richard, Downey, Ca  
 Warner, Matthew, Visalia, Ca\*  
 Wee, James, Anaheim, Ca  
 Wong, Michelle, Norwalk, Ca  
 Wood, Heather, San Diego, Ca\*  
 Woodburn, Tyler, Yucaipa, Ca  
 Woodrum, Rosa, Covina, Ca\*  
 Yi, David, Cerritos, Ca  
 Zuno, Ariana, Long Beach, Ca

Adler, Ashley, Milliken, Co\*  
 Berger, Catherine, Walsenburg, Co\*  
 Bostrom, Misty, Westminster, Co  
 Bryant, Samantha, Aurora, Co  
 Dutton, Tara, Highlands Ranch, Co\*  
 Gaymon, Danielle, Aurora, Co\*  
 Johnson, Shauna, Loveland, Co  
 Jolley, Kori, Denver, Co  
 Neal, Allan, Burlington, Co  
 Nuxoll, Craig, Littleton, Co\*  
 O'Brien, Kaleen, Littleton, Co  
 Okoye, Lorritha, Aurora, Co  
 Ramos, Lorraine, Pueblo West, Co\*  
 Schuman, Christina, Bayfield, Co\*  
 Soltis, Victoria, Highlands Ranch, Co  
 Vigil, Chris, Pueblo, Co\*  
 Walsh, Mary, Littleton, Co\*  
 Zhebrak, Marc, Denver, Co

Brewer, Jeanie, West Hartford, Ct\*  
 Mastarreno, Jessica, Hartford, Ct\*  
 Muskett, William, Chaplin, Ct\*

## D

Edwards, Deborah, Washington, DC\*

Babcock, Chris, Newark, De  
 Bhattar, Bharath, Wilmington, De  
 Carr, Genetha, Newark, De  
 Ciarlo, Elise, Hockessin, De\*  
 Cipolla, Christina, Wilmington, De\*  
 Comerford, Joan, Seaford, De  
 Curry, Ryan, Middletown, De  
 Feldman, Rose, Wilmington, De  
 Ganster, Katie, Wilmington, De  
 Hamilton, Jennifer, Wilmington, De  
 Hughes, Jesse, Smyrna, De  
 Morris, Robert, Wilmington, De  
 Munion, Gary, New Castle, De  
 Peterson, Jeffrey, Wilmington, De  
 Solomon, April, Wilmington, De  
 Varghese, Finney, Hockessin, De  
 Warren, Rachel, Newark, De\*  
 Wilcox, Kenneth, Harrington, De\*  
 Yancey, Whitney, Newark, De

## F

Acosta, Enrique, Miramar, Fl  
 Andrade, Sherine, Tamarac, Fl  
 Antignano, Stacey, Orlando, Fl  
 Ayallore, Matthew, Valrico, Fl\*  
 Baro, Elizabeth, Hobe Sound, Fl  
 Basden, Veronica, Miami, Fl  
 Brown, Natasha, Hollywood, Fl  
 Bruderek, Ernst, Palm Beach Gardens, Fl  
 Campbell, Kahreem, Lauderhill, Fl  
 Carroll, Allison, Royal Palm Beach, Fl  
 Charles, Ruth, Boynton Beach, Fl  
 Da Costa, Jillian, Boynton Beach, Fl  
 Del Carpio, Andrea, Boynton Beach, Fl  
 Delbrun, Daphnee, Miami, Fl  
 Dennis, Jennifer, Jupiter, Fl  
 Diaz, Jose, S Miami, Fl  
 Distasi, Stephanie, Boynton Beach, Fl  
 Emerson, Katie, Loxahatchee, Fl  
 Fernandez, Eloy, Fort Lauderdale, Fl  
 Ferreri, Allison, Coral Springs, Fl  
 Genovese, Kimberly, Lake Park, Fl  
 Germaine, Nide, Boynton Beach, Fl  
 Gray, Janet, Juno Beach, Fl  
 Gutierrez, Francis Ileana, Tamarac, Fl\*  
 Gutierrez, Liza, Pembroke Pines, Fl

Harverd, Mary, Lauderhill, Fl  
 Hazelwood, Stephen, Middleburg, Fl  
 Herman, Robert, Jupiter, Fl  
 Howard, Debra, Tampa, Fl  
 Johnson, Karen, Okeechobee, Fl  
 Joseph, Anise, Lauderhill, Fl  
 Kaminski, Donna, Palm Beach Gardens, Fl  
 Kintchen, Shelly, Lauderhill, Fl  
 Loriston, Marie, Boynton Beach, Fl  
 Louis, Frandy, Delray Beach, Fl  
 Manimala, Sebastian, Valrico, Fl\*  
 Marland, Barbara, Bradenton, Fl\*  
 McCulley, Janice, Crawfordville, Fl\*  
 Merced, Salvadora, Hialeah, Fl  
 Mercier, Nerlande, Lake Worth, Fl  
 Moeller, Ryan, Jupiter, Fl  
 Ortega, Silvia D, Pembroke Pines, Fl  
 Patron, Magaly, Sunny Isles Beach, Fl  
 Persaud, Cornelius, Miramar, Fl  
 Pierre Louis, Sherry, Lantana, Fl  
 Pierre, Alicia, Plantation, Fl  
 Pierre, Marie, Fort Myers, Fl  
 Repasky, Debra, St Augustine, Fl\*  
 Rhodes, M, Port Saint Joe, Fl  
 Rioli, Brenda, Loxahatchee, Fl  
 Salomon, Wadney, Lantana, Fl  
 St Germain, Jean, Miramar, Fl  
 Thomas, James, Tampa, Fl\*  
 Trice, Dominique, West Palm Beach, Fl  
 Voltaire, Benisco, Hollywood, Fl  
 Walter, Jodi, Riverview, Fl\*  
 Wick, Susan, Tallahassee, Fl\*  
 Wright, Shakiera, Fort Lauderdale, Fl

## G

Ahmed, Maria, Augusta, Ga  
 Al Sultan, Huriyah, Atlanta, Ga  
 Arienzo, Michelle, Lincolnton, Ga  
 Armaly, Shamika, Loganville, Ga  
 Baeza, Ryan, Conyers, Ga  
 Beliard, Erika, Villa Rica, Ga  
 Benjamin, Roseline, Augusta, Ga  
 Borseth, Katie, Martinez, Ga  
 Boyd, Bevan, Taylorsville, Ga  
 Brown, Chervarshe, Decatur, Ga  
 Byrd, Jacob, Tyrone, Ga  
 Camps, Toni, Cartersville, Ga  
 Carr, Shaqueena, Atlanta, Ga  
 Corathers, Angela, Sugar Hill, Ga\*  
 Cox, Emily, Augusta, Ga  
 Cumbee, Randall, Cartersville, Ga  
 Davis, Karen, Norcross, Ga  
 Davis, Tammy, Kingston, Ga  
 Davis, Travis, Augusta, Ga  
 Duncombe, Watarsha, Decatur, Ga  
 Dunn, Keith, Hephzibah, Ga\*  
 Edwards, Rhonda, Grovetown, Ga  
 Fajardo, Leah, Buchanan, Ga  
 Fletcher, Lee, Rockmart, Ga  
 Garrison, Rachael, Hinesville, Ga\*  
 George, Roy P, Snellville, Ga\*  
 Givens, Massandra, Hampton, Ga  
 Goode, Katie, Rome, Ga  
 Griggs, Renee, Augusta, Ga  
 Griggs, Teonna, Augusta, Ga  
 Harris, Paul, Valdosta, Ga\*  
 Henderson, Lakisha, Grovetown, Ga  
 Hogens, Lotshia, Atlanta, Ga  
 Howard, Felicia, Macon, Ga\*  
 Hussain, Samrina, Martinez, Ga  
 Johnson, Melissa, Trion, Ga  
 Jones, Brianca, Augusta, Ga  
 Jones, Debra, Holly Springs, Ga\*  
 Jung, Youjin, Buford, Ga  
 Kadir, Sumeiya, Augusta, Ga

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King, Sally, Martinez, Ga  
Lewis, Stephen, Augusta, Ga  
Louis, Anne, Augusta, Ga  
Love, Latoya, Atlanta, Ga\*  
Lovelace, Rita, Tallapoosa, Ga  
Mandi, Palvin, Powder Springs, Ga  
Matthews, Kyle, Martinez, Ga  
McClung, Rachel, Dallas, Ga  
McKee, Joe, Dallas, Ga  
MeKonnen, Hilina, Decatur, Ga  
Meyers, Allisha, Atlanta, Ga  
Mirville, Peterson, Warner Robins, Ga\*  
Moreno, Vanessa, Kennesaw, Ga  
Nation, Reanna, Rome, Ga\*  
Nunnery, Lashunda, Powder Springs, Ga  
Osman, Nasra, Clarkston, Ga  
Peace, Donovan, Martinez, Ga  
Powell, Courtney, Fayetteville, Ga  
Riley, Haley, Cedartown, Ga  
Riley, Neal, Rome, Ga  
Rivera, Catherine, Lilburn, Ga  
Roche, Leo, Rome, Ga  
Rodriguez, Luis, Griffin, Ga  
Ross, Delphine, Lithonia, Ga  
Samuels, Nicolette, Augusta, Ga  
Schmidt, Jennifer, Statesboro, Ga\*  
Seawright, Debra, Covington, Ga\*  
Shaw, Jestine, Canton, Ga\*  
Soderlund, Mary Beth, Cumming, Ga\*  
Stephens, Kenyatta, McDonough, Ga  
Thompson, Tamesha, Evans, Ga  
Williams, Amber, Kennesaw, Ga  
Williams, Lillian, Jonesboro, Ga\*  
Williams, Natalie, Buford, Ga  
Williams, Shelliece, Martinez, Ga  
Young, Justin, Conyers, Ga

### H

Ballesteros, Lorinda, Honolulu, HI  
Marquez, Alberto, Honolulu, HI\*

### I

Barton, Roger, Mt Pleasant, Ia  
Beversdorf, Amanda, Burlington, Ia  
Cooper, Hilleary, Burlington, Ia  
Flam, Scot, Mt Pleasant, Ia  
Goff, Kathy, New London, Ia  
Hummell, Tiffany, Burlington, Ia  
Johnson, Jeremiah, West Point, Ia  
Kay, Jeremy, Burlington, Ia  
Kester, Philip, Fort Madison, Ia  
Klocko, Pamela, West Burlington, Ia  
Lippert, Lindsey, Danville, Ia  
Malcom, Julia, Burlington, Ia  
Trail, Marisa, West Burlington, Ia  
Veldboom, Austin, New London, Ia  
Welch, Maria, Burlington, Ia  
Wilmesmeier, Hilary, Bonaparte, Ia  
Young, Evonne, Argyle, Ia

Beebe, Rachel, Pocatello, Id  
Delis, Maria, Burley, Id\*  
Thomas, Wayne, American Falls, Id\*

Adams, Chris, Colusa, Il  
Allie, Kristy, Monticello, Il  
Beemer, Linda, Alton, Il\*  
Brown, Amelia, Champaign, Il\*  
Campbell, Eric, Du Quoin, Il\*  
Ersery, Leonard, Maryville, Il\*  
Goepfert, Angie, Keithsburg, Il  
Green, Semone, Chicago, Il\*  
Heiple, Rita, De Soto, Il\*  
Hogan, Kristin, Naperville, Il

Hudson, Rosemarie, Chicago, Il\*  
January, Kimberly, Eldorado, Il  
Lumley, Kacie, Peoria, Il\*  
Namayanja, Margaret, Joliet, Il\*  
Paily, Cherian, Chicago, Il\*  
Sanders, Judy, Calumet City, Il\*  
Scott, Janice, Calumet City, Il\*  
Wheeler, Shantavia, Maywood, Il\*

Appler, Joni, Evansville, In  
Arthur, Ashley, Evansville, In  
Beer, Tricia, Indianapolis, In  
Billings, Carissa, Fort Wayne, In  
Blaski, Susan, Greentown, In  
Boosey, Joseph, Indianapolis, In  
Cline Jr, James, Evansville, In  
Copeland, Stephanie, Mooresville, In  
Corn, Olivia, Clayton, In  
Craig, Rosalyn, French Lick, In\*  
Cruz, Melissa, Indianapolis, In  
Cummings, Alana, Indianapolis, In  
Dawson, Jennifer, Newburgh, In  
Dempsey, Angie, Chesterton, In\*  
Devin, Heather, Lebanon, In  
Doyle, Justine, Brazil, In  
Eversole, Brandy, Indianapolis, In  
Fyffe, John, Newburgh, In  
Gaines Hintz, Sarah, Noblesville, In  
Goebel, Kurtis, Evansville, In  
Gough, Andrea, Evansville, In  
Hood, Stephanie, Indianapolis, In  
Karle, Erika, Crawfordsville, In  
King, Steve, Greenfield, In  
Kinnett, Nelson, Indianapolis, In  
Kissling, Jonathan, Indianapolis, In  
Knopf, April, Indianapolis, In  
Lahrman, Darren, Silver Lake, In  
Lawson, Jessica, Bargersville, In  
Layne, Travis, Indianapolis, In  
Lewis, Hailey, Westfield, In  
Losh, Tammy, Indianapolis, In\*  
McCutcheon, Ryan, Evansville, In  
McKinney, Brandon, Indianapolis, In  
Mitchell, Christy, Indianapolis, In\*  
Molter, Debora, West Lafayette, In\*  
Nearpass, Lauren, Carmel, In  
Nelson, Julie, Indianapolis, In\*  
Nguyen, Tony, Carmel, In  
Nnamuchi, Chizoba, Fort Wayne, In  
Patel, Nirali, Indianapolis, In  
Patel, Rakhi, Indianapolis, In  
Pattillo, Brandy, Indianapolis, In\*  
Pena, Igmar, Fishers, In\*  
Reed, Deborah, Fortville, In\*  
Rush, Samantha, Windfall, In  
Saffell, Brian, Rushville, In  
Sample, Wendy, Orestes, In  
Sanders, Valerie, Evansville, In  
Schepers, Natasha, Dubois, In  
Schmitt, Jill, Poseyville, In  
Schmitt, Joseph, Poseyville, In  
Sims, Melissa, Fort Wayne, In  
Sitzman, Derek, Huntingburg, In  
Smith, Corey, Ft Wayne, In  
Steinkoenig, Beth, Columbus, In  
Stinson, Erica, Evansville, In  
Tapp, Katie, Columbus, In  
Terwiske, Gia, Celestine, In  
Thomas, Linda, Indianapolis, In  
Thurber, Lauren, Fort Wayne, In  
Valdivieso, Julia, Munster, In\*  
Vehslage, Jackie, Lyons, In\*  
Veirs, Craig, Monrovia, In\*  
Vester, Megan, Yorktown, In  
Walker Hornback, Paula, Greenwood, In  
Westenburg, Brittany, South Bend, In\*  
Whitaker, George, Indianapolis, In

Whitlow, Angela, Indianapolis, In  
Willis, Nathan, Shelbyville, In  
Witsaman, John, Fort Wayne, In\*

### K

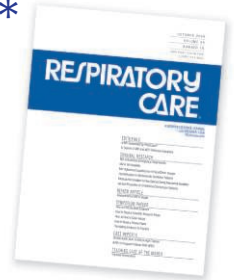
About, Briana, Topeka, Ks  
Al Duhneen, Abdulhadi, Kansas City, Ks  
Al Ghafli, Eman, Lawrence, Ks  
Al Jishi, Hala, Lawrence, Ks  
Al Jishi, Maha, Lawrence, Ks  
Al Kathiri, Hadi, Kansas City, Ks  
Al Saleh, Mohammed, Kansas City, Ks  
Alsomali, Areej, Lawrence, Ks  
Barron, Chelsea, Overland Park, Ks  
Barsness, Heather, Wichita, Ks  
Beckley, Tatum, Frontenac, Ks  
Bolyard, Jennifer, Kansas City, Ks  
Bridwell Kahler, Matthew, Independence, Ks  
Cailteux-Riley, Cheryl, Manhattan, Ks  
Chantivong, James, Lawrence, Ks  
Coleman, Kendra, Lawrence, Ks  
Demo, Mari, Lawrence, Ks  
Desta, Alemayheu, Overland Park, Ks  
Dickhaut, Randy, La Crosse, Ks\*  
Downing, Sarah, Overland Park, Ks  
Ellis, Kim, Independence, Ks  
Frain, Tina, Kansas City, Ks  
Fredrickson, Sunnie, Colby, Ks  
Gentry, Rebecca, Wichita, Ks  
Gomez, Stephanie, Overland Park, Ks  
Grate, Kristi, Wakeeney, Ks  
Haake, Mandi, Pittsburg, Ks  
Hamilton, Trey, Colby, Ks  
Hardin, Pamela, Goddard, Ks  
Harris, John, Chapman, Ks  
Hayes, Jonathan, Lawrence, Ks  
Hines, Bryndalyn, Topeka, Ks\*  
Hunter, Eric, Overland Park, Ks  
Kaberline, Christopher, Lawrence, Ks  
Kester Olson, Barb, Parsons, Ks  
Ketzner, Tabettha, Bird City, Ks  
Koch, Emily, Frankfort, Ks\*  
Landwehr, Jason, Wichita, Ks\*  
Lewis, Randa, Goodland, Ks  
Ludwig, Dalaynee, Riverton, Ks  
Mansfield, Erica, Pittsburg, Ks  
McCombs, Hillary, Oswego, Ks  
McGlothlin, James, Parsons, Ks  
Nelson, Kerri, Iola, Ks  
Norris, Brenda, Columbus, Ks  
O'Brien, Rebecca, Effingham, Ks\*  
Parker, Naifun, Olathe, Ks  
Partridge, Joanie, Goodland, Ks  
Partridge, Spencer, Goodland, Ks  
Pfanenstiel, Aleena, Wichita, Ks  
Queen, Amanda, Oswego, Ks  
Robinson, Amanda, Overland Park, Ks  
Ruzich, Brian, Lawrence, Ks  
Sallas, Katherine, Lawrence, Ks  
Shaw, Stephanie, Parsons, Ks  
Shepherd, Lauren, Coffeyville, Ks  
Stapp, Kaitlyn, Colby, Ks  
Strecker, Mindy, Lawrence, Ks  
Swart, Wesley, Haysville, Ks\*  
Thacker, Dustin, Goodland, Ks  
Thacker, Hillarie, Goodland, Ks  
Thurm, Robert, Prairie Village, Ks  
Walker, Waylon, Goodland, Ks  
Weiler, Benjamin, Berryton, Ks\*  
Wendt, Destiny, Goodland, Ks

Back, Heather, Grayson, Ky\*  
Coffey, Peggy, Dawson Springs, Ky  
Diedrich, Phyllis, Louisville, Ky\*  
Diener, Laura, Louisville, Ky



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## New Members

Forman, Brad, Melbourne, Ky  
Kersey, Timothy, Louisville, Ky\*  
McKenney, Ken, Bowling Green, Ky\*  
Morton, Sharelle, Lexington, Ky\*  
Toy, Mary K (Kathy), Paducah, Ky\*

### L

Abella, Angela, Belle Chase, La  
Chu, Xiao, Baton Rouge, La\*  
Clark, Chelsea, Vidalia, La  
Classen, Henry, Deridder, La\*  
Comeaux, Christopher, Metairie, La  
Deshotel, Donna, Ville Platte, La\*  
Dobson, Marcey, Ferriday, La  
Duplessis, Jonie, Port Sulphur, La  
Falgoust, Amanda, Thibodaux, La  
Gagnard, Kimberly, Pineville, La\*  
Hoffman, Barbara, Lafayette, La\*  
Iserman, Ashley, New Orleans, La  
Jamison, Rashida, New Orleans, La  
Johnson, Phyllis, Ville Platte, La\*  
Lemoine, Lacey, Moreauville, La\*  
Meleen, Jennifer, Houma, La\*  
Naquin, Christa, Destrehan, La\*  
Nguyen, Heather, Glynn, La\*  
Pellegrin, Theresa, Houma, La  
Scanio, Sal, Marrero, La\*  
Tamborella, Shari, Terrytown, La  
Theriot, Tricia, Marksville, La\*  
Velasco, Laura, Shreveport, La  
Walker, Quinton, Baton Rouge, La\*  
White, Sandra, Pineville, La\*  
White, Zina, New Orleans, La\*  
Williams, Isaac, Lacombe, La

### M

Abraham, Romel, Everett, Ma  
Bachand, Lucille, Worcester, Ma\*  
Basti, Karima, Malden, Ma  
Beck, Priscilla, Pembroke, Ma  
Bellomy, Forrest, Bellingham, Ma\*  
Bradford, Christopher, Danvers, Ma  
Brosnahan Jr, Michael, Shrewsbury, Ma\*  
Carter, Alana, Boston, Ma\*  
Colas, Junia, Brockton, Ma\*  
Cybula, Nadine, Oxford, Ma\*  
Decastro, Dawn, Tewksbury, Ma\*  
Eager, Jean, North Grafton, Ma\*  
Edema, Ese, Randolph, Ma  
Foley, Kevin, Quincy, Ma\*  
Fontaine, Maria, Feeding Hills, Ma\*  
Gagnon, David, Fall River, Ma  
Gaskell, Thomas, Swansea, Ma\*  
Gennigiorgis, Mattheos, Malden, Ma\*  
Gleason, Joanne, Charlton, Ma\*  
Gorman, Richard, Gilbertville, Ma\*  
Grampetro, Lawrence, Worcester, Ma\*  
Izevbizu, Patricia, Dorchester, Ma  
Jeter, Wendy, Peabody, Ma  
Johnson, Barbara, Worcester, Ma\*  
Kolesnik, Theresa, Charlton, Ma\*  
Leach, Sharon, Peabody, Ma  
Lopez-Fradera, Julia, Framingham, Ma\*  
Lyons, Rob, Peabody, Ma  
Martin, Naseem, Southwick, Ma\*  
McGaw, Naomi, Lawrence, Ma\*  
McGlinchy, Christine, Brimfield, Ma\*  
Melanson, Joseph, Revere, Ma  
Melendez, Zaida, Worcester, Ma\*  
Muller, Rebecca, Gloucester, Ma  
Murray, Julie, Lynn, Ma  
Narain, Nicole, Worcester, Ma\*  
Nichols, Rebecca, Reading, Ma  
Ozhilevskaia, Liliya, Westfield, Ma\*  
Peterson, Robert, Gardner, Ma\*

Plante, Melissa, Three Rivers, Ma\*  
Putek, Diane, Monson, Ma\*  
Rennie, Sarah, Pittsfield, Ma\*  
Robitaille, Alycia, New Bedford, Ma\*  
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- ⇒ COPD is the third most frequent reason for hospital readmissions.<sup>1</sup>
- ⇒ Research shows that supportive palliative care can reduce rehospitalization and increase patient satisfaction.<sup>2</sup>
- ⇒ There is a quality deficit in routine care of COPD patients, suggesting that increased focus on routine management of COPD care is warranted.<sup>3</sup>
- ⇒ By teaching patients self management, the clinician can help to decrease the number of readmissions and emergency department visits.<sup>4</sup>

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 Las Vegas Hilton • Las Vegas, NV

This one-day course will enhance respiratory therapists' knowledge of this important and under-recognized disease. Presented by the Alpha-1 Foundation in collaboration with the AARC.

Approved for 6 hours of CRCE® credit. Free of charge to Congress registrants. Pre-registration required.

View the entire Advance Program for the 2010 AARC International Respiratory Congress at <http://www.aarc.org/go/ha1>

## New Members

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 Linder, Melissa, Akron, Oh  
 McBride, Jill, Galion, Oh\*  
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 Norman, Laura, Barberton, Oh  
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 Rupert, Brooke, Akron, Oh  
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 Walters, Jarrod, Huron, Oh  
 White, Roger, Xenia, Oh\*

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 Borlay, Manjoe, Tulsa, Ok  
 Bunch, Wanda, Broken Arrow, Ok  
 Bynum, Jamie, Catoosa, Ok  
 Campbell, Rebecca, Broken Arrow, Ok  
 Chong, Ricardo, Tulsa, Ok  
 Colbert, Terrence, Tulsa, Ok  
 Cook, Kayla, Skiatook, Ok  
 Cook, Matt, Tulsa, Ok  
 Dong, Hanh, Tulsa, Ok  
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 England, Jeanne, Yukon, Ok\*  
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 Howard, Michael, Broken Arrow, Ok  
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 Martin, Jesse, Tulsa, Ok  
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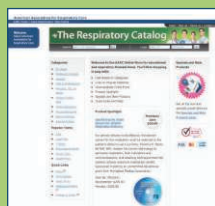
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Kofoid, Kaylee, Salt Lake City, Ut\*  
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Vanoeveren, Amanda, Ogden, Ut  
Wright, Jeffrey, Salt Lake City, Ut\*

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Dye, Michelle, Honaker, Va\*  
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Glass, Jonathan, Forest, Va  
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Johnson, Jennifer, Lynchburg, Va  
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Phone No. ( \_\_\_\_\_ ) \_\_\_\_\_ Email Address \_\_\_\_\_

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

**Work Information:** Place of Employment \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_ Phone No. ( \_\_\_\_\_ ) \_\_\_\_\_

Preferred Fax No. ( \_\_\_\_\_ ) \_\_\_\_\_ Preferred Email Address \_\_\_\_\_

Preferred Mailing Address:  Home  Business

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

#### For Student Member (Required)

School/RC Program \_\_\_\_\_ Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone No. ( \_\_\_\_\_ ) \_\_\_\_\_ Program Director \_\_\_\_\_

Expected Date of Graduation   Month \_\_\_\_\_ Year \_\_\_\_\_

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

#### Primary Job Responsibility (check one only)

- |  |   |  |  |
|--|---|--|--|
| <input type="checkbox"/> Clinical Specialist     | <input type="checkbox"/> Director of Clinical Education | <input type="checkbox"/> Director                            | <input type="checkbox"/> Disease Manager               |
| <input type="checkbox"/> Diagnostic Technologist | <input type="checkbox"/> Instructor/Faculty/Professor   | <input type="checkbox"/> Medical Director                    | <input type="checkbox"/> Manager                       |
| <input type="checkbox"/> Marketing               | <input type="checkbox"/> Nurse                          | <input type="checkbox"/> Owner                               | <input type="checkbox"/> Other                         |
| <input type="checkbox"/> Program Director        | <input type="checkbox"/> Patient Educator               | <input type="checkbox"/> Pulmonary Function Technologist     | <input type="checkbox"/> Product Management            |
| <input type="checkbox"/> Sales                   | <input type="checkbox"/> Supervisor/Coordinator         | <input type="checkbox"/> Sleep Technologist/Polysomnographer | <input type="checkbox"/> Sleep Technologist/Specialist |
| <input type="checkbox"/> Staff Therapist         | <input type="checkbox"/> Student                        |  |  |

#### Type of Business

- |  |   |  |   |
|--|---|--|---|
| <input type="checkbox"/> DME/HME                         | <input type="checkbox"/> Educational Institution  | <input type="checkbox"/> Home Health Agency      | <input type="checkbox"/> Long Term Acute Care/Rehab |
| <input type="checkbox"/> Manufacturer/Distributor/Pharma | <input type="checkbox"/> Military                 | <input type="checkbox"/> Hospital                | <input type="checkbox"/> Other                      |
| <input type="checkbox"/> Physician's Office              | <input type="checkbox"/> Skilled Nursing Facility | <input type="checkbox"/> Sleep Lab Free Standing | <input type="checkbox"/> Sleep Lab Hospital Based   |
| <input type="checkbox"/> Student                         | <input type="checkbox"/> Temp                     | <input type="checkbox"/> Outpatient Facility     |   |

#### Check the Highest Degree Earned

- |                              |                               |                               |                              |                              |                               |                              |                              |                              |                              |                              |
|------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <input type="checkbox"/> PhD | <input type="checkbox"/> EdD  | <input type="checkbox"/> MEd  | <input type="checkbox"/> MBA | <input type="checkbox"/> MS  | <input type="checkbox"/> MHA  | <input type="checkbox"/> MHS | <input type="checkbox"/> MPA | <input type="checkbox"/> MPH | <input type="checkbox"/> MEd | <input type="checkbox"/> MSN |
| <input type="checkbox"/> MA  | <input type="checkbox"/> BSRT | <input type="checkbox"/> BSRC | <input type="checkbox"/> BS  | <input type="checkbox"/> BHS | <input type="checkbox"/> BSEd | <input type="checkbox"/> BSN | <input type="checkbox"/> BA  | <input type="checkbox"/> AAS | <input type="checkbox"/> AS  | <input type="checkbox"/> AA  |

**Job Status**    Full Time    Part Time    Years in Respiratory Care \_\_\_\_\_

**Credentials**    MD    DO    RRT-NPS    RRT-SDS    RRT    RPFT    CRT-NPS    CRT-SDS    CRT  
 CPFT    RN    RPSGT    AE-C    CTTs    EMT-P    LPN    LVN

**Honorary Credentials**    FAARC    FACHE    FAACVPR    FCCM    FCCP

**Date of Birth** \_\_\_\_\_ **Sex** \_\_\_\_\_

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

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

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

Signature \_\_\_\_\_ Date \_\_\_\_\_

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

### Membership Fees (U.S. dollars only)

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Or

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Or

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

Or

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

**\*Voluntary PAC Contribution**   \$ \_\_\_\_\_   **\*\*Voluntary ARCF Contribution**   \$ \_\_\_\_\_

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

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

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

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

### Payment Information

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

Please charge my dues to:    MasterCard    Visa    American Express

Card Number \_\_\_\_\_ Card Expires \_\_\_\_\_ / \_\_\_\_\_ Signature \_\_\_\_\_

### Send this application and fees to:

**American Association for Respiratory Care**

9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706 (if using a credit card)

or P.O. Box 650097, Dallas, TX 75265-0097 (if sending a check)

Fax: 972-484-2720 • Phone: 972-243-2272

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

## THANKS FOR BEING PART OF THE TEAM



# The 56th AARC International Respiratory Congress

Monday through Thursday

**Dec 6-9, 2010**

**Las Vegas Convention Center  
Las Vegas, NV**

Attend the AARC International Respiratory Congress this year. It's your best bet for increasing both your professional worth and the investment value you can return to your company or institution.

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- 25+ CRCE® credits

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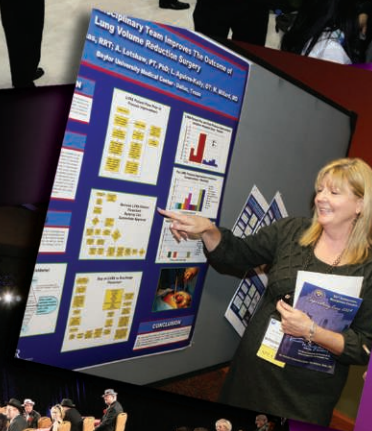
- See all companies in respiratory care
- Purchase onsite – it's a Buying Show
- View the very latest in industry trends

### 4 days of Networking

- Meet industry leaders
- Engage with peers in sessions
- Make contacts in the Exhibit Hall

### Special Features

- OPEN FORUMS with 300+ original research projects
- Journal Conference Summaries
- Student-Centered Seminar





# Classifieds

ADVERTISING SECTION

## Michigan

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Advanced Medical Solutions is a durable medical equipment company in southeastern Michigan looking for a dependable, licensed respiratory therapist to oversee their respiratory department. Part-time to full-time hours available; pay based on experience and qualifications. If interested, please fax resume to Julie at (517) 548-1588 or e-mail [amsdme@sbcglobal.net](mailto:amsdme@sbcglobal.net).

## For Sale/For Rent

### Ventilators, Pulse Oximeters, and More

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

### AARC Times Classified Advertising Information & Requirements:

#### Classified Word Advertisements

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

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

not endorse any advertiser, its positions, practices, services, or products.

We reserve the right to make editorial changes for reasons of clarity and consistency. Every effort is taken to avoid mistakes, but AARC Times cannot be responsible for clerical or printing errors.

**Deadline for Ad Placement/Cancellation** Deadline for ad placement and written cancellations for the next available issue is November 24. Blind ads available. **For Recruitment Advertising Information, Contact Classified Advertisement** Anna Blydenstein • Alhambra Plaza • 725 N. Highway A1A, Suite C-106 • Jupiter, FL 33477 • (561) 745-6793 • Fax (561) 745-6795 • [AARCAD@aol.com](mailto:AARCAD@aol.com)

#### Recruitment Display Advertisements

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

## Assistant Professor/Program Director of Respiratory Therapy

### College of Nursing and Health Professions

The University of Southern Indiana seeks applications for the position of Respiratory Therapy Program Director. This 12-month faculty will assume leadership and teaching responsibilities in the Respiratory Therapy Program beginning January 3, 2011. Qualifications include minimum of a Master's degree, four years experience as a Registered Respiratory Therapist (RRT), and two years experience teaching in an accredited respiratory care program. Rank and salary will be commensurate with qualifications. Responsibilities include overall program administration, program policy development, budget development and management, curriculum development and evaluation, scheduling of courses and faculty teaching assignments, faculty recruitment, selection, and evaluation, student recruitment and admissions activities, and classroom, laboratory, and clinical teaching. The Director will participate in ongoing research and scholarly activity, academic advising, and University and community service. The College, in addition to University support, has a four person technology team that supports the teaching of the Respiratory Therapy Program courses. Two full time academic advisors provide support for student advising and activities. All programs are fully accredited and have an exemplary record of grant award successes. The University of Southern Indiana (USI) is the fastest growing public institution in the state of Indiana with 10,000 students and five academic colleges. The University is committed to excellence in teaching, scholarship, professional activity, and service to the University and the region. Situated in southwestern Indiana on the Ohio River, USI is located on a 330-acre campus situated just outside Evansville, Indiana, a city of approximately 130,000. The location offers opportunities for country, suburban, or city living with easy access to diverse cultural activities. To apply: submit a signed USI application (available at <http://www.usi.edu/facultyjobs>), a letter of that provides a concise description of research/teaching experience/and previous professional service, curriculum vita, and full contact information for three professional references to Ms. Deborah Carl Wolf, Assistant Dean, College of Nursing and Health Professions, University of Southern Indiana, 8600 University Blvd., Evansville, IN 47712. Review of applications will begin immediately and will continue until the position is filled.



*The University of Southern Indiana is an equal opportunity, affirmative action educator and employer that values diversity, respects differences and provides a sense of belonging and inclusion.*

Circle 40 in Advertiser Index



**Commitment.** Our motto. **Compassion.** Our core. **Children.** Our everything.

Children's Hospital of Orange County (CHOC) is a 238-bed, state of the art hospital dedicated to nurturing, advancing, and protecting the health and well-being of all children. But even our Magnet status does not truly reflect our tradition of excellence. We are designated one of Leapfrog's top eight children's hospitals nationally and the only California children's hospital to ever win the prestigious Silver Level CAPE Award from the California Council for Excellence. Which is why CHOC's leadership in advancing the boundaries of pediatric health extends far beyond the communities of Southern California.

The RCP Lead / Clinical Educator is accountable for the standards of care; promoting changes in practice through educational development, promotion of clinical expertise and patient safety. The position provides oversight for clinical education and competence of the Respiratory /Pulmonary Services Department. The position is primarily responsible for orientation and integration of new Associates and supports the advancement and development of Associates as well as coordination of the RCP Fellowship Program.

This position requires:

- BS Degree in health related field (MS preferred)
- Graduation from an AMA approved Respiratory Care Program
- Current CA RCP License
- Current RRT,NRP, BLS, PALS Credentials
- Current NPS (can be obtained within the first 6 months)
- Minimum 5 years previous experience in Respiratory Care
- Leadership and teaching experience preferred

We offer an excellent benefits package including competitive compensation, \$10,000 tuition reimbursement, excellent medical, dental, vision, and a 403 (B) Retirement Plan with eligibility starting the first day of employment.

Join CHOC's multi-disciplinary team and make your mark! For immediate consideration please send your resume to [sgoshen@choc.org](mailto:sgoshen@choc.org) or call 714 532-7882. Please visit [www.choc.org](http://www.choc.org) to learn more about the outstanding opportunities CHOC has to offer. EOE/AA employer.

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## Breathe new life into your career.

THERE IS OPPORTUNITY IN THE AIR.

A vital part of an active and vigorous life is healthy breathing. At Banner Health, we understand the vital role you play on our team and we are committed to your success. We provide an environment that is rich in opportunities, offers growth and development and is equipped with the latest in life-saving technology. Banner Health is dedicated to supporting successful and satisfying careers for our respiratory care professionals. We make a difference in our employees' lives so they can make a difference in the lives of others.

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# Calendar of Events

## AARC & State Society Programs

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

**October 27**  
Lung Health Day  
Contact AARC, (972) 243-2272,  
www.aarc.org

**October 28**  
Newark, DE  
17<sup>th</sup> Annual Trends in Respiratory Care Conference  
Contact www.Delawarelung.org,  
Debbie Marckese,  
(302) 651-5117

**December 5**  
Las Vegas, NV  
Alpha-1 Antitrypsin Deficiency for the Respiratory Therapist (Pre-Congress Course)  
Contact AARC, (972) 243-2272,  
www.aarc.org/education/meetings

**December 5**  
Las Vegas, NV  
Current Issues in Mechanical Ventilation (Pre-Congress Course)  
Contact AARC, (972) 243-2272,  
www.aarc.org/education/meetings

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

## Other Meetings

**November 18 (11-12 EST)**  
TechEd Live  
Pulmonary Function Webcast Series  
Bronchial Challenge Testing Part 2 — Mannitol Challenge  
Contact Susan Blonshine, (517) 676-7018, sblonshine@techedconsultants.com

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

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

## RESPIRATORY DIRECTORS / SUPERVISORS / HUMAN RESOURCE MANAGERS FIND PROFESSIONAL, EXPERIENCED, AND SKILLED RTS AT THE AARC

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- ☛ **Reach candidates** in all specialties and care settings.
- ☛ **AARC Times magazine** and **RESPIRATORY CARE Journal** are the only official publications of the AARC.

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



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

**CALL: (561) 745-6793  
EMAIL: [anna@aarc.org](mailto:anna@aarc.org)**



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

# Advertiser Index

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

Company Name	Cir #	Pg #	Company Name	Cir #	Pg #
<b>Aerogen</b> (866) 423-7643 www.aerogen.com Booth 510-512	11	27	<b>Chad Therapeutics</b> (800) 423-8870 x300 www.chadtherapeutics.com	38	67
<b>AirGuard</b> (800) 967-9727 www.airguardmedical.com Booth 548	26	60	<b>CHOC Children's</b> (714) 532-7882 www.choc.org	42	116
<b>AirGuard</b> (800) 967-9727 www.airguardmedical.com Booth 548	78	86	<b>Compumedics</b> (877) 717-3975 www.compumedics.com Booth 243	3	14
<b>Airon</b> (888) 448-1238 www.AironUSA.com Booth 411-413	12	16	<b>Compumedics</b> (877) 717-3975 www.compumedics.com	82	86
<b>Airon</b> (888) 448-1238 www.AironUSA.com Booth 411-413	79	86	<b>Covidien Resp &amp; Monitoring Solutions</b> www.covidien.com/successstories Booth 401	36	70-71
<b>Airtraq</b> (877) 6-Airway Airtraq.com	23	43	<b>Dräger Medical</b> (800) 437-2437 www.draeger.com/respiratorycare Booth 917	46	C4
<b>Airtraq</b> (877) 6-Airway Airtraq.com	80	86	<b>DRIVE4COPD</b> drive4copd.com/aarc	39	81
<b>Alere</b> (877) 441-7440 www.alere.com Booth 1024-1026	6	23	<b>Electromed, Inc.</b> (800) 462-1045 www.SmartVest.com Booth 102	25	51
<b>Alpha 1 Foundation</b> (800) 425-7421 www.alpha-1foundation.org Booth 656	31	57	<b>Electromed, Inc.</b> (800) 462-1045 www.SmartVest.com Booth 102	77	86
<b>Alpha 1 Foundation</b> (800) 425-7421 www.alpha-1foundation.org Booth 656	34	79	<b>Epocal, Inc</b> (888) 893-6225 www.epocal.com Booth 735	16	29
<b>ARC Medical, Inc.</b> (800) 950-2720 arcinfo@arcmedical.com Booth 342	10	21	<b>Fisher &amp; Paykel Healthcare</b> (800) 446-3908 www.fphcare.com Booth 701	4	5
<b>B &amp; B Medical Technologies, Inc.</b> (800) 242-8778 www.bandb-medical.com Booth 641	51	16	<b>Fisher &amp; Paykel Healthcare</b> (800) 446-3908 www.fphcare.com Booth 701	9	25
<b>B &amp; B Medical Technologies, Inc.</b> (800) 242-8778 www.bandb-medical.com Booth 641	75	86	<b>General Biomedical</b> (800) 558-9449 www.GeneralBiomedical.com	13	11
<b>Banner Health</b> (866) 377-5627 www.BannerHealth.com	45	117	<b>Great Lakes Orthodontics</b> www.greatlakesortho.com	98	88
<b>CareFusion</b> carefusion.com Booth 417	17	C2	<b>Hans Rudolph, inc.</b> www.rudolphkc.com	5	15

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Impact Instrumentation Inc www.impactii.com	84	87	Oxycare www.oxycare.edu	96	88
Invacare (800) 333-6900 www.invacare.com Booth 511	32	59	Passy-Muir Inc. www.passy-muir.com/seminars Booth 343-345	88	87
Invacare (800) 333-6900 www.invacare.com Booth 511	95	88	Philips Respironics www.philips.com/123cardiographs Booth 617	37	77
Kimberly-Clark www.VAP.Khealthcare.com/CSS Booth 235	15	19	Philips Respironics www.respironics.com/123cardiographs Booth 617	93	88
Marsh Affinity Group (800) 503-9230 www.proliability.com/47501 Booth 444	18	33	Pulmodyne (317) 246-5505 www.Pulmodyne.com Booth 447	41	3
Masimo (800) 257-3810 www.masimo.com Booth 201	58	37	Pulmodyne www.Pulmodyne.com	89	87
Masimo www.masimo.com Booth 201	81	86	Smith Seminars (866) 857-2211 www.SmithSeminars.com	92	88
Medical Acoustics www.lungflute.com	8	52	Smiths Medical SEE AD Booth 809	52	75
Medical Acoustics www.lungflute.com	85	87	Smiths Medical Booth 809	90	87
Medical International Research, Inc (262) 565-6797 www.spirometry.com Booth 846	30	55	Tri-anim (800) 874-2646 www.tri-anim.com Booth 1009	24	48-49
Medical Reserve Corps www.medicalreservecorps.gov Booth 1102	28	30	University of Southern Indiana www.usi.edu/facultyjobs	40	116
MediTrack Products (800) 863-9633 www.doser.com	20	10	Vapotherm (866) 827-6843 www.vtherm.com Booth 449-451	7	9
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Mercury Medical www.mercurymed.com	86	87	Verathon (800) 331-2313 verathon.com Booth 647-649	43	C3
Methapharm (800) 287-7686 www.provocholine.com Booth 648	22	10	Verathon (800) 331-2313 verathon.com Booth 647-649	91	88
Monaghan Medical (800) 833-9653 www.monaghanmed.com Booth 229	14	7	Vortran (800) 434-4034 www.vortran.com Booth 730	21	39
Monaghan Medical www.monaghanmed.com Booth 229	87	87	Vortran www.vortran.com Booth 730	97	88

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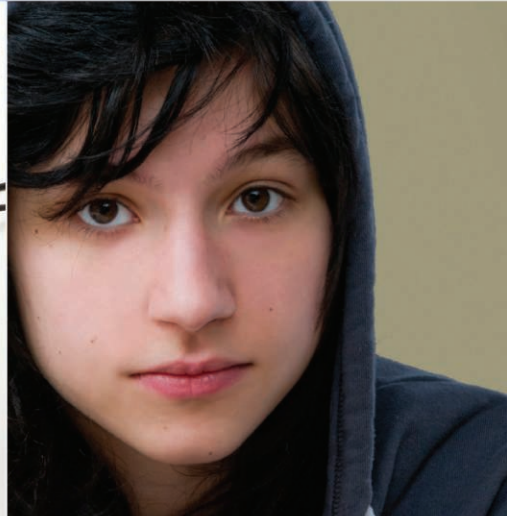
Ranger Single Use System



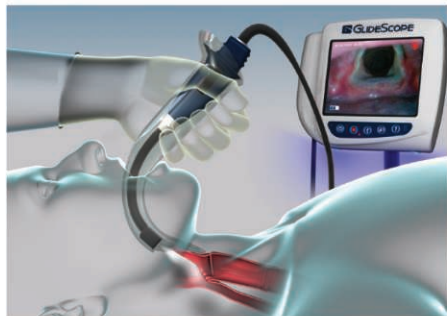
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