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

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AARC Members Strengthen the RC Profession and Association

On the cover of this issue of *AARC Times*, we are once again happy to feature some of our AARC members, many having been featured in our "Good Press" Web stories.

Thanks to all of you, AARC membership continues to grow. In this month's feature article "AARC 2010 Annual Report of Activities and Member Services," you can read how the Association has worked to promote awareness about respiratory disease, serve our patients, and strengthen respiratory care as a profession. Last year was a banner year for the AARC membership, as we turned a very important corner and hit the 50,000-member mark. Membership continues to grow steadily this year, as well, with your continued help.

If you have not looked at what your professional organization offers recently, you may want to look again. Member services are continually evolving to meet the needs of AARC members around the world. To find information about membership and what's happening in respiratory care today, visit www.aarc.org. There you will also see a portal for *AARConnect*, the AARC's social network. Just click on the green "AC" box at the top of the AARC home page. ■

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Recent Literature on Sleep Medicine

The following studies on sleep have been published in peer-reviewed journals over the past few months.

Home sleep testing doesn't affect PAP adherence

A new study out of the DeWitt Army Community Hospital in Fort Belvoir, VA, finds similar adherence to positive airway pressure (PAP) therapy among patients assessed for sleep apnea via polysomnography in a sleep lab and those assessed via home sleep testing.

The research involved 210 obstructive sleep apnea (OSA) patients who underwent either unattended, Type III home diagnostic and unattended home auto-adjustable positive airway pressure (APAP) titrations; or in-laboratory, Type I diagnostic and CPAP titration studies; or Type I diagnostic and APAP titration studies. The first group was managed and educated in a primary care clinic while the second and third groups were treated at an academic sleep medicine center.

A comparison of objective measures of PAP use during the first four to six weeks of therapy found no differences between any of the groups. Despite the initial assessment, PAP was used about 70% of the night, mean hours of nightly usage came in at about 4.5 hours, and about half of the patients used PAP on a regular basis. About the same number of patients also discontinued the therapy.

Given the similar outcomes for the three different groups, the authors conclude that home sleep testing may offer "a more accessible and cost-effective alternative without compromising therapeutic adherence." The study appeared in the Feb. 3 Epub edition of CHEST.

Nocturnal saturation linked to glucose tolerance in CF kids

Researchers from the Children's Hospital of Philadelphia have shed some light on the relationship between glucose intolerance in cystic fibrosis (CF) patients and hypoxemia during sleep. They subjected 25 children with CF to polysomnography, actigraphy, measurement of serum inflammatory markers, and oral glucose tolerance testing, then compared their results with retrospective data on 25 healthy controls.

Results showed 29% of the CF patients had impaired glucose tolerance and 4% had diabetes. Those with lower oxyhemoglobin saturations were more likely to have worse glucose tolerance, and further analysis revealed that nocturnal saturation accounted for the majority of the predictive power for glucose. Glucose tolerance did not appear to be affected by sleep quality or inflammation.

The authors call for more studies to "determine whether lower saturation negatively impacts glucose regulation or, alternatively, whether abnormalities in glucose metabolism are an early sign of pulmonary dysfunction." The study was published in the Jan. 27 Epub edition of *Thorax*.

PLMS and autonomic nervous system dysfunction

French researchers publishing in the February issue of *Sleep* shared results from a study involving narcolepsy-cataplexy (NC) patients at a Canadian hospital who were assessed for physiologic activations associated with periodic limb movements during sleep (PLMS) to determine their association with autonomic nervous system dysfunction. They collected data on 15 patients with NC, then compared the results with similar data from 14 healthy controls matched for age and sex. Among the findings:

- A Group-by-Heartbeat interaction was noted for PLMS without microarousals; NC patients had a tachycardia of lower amplitude and a delayed and lower-amplitude bradycardia compared with normal control subjects.
- Similar significant heart rate modifications were observed for PLMS with microarousals between NC patients and control subjects.
- Patients with NC had a reduced magnitude of cardiac activation associated with PLMS with and without microarousals, as compared with control subjects.
- A negative correlation was noted between cardiac-activation amplitude and age in patients with NC, but no correlation with PLMS index was found in either patients with NC or control subjects.

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The authors believe these findings suggest the action of hypocretin on autonomic function may increase the risk of cardiovascular disease.

Positional therapy modestly improves OSA in stroke patients

Positional therapy using a therapeutic pillow to promote nonsupine positioning can modestly improve sleep apnea severity in patients who have recently experienced ischemic stroke. That's the take-home message from Michigan researchers who tested the use of the therapy in 18 patients within 14 days of having a stroke.

The investigation was carried out on two consecutive nights in a randomized, controlled, cross-over fashion. Sleep apnea screening was performed using a portable respiratory monitoring system. All of the patients were found to have OSA.

On the therapy night, patients underwent positional therapy with the therapeutic pillow to avoid supine positioning. On the control night, they were positioned ad lib. When compared to the control night, the amount of supine positioning was reduced by 36% on the positional therapy night and the apnea-hypopnea index declined by 19.5%. This research appeared in the Feb. 7 Epub edition of *Sleep Medicine*.

Two-stage screening model predicts OSA

A two-stage model involving a screening questionnaire followed by home sleep monitoring can effectively identify patients with OSA in the primary care setting, report Australian researchers who published in the Jan. 20 Epub edition of *Thorax*. The model was assessed in 157 patients, 79 comprising a development group and 78 a validation group.

Snoring, waist circumference, witnessed apneas, and age were predictive of OSA and incorporated into a screening questionnaire. A 3% dip rate in oximetry, as measured by a two-channel device, was highly predictive of OSA. Sensitivity and specificity of the two-stage diagnostic model were 0.97 and 0.87, respectively, in the development group and 0.88 and 0.82, respectively, in the validation group.

The findings suggest a "two-stage model of screening questionnaire followed by home oximetry can accurately identify patients with OSA in primary care and has the potential to expedite care for patients with this common sleep disorder," note the authors.

Brief behavioral intervention helps seniors with insomnia

Could a brief behavioral treatment for insomnia (BBTI) really help older people get a better night's sleep? Yes, report Pennsylvania and Ohio investigators who compared a BBTI with an information control (IC) in 79 older adults with a mean age of 71.7 years who were randomly assigned to one of the two groups.

The BBTI group received individualized behavioral instructions during two sessions and two phone calls. The IC group received printed educational materials. The participants kept sleep diaries, filled out sleep questionnaires, and also underwent actigraphy and polysomnography.

More than 65% of the patients in the BBTI group had a categorically defined response versus 25% in the IC group. By the end of the study, 55% of the BBTI patients were without insomnia compared to 13% of the IC patients. Hypnotic or antidepressant use, sleep apnea, or the recruitment source did not alter the findings.

BBTI patients had significantly better outcomes in self-reported sleep and health, sleep diary, and actigraphy. However, polysomnography was not affected. The improvements were maintained at six months. "We found that BBTI is a simple, efficacious, and durable intervention for chronic insomnia in older adults that has potential for dissemination across medical settings," write the authors. *The Archives of Internal Medicine* e-published the study on Jan. 24. ■

The AMA CPT Health Care Professional Advisory Committee

by Susan Rinaldo-Gallo, MEd, RRT, FAARC

Current Procedural Terminology (CPT®) coding nomenclature contains many codes that are used by both physician and qualified non-physician health care professionals. In the early 1990s, legislation and regulation related to third-party payment required the use of CPT codes by qualified non-physician health care professionals. In 1992, the American Medical Association Board of Trustees (AMA BoT) concluded that a Health Care Professionals Advisory Committee (HCPAC) review board should be established. By creating HCPAC, the CPT Editorial Panel opened their meetings to all groups legally required to use CPT codes to report their services. The CPT Editorial Board are the decision makers as to what codes are accepted, revised, or deleted.

Responding to this recommendation, organizations representing audiologists, nurses, occupational therapists, optometrists, physical therapists, physician assistants, podiatrists, psychologists, social workers, speech-language pathologists, and later chiropractors and registered dieticians were invited to nominate representatives to the CPT HCPAC. The CPT HCPAC was created to foster participation by professional organizations representing non-physician providers in coding changes affecting their members. Historically, membership on the CPT HCPAC was limited to non-physician professionals whose services were recognized and covered under Medicare.

In April 2003, the AMA BoT voted to expand the representation of qualified non-physician health care professional organizations on the CPT HCPAC and defined the criteria under which future expansions of the CPT HCPAC would be allowed. The AARC was asked to nominate a representative, or advisor, at that time. I was fortunate to be nominated by the AARC, and the AMA accepted my nomination.

Currently, the CPT HCPAC is comprised of three CPT Editorial Panel members and 17 representatives, each representing one of the following organizations: American Nurses Association, American Physical Therapy Association, American Speech-Language-Hearing Association, National Association of Social Workers, American Occupational Therapy Association, American Psychological Association, American Optometric Association, American Chiropractic Association, American Podiatric Medical Association, American Dietetic Association, American Academy of Physician Assistants, American Association of Naturopathic Physicians, American Association for Respiratory Care, American Massage Therapy Association, National Athletic Trainers' Association, National Society of Genetic Counselors, and Pharmacist Services Technical Advisory Coalition.

about the author...

Susan Rinaldo-Gallo, MEd, RRT, FAARC, serves as the AARC's representative to the AMA CPT Health Care Professional Advisory Committee and is the Association's vice president of internal affairs.

Responsibilities

CPT HCPAC advisors/members have the following roles and functions in the CPT editorial process:

1. Attend all CPT Editorial Panel meetings as well as the annual HCPAC advisor meeting
2. Prepare CPT code applications submitted by their organization or assist or collaborate with other specialty organizations on applications
3. Comment on other applicants' CPT code change applications in advance of CPT Editorial Panel meetings
4. Serve on CPT work groups and committees as needed
5. Serve as liaison with AMA staff on relevant issues

6. Identify and serve as a liaison with the related national health care professional organizations
7. Serve as an educational resource to their organization and other parties.

My most important role is to function as a CPT watchdog for AARC members. I attend the annual HCPAC advisor meeting each year. Anne Marie Hummel, AARC director of regulatory affairs, also attends this meeting and has been a valuable resource. I may attend additional editorial meetings when there are important issues related to respiratory care. The year that both sleep medicine and pulmonary rehabilitation codes were presented, I attended two meetings, helped write the language for proposed codes, became a member of the Sleep Medicine work group, and participated on numerous conference calls.

> The CPT HCPAC was created to foster participation by professional organizations representing non-physician providers in coding changes affecting their members.

My ongoing responsibilities as the AARC's representative include reviewing the minutes from all three yearly meetings and reviewing all the new code applications. Typically 50–80 code proposals are submitted prior to each meeting. Only a few of these are related to respiratory care. On behalf of the AARC, I submit opinions on proposed codes that may help or hinder our practice. Often I depend on the AARC Specialty Section chairs and other resources for information. I also work closely with the representatives of the American Thoracic Society and the American College of Chest Physicians who attend the meetings.

Being the first AARC representative to the CPT HCPAC has been a worthy challenge. There was much to learn about the role, the process, and the politics. ■

H1N1 Novel Flu 2009–2010: Lessons Learned in Severe Respiratory Failure and Ventilatory Strategies

by Richard Branson, MSc, RRT, FAARC

During the time from 2006 to late 2009 public health officials around the world braced in anticipation for an outbreak of H5N1, or avian flu. H5N1 had been identified in a number of nations in Southeast Asia resulting in strikingly high mortality. However, the avian flu had only been seen in subjects with direct contact with diseased birds and appeared to have a limited capability for human to human transmission. The predilection of H5N1 to attack at the alveolar level may have accounted for both the severity of illness and low likelihood of human transmission. In August 2009, the World Health Organization (WHO) reported 186,166 cases of H5N1 with 1,799 fatalities.

As often occurs in public health, while the threat of a pandemic disease (in this case H5N1) loomed on the horizon, a spate of reports of severe infectious respiratory disease emerged. This initial report from Mexico was the "canary in the coal mine" as reports of similar events soon spread across the world.[1-3] This novel H1N1 flu, or "swine flu," resulted in mild disease in most subjects but in certain populations developed into severe acute respiratory distress syndrome (ARDS) hallmarked by refractory hypoxemia. H1N1 would later be found to be related to the deadly 1918 virus that claimed the lives of many young people across the world. This novel H1N1 virus appeared to be easily transmitted between humans, and its origin in the 1918 virus meant most of the population had no native immunity.

Lessons learned during this first "pandemic" in over 40 years include the importance of personal protective equipment for caregivers, the importance of protocols for treating refractory hypoxemia in intensive care units, the impact of novel virus on the young with no innate immunity, and the critical role of vaccination.[2,3]

Reports from Mexico regarding H1N1 rapidly alerted the WHO to the possibility of a new pandemic. Cases from the initial Mexican experience demonstrated severe respiratory failure in the young, during pregnancy, and in the presence of morbid obesity and pre-existing pulmonary and neuromuscular illness.[4] Table 1 lists the common risk factors for development of severe respiratory failure in H1N1 infection. These findings would be confirmed around the world as the virus reached epidemic status.

Data from the Mexican experience also found that while disease was prevalent in the population, most cases were mild to moderate in severity. In this initial report, 58 of 899 patients (6.5%) seeking hospital treatment required ICU admission. This was a new finding in a pandemic scenario. While hospital systems were not taxed, ICUs felt a surge of severe respiratory illness. Secondary bacterial pneumonia was a common complication and important factor in mortality.

Some of the first data from the United States were reported from the University of Michigan.[5] The surgical ICU led by Lena Napolitano, MD, serves as a regional center for extracorporeal membrane oxygenation (ECMO) and received a number of patients with H1N1 for ECMO evaluation.[2] These patients exhibited refractory hypoxemia, and a number suffered from morbid obesity. In their initial report published in the Centers for Disease Control and Prevention's *Morbidity and Mortality Weekly Report*, of the 10 patients, nine were supported with high-frequency oscillation (HFO), two received

about the author...

Richard Branson, MSc, RRT, FAARC, is professor of surgery in the division of trauma and critical care and director of critical care research at the University of Cincinnati College of Medicine in Cincinnati, OH.

Table 1. Common Risk Factors for the Development of Refractory Hypoxemia in H1N1

- Infants and young children (<2 years of age)
- Pregnancy
- Pre-existing chronic respiratory disease (e.g., COPD, asthma)
- Pre-existing cardiac disease (e.g., congestive heart failure)
- Diabetes
- Pre-existing renal disease (e.g., chronic renal failure requiring dialysis)
- Pre-existing neurologic disease (e.g., neuromuscular disorders, seizure disorder)
- Pre-existing immunosuppression (e.g., HIV, malignancy, medication)
- Elderly persons (>65 years old)
- Obesity, particularly morbid obesity
- Indigenous populations

* Of note, about one-third of severe disease occurred in previously healthy individuals.

ECMO, and one was supported with airway pressure release ventilation (APRV). Three of these patients died. It is an interesting footnote that in March of this year, the University of Michigan has reported a number of H1N1 cases with similar severe ARDS.

Worldwide, reports from Canada, Spain, Australia, and New Zealand reported similar findings.[6-8] Approximately a third of hospitalized patients developed ARDS. Of these, a number of patients (around 30–50%) developed refractory hypoxemia requiring lung rescue techniques including HFO, ECMO, inhaled nitric oxide, prone positioning, and neuromuscular paralysis. The group from LDS Hospital in Utah reported a number of cases of severe ARDS treated with low tidal volumes and high PEEP (>20 cm H_2O).[9] Table 2 provides a comparison of rescue therapies commonly employed. Interestingly, mortality was associated with hypoxemia, not commonly seen in other forms of ARDS where multi-organ failure is the most common cause of death. This finding clearly justifies the use of lung rescue therapies, as support through the acute phase of hypoxemia prevented death.

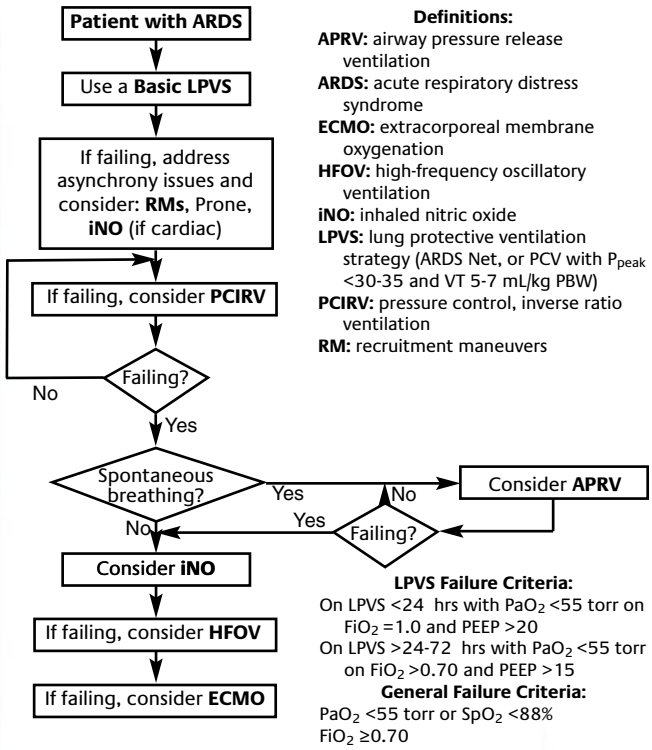
These findings reinforce the importance of planning. The time to develop a refractory hypoxemia protocol is not in the midst of a pandemic. Hospitals should develop these algorithms based on local expertise and available equipment. Conventional ventilation using existing equipment may be used to treat hypoxemia. Recruitment maneuvers, high PEEP, and APRV have been used successfully in patients with significant lung collapse. Prone positioning can be accomplished with specialty equipment but can also be done more simply. Prone positioning has the advantage of maintaining traditional ventilation devices. Inhaled nitric oxide (iNO) allows the continuation of traditional ventilatory support but requires additional equipment and expertise, and carries significant cost. Alternatively, inhaled prostacycline can be used to improve oxygenation. This technique saves money but has not been subjected to the same safety analysis and scientific scrutiny afforded iNO.[10] HFO has been used successfully in refractory hypoxemia but also requires additional equipment and expertise. ECMO is a specialty technique reserved for ECMO centers. Just as

Table 2. Comparison of Lung Rescue Therapies Used To Treat Refractory Hypoxemia During the H1N1 Pandemic

Country	Treatment of Refractory Hypoxemia
Mexico	1 patient HFO, high PEEP and prone position were “commonly” used
United States (Michigan)	HFO (9 of 10) and ECMO (2/10)
United States (Utah)	PEEP > 20 cm H_2O in 14 of 30 patients with ARDS
Canada	Of 136 mechanically ventilated patients: Neuromuscular blockade (28%) Inhaled nitric oxide (13.7%) HFO (11.9%) ECMO (4.2%) Prone positioning (3%)
Spain	Prone positioning in 8 of 32 patients
Australia and New Zealand	ECMO in 68 of 201 patients

Figure 1. ARDS Ventilator Management Strategies: Abbreviated Version

(University of Michigan Hospitals & Health Centers)



importantly, if the severity of illness exceeds the local expertise, transfer to a tertiary center should be swift. An example of the University of Michigan refractory hypoxemia algorithm is shown in Figure 1.

Other consistent findings included the frequent failure of noninvasive ventilation due to severity of illness and concomitant bacterial pneumonia and sepsis. Resistance was seen in a number of patients, and the use of oseltamivir, premavir, and convalescent plasma was used successfully. Typical ventilation times were seven to 10 days, and in Western countries mortality was low (10–15%) compared to other causes of ARDS.

While the emphasis here has been on treatment of severe H1N1 disease, no less important is the need for vaccination of health care workers and personal protective equipment. A combination of good hand hygiene, appropriate masks (surgical or N95), eye protection, and gloves with additional protections for aerosol-producing

procedures appear to have prevented transmission to health care workers in the ICU.

The H1N1 epidemic of 2009–2010 taxed ICU bed space and mechanical ventilation expertise. We should prepare for a return of the disease and have a plan for the treatment of refractory hypoxemia. ■

REFERENCES

1. World Health Organization website. Global Alert and Response (GAR) – pandemic (H1N1) 2009. Available at: www.who.int/csr/disease/swineflu/en *Accessed March 1, 2011*
2. World Health Organization website. Global Alert and Response (GAR) – influenza-like illness in the United States and Mexico. Available at: www.who.int/csr/don/2009_04_24/en/index.html *Accessed March 1, 2011*
3. Centers for Disease Control and Prevention (CDC). Update: novel influenza A (H1N1) virus infections – worldwide, May 6, 2009. MMWR Morb Mortal Wkly Rep 2009; 58(17):453-458.
4. Dominguez-Cherit G, Lapinsky SE, Macias AE, et al. Critically ill patients with 2009 influenza A(H1N1) in Mexico. JAMA 2009; 302(17):1880-1887.
5. Centers for Disease Control and Prevention (CDC) website. Intensive – care patients with severe novel influenza A (H1N1) virus infection – Michigan, June 2009. MMWR Dispatch. Available at: www.cdc.gov/mmwr *Accessed July 17, 2009*
6. Kumar A, Zarychanski R, Pinto R, et al. Critically ill patients with 2009 influenza A(H1N1) infection in Canada. JAMA 2009; 302(17):1872-1879.
7. Critical Care website. Rello J, Rodriguez A, Ibanez P, et al. Intensive care adult patients with severe respiratory failure caused by influenza A (H1N1) in Spain. Critical Care. Available at: http://ccforum.com/content/13/5/R148 *Accessed Dec. 20, 2009*
8. Davies A, Jones D, Bailey M, et al. Extracorporeal membrane oxygenation for 2009 influenza A(H1N1) acute respiratory distress syndrome. JAMA 2009; 302(17):1888-1895.
9. Miller RR 3rd, Markewitz BA, Rolfs RT, et al. Clinical findings and demographic factors associated with ICU admission in Utah due to novel 2009 influenza A (H1N1) infection. Chest 2010; 137(4):752-758.
10. Lai AR, Keet K, Yong CM, Diaz JV. Severe H1N1-associated acute respiratory distress syndrome: a case series. Am J Med 2010; 123(3):282-285.

My Journey with COPD: Advocacy and Empowerment

by Edna Fiore

Dr. Thomas L. Petty began a concerted effort to promote COPD awareness and advocacy in the mid 1990s. His initial emphasis was on the education of the professional community about the importance of spirometry testing as a routine part of medical examinations and the education of both the general public and professional community about chronic obstructive pulmonary disease. His initial efforts culminated in the first U.S. COPD Coalition National Conference in 2003. I had the privilege of working closely with Dr. Tom beginning in 2004. My journey in the cause for COPD awareness has been exciting and rewarding in innumerable ways.

My introduction to the respiratory world began in 1995 when I retired and moved from sea level in Newport, OR, to join my family in Conifer, CO, at an elevation of 8,500 feet. I had been spending vacations and holidays in Conifer for several years without any noticeable breathing problems, but within a short time I began to notice a little shortness of breath. An advertisement in the *Rocky Mountain News* led me to Colorado Pulmonary Associates (CPA) and Dr. Tom Petty's research assistant, Wayne Silvers. A lifelong history of episodic asthma, a number of bouts with pneumonia, and a family history of respiratory problems combined with my status as a former smoker qualified me for a series of studies at CPA.

Colorado proved to be the right place for someone with COPD. Historically, Colorado has been a national and world leader for the diagnosis and treatment of lung disease. From 1840 to 1920 it was considered the number one destination for people suffering from asthma and tuberculosis; as much as 60% of Colorado's early settlers migrated to the area seeking help for their respiratory ailments. National Jewish Health began serving respiratory patients in 1899 and has the distinction of being named the number one respiratory hospital by *U.S. News & World Report* for 11 consecutive years.

In 1998 I moved to Lakewood, a Denver suburb, in order to be closer to the site of the research studies and resources for my own research as historian for the Town of Morrison and the Lariat Loop Heritage Alliance. I registered for research studies at National Jewish in 1999 where I was first introduced to tiotropium, a medication that I considered a "wonder drug." My stamina and endurance were easily doubled by it. My FEV_1 was hovering around 30% before I entered the study. At the conclusion of another tiotropium study in 2001, my FEV_1 had improved to 45%.

I later participated in the pulmonary rehabilitation program at Exempla Lutheran in Wheat Ridge, CO, in 2001 where I was introduced by Brenda Crowe, CRT, to the world of collaborative self-management and the importance of a pulse oximeter.

My personal odyssey with oxygen began in earnest in 2004 when I was prescribed oxygen for sleep and exertion. In 2006 two exacerbations and a lung abscess drastically reduced my lung capacity; and although I still maintained an FEV_1 of 40%, my daytime oxygen saturation had slowly declined to just about 90%, so I was prescribed two liters of oxygen 24/7.

The path to COPD awareness and advocacy

I first discovered the larger COPD community in 2002 when I was searching the Internet for a source in Europe where I could obtain Spiriva. I clicked on www.emphysema.net and discovered the Emphysema Foundation For Our Right To Survive (EFFORTS). EFFORTS opened a whole new world of information and support and started me on the path

about the author...

Edna Fiore is a COPD patient and advocate, living in Littleton, CO.

to COPD awareness and advocacy. I learned that EFFORTS held rallies in Washington, DC, in 2000, 2001, and 2002 that brought COPD awareness to both legislative and public attention.

EFFORTS afforded me a "crash course" in COPD awareness, and within a very short time I was appointed EFFORTS state leader for Colorado. My first endeavor, with the help of Cindy Liverance, vice-president of the American Lung Association of Colorado, was an EFFORTS "Gathering" featuring a program about COPD research and general information at Lutheran Hospital in June of 2003. The first U.S. COPD Coalition National Conference, already in the planning stages and set to be held in Arlington, VA, in conjunction with the second World COPD Day in November of 2003, was the next EFFORTS endeavor. I immediately made plans to attend.

The encouragement and enthusiasm generated by this conference resulted in the first Colorado COPD Conference in 2005, which was planned by the Colorado COPD Network along with the National Emphysema/COPD Association. The theme was "COPD: Living the Colorado High Life." This conference has since become an annual event and in 2009 was officially designated the "Thomas L. Petty MD Moving Mountains Lung Health Conference."

Another result of the U.S. COPD Coalition Conference (which includes the AARC) along with the EFFORTS DC rallies and support by the ATS, American College of Chest Physicians, and the American Lung Association, was the formation of the Congressional COPD Caucus in 2004 by Sen. Mike Crapo (ID). Reps. Cliff Stearns (FL) and John Lewis (GA), and Sen. Blanche Lincoln (AR) joined Sen. Crapo as caucus co-chairs.

Edna Fiore (seated) participated in the 2010 AARC PACT Lobby Days in Washington, DC. Standing (from left) are Allen Wentworth, Leigh Otto, and Sen. Michael Bennet (CO).

The Congressional COPD Caucus gave the COPD community a public platform in Congress to bring attention to critical issues that have been identified by the U.S. COPD Coalition and the patient and professional COPD communities. The first issue addressed by the caucus was the difficulty of flying with supplementary oxygen. Their efforts, along with other patient groups including National Home Oxygen Patients Association, National Emphysema COPD Association, and COPD-ALERT, resulted in the Federal Aviation Administration ruling on Aug. 11, 2005, permitting the use of approved portable oxygen concentrators (POCs) on the airlines and the Department of Transportation ruling that obligated airlines to permit the use of FAA-certified POCs in 2009.

The year 2006 was a "red letter" year for COPD advocacy and awareness as Bartolome R. Celli, MD, presented his paper, "Chronic Obstructive Pulmonary Disease: From Unjustified Nihilism to Evidence-based Optimism," at the May American Thoracic Society (ATS) Conference. This landmark treatise worked wonders in removing the "blame the victim" smoking stigma and placing COPD, the fourth leading cause of death, on the same footing as other major health issues.

Another milestone in 2006 was the creation of the Colorado COPD Coalition, which brought together a diverse group of stakeholders from all over the state, including health professionals, patients, research scientists, industry representatives, state officials, and caregivers. The coalition held a COPD Summit in May, and under the guidance of Keith Breese of the American Lung Association prepared and began implementation of the Colorado State COPD Plan in 2006/2007.

The "Colorado COPD Surveillance Report" was developed and disseminated in 2007. Keith represented Colorado at the first State COPD Coalition and presented the Colorado State COPD Plan at the U.S. COPD Coalition meeting during the 2007 CHEST Conference. This plan has subsequently served as the prototype for the formation of many other state COPD coalitions.

Colorado Society for Respiratory Care (CSRC) inaugurated the first patient chapter and speakers bureau in 2007, bringing representatives from patient support groups and professionals together for educational and awareness activities.

The ATS and the Forum of International Respiratory Societies' "2010: The Year of the Lung" public awareness campaign officially launched on Dec. 5, 2009, at the 40th Union World Conference on Lung Health in Cancun, Mexico. On Jan. 15, 2010, the American Lung Association of Colorado, the University of Colorado, and Colorado COPD

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Connection presented the first "2010: The Year of the Lung" event with a "Breathing Matters: Living Well with Chronic Lung Disease" forum at the Native American Health Center on the Anschutz campus of the University of Colorado.

The capstone of my adventures in COPD advocacy occurred when I had the privilege of serving along with Allen Wentworth, RRT, and Leigh Otto, MEd, RRT, as a member of the CSRC Political Advocacy Contact Team at AARC's DC Lobby Days in 2009 and 2010. This was really an eye-opening opportunity to experience firsthand the influence that individuals and organizations really do have on the legislative actions of Congress.

Impacting respiratory issues at home and nationally

My involvement in COPD awareness and advocacy provides a way for me to make a positive impact on my own respiratory issues and on the lung health of many people who come away from the doctor's office with a diagnosis of COPD. Thanks to Dr. Tom's legacy of long-term oxygen therapy and a comprehensive collaborative care program, I have been able to maintain an FEV_1 between 35–40%. I consider myself singularly blessed with the privilege of representing and serving all of the patients, caregivers, and health care providers who deal with the day-to-day problems of living with a chronic lung disease.

What's next?

A primary focus of my current activities is passage of H.R. 941, the Medicare Respiratory Therapy Initiative, and the introduction of a companion bill in the Senate. Also, as secretary of the Colorado COPD Connection, an organization of patients, RTs, and industry representatives, I edit a monthly eNewsletter and participate in the planning for the 8th annual Thomas L. Petty MD Moving Mountains Lung Health Conference.

A strong alliance of RTs and patient activists is vital for effective COPD education in both the public and professional sectors. The Colorado COPD Connection is recruiting respiratory therapists throughout Colorado to bring COPD information and education to all areas of the state, particularly the rural areas. ■

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Credentials Versus Licensure

by Anthony L. DeWitt, JD, RRT, FAARC

In a recent opinion by the Administrative Hearing Commission (or AHC, the legal entity in Missouri that holds hearings on professional discipline matters), the commission noted that the complaint indicated the therapist "was a certified respiratory technician" (apparently unaware of the proper designation of the NBRC-issued credential as certified respiratory therapist). The AHC was confused by that description when the license issued was that of a respiratory care practitioner. Like doubtless hundreds of tribunals around the country, the commissioners did not understand the difference between the credentials issued by the National Board for Respiratory Care (NBRC) and the license issued by the State Board of Respiratory Care. Licensure and certification are two different things, but does the distinction matter anymore?

What is now the NBRC was incorporated in 1960 to provide voluntary credentialing for a young profession. The NBRC has overseen the certification and registry of thousands of therapists across the country since its inception. The entry-level certification test is used in 49 states as the gateway to a respiratory care practitioner license. The registry exam is the standard of excellence in the profession, often influencing pay grades at most hospitals. However, in most states and at most hospitals there is no specific requirement to maintain a credential with the NBRC.

Prior to July 1, 2002, NBRC credentials were not subject to expiration. A voluntary recertification program existed whereby an individual could demonstrate his/her continuing competency. To maintain its accreditation with the National Commission for Certifying Agencies (NCCA) however, the NBRC was required to implement a mandatory Continuing Competency Program (CCP). The CCP became effective with all credentials issued on or after July 1, 2002; these credentials are valid for a period of five years and require participation in the mandatory CCP. The CCP program is valuable because it helps a therapist document continued state-of-the-art knowledge. Even therapists immune from the requirement to participate should probably consider doing so.

Legal issues

Now with 49 states having licensure, the issue of whether to maintain credentials with the NBRC may pose a legal question: If a therapist failed to maintain his NBRC credentials but kept his license current, would that therapist be inviting a lawsuit in the event of a patient death or injury? Anyone can sue anyone else for anything; so the real question is whether failure to maintain an NBRC credential would have any legal weight in a lawsuit. The answer may surprise you.

Suppose a respiratory therapist named Sally Richards lets her RRT credential lapse after five years but retains licensure in the state of Delaware for seven years. She decides to move to Missouri. The NBRC will still validate that she passed the appropriate examinations but not that her credential is current because she has failed to participate in the NBRC CCP program (assuming her credentials were earned on or after July 1, 2002). While her license would probably still issue through the state, anyone thinking about getting licensed in other states should probably consider remaining current with the NBRC. Not all states grant licensure by endorsement, and the individual requirements for licensure vary from state to state. For that reason, failure to maintain credentials with the NBRC might make it more difficult for a therapist who wanted to move to a different state to get a license issued in that state.

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.

Suppose Sally is alleged to have been negligent. Her license is current and valid, but she does not have current NBRC credentials. Can this be admitted at trial? Assuming that the trial lawyer knew about the NBRC and understood the difference, it could be asserted at trial:

"And Ms. Richards, it's true isn't it that you haven't even bothered to stay current with the National Board for Respiratory Care, isn't that true?"

Whether that would have any effect on a jury in view of current state licensure would be questionable. Jurors are often told that a physician took three or four tries before getting board certified in pediatrics and do not consider that significant in reaching their verdict. However, being able to say that in addition to state licensure a therapist enjoys national certification or registry and keeps current in the profession through the NBRC's CCP might cause a jury to look more favorably on a therapist.

The failure to maintain NBRC credentials could be asserted against a therapist in a professional discipline case.

Similarly, assuming that the state cared enough to investigate, the failure to maintain NBRC credentials could be asserted against a therapist in a professional discipline case, although the impact of such testimony would be minimal given that it usually applies only to the initial issuance of the credential — not to the maintenance of it in most states. Again, however, it's worth noting that maintaining the national credential could place a therapist in a favorable light if called before the state board.

One situation, however, where the failure to maintain NBRC credentials could potentially hurt a therapist might be if a therapist were called as an expert witness and is expected to be "the therapist who knows it all." Failure to retain NBRC credentials could be played by a trial lawyer as unprofessional. A judge might not let a witness who fails to retain his credentials with the NBRC testify as an expert in a situation when the expert lives and works in another state and holds no license in the state where the action is pending. This is especially true in federal cases where judges are much more careful gatekeepers on scientific and technical evidence. As a general rule, anyone wishing to do expert witness work should keep their credentials with the NBRC in good standing. It is worth noting that anyone who engages in work in professional societies or credentialing bodies also tends to benefit in that juries see them as more credible experts.

Professionalism

The most important rationale for remaining current with the NBRC rests principally and fundamentally on the notion of professionalism. Even though there may be minimal penalties for not retaining credentials, there are numerous benefits. The NBRC verifies your credentials to employers and state agencies. The NBRC provides services to its current registrants. The NBRC solicits input from professionals and helps set standards for the profession. It counts on yearly renewals and retention of credentials as a means of funding its development of new tests, new credentials, and scientific and technical study. It is an organization that every therapist in active practice should support. ■

Keep Up with Research by Participating in a Journal Club

by Carl R. Hinkson, BSRC, RRT

Keeping up with the rapid pace of newly published peer-reviewed research can be daunting, especially for members of the respiratory care profession, which is so technology driven and embraces evidence-based medicine. One way to keep up is to regularly participate in a journal club. The meetings are gatherings of clinicians who meet to discuss recent publications of peer-reviewed literature. They are similar to book clubs in that articles are pre-selected by the journal club coordinator, the articles are summarized for the attendees, and the merits of the research as well as the impact on clinical practice are discussed.

Part of the AARC's project, 2015 and Beyond, looked at the competencies that will be required for respiratory care practitioners in the future.[1] Part of the competencies identified under Evidence-based Medicine and Respiratory Care Protocols included the ability to review and critique published research, explain the meaning of general statistical tests, and apply evidence-based medicine to clinical practice. Previous studies on the use of journal clubs in clinical education settings have demonstrated their value in teaching those skills. The purpose of this article is to provide recommendations for setting up a departmental journal club and making it successful.

Getting started

The first step in implementing a journal club is to clearly identify a leader or coordinator. All successful journal clubs have such a person. This coordinator should ensure that selected articles are appropriate and that the presenters of the articles are adequately prepared by distributing the articles beforehand. The journal club coordinator should also help facilitate the group discussions after the articles have been presented.

After selecting the coordinator, the next step is to identify when and where the meetings will occur. Ideally, journal club meetings should be held at a consistent place and time. Most respiratory care departments operate 24/7, and that makes picking a time that will accommodate everyone difficult. Remaining consistent with the frequency of the journal club assists interested persons in adjusting their own schedules to accommodate attending the sessions. If possible, set aside a time that will allow as many people as possible to attend, including different shifts. You will also need to decide if the journal club should be held at your facility or off campus. Holding your journal club off campus will make it less formal and less intimidating to both recent graduates and seasoned staff members. On the other hand, holding the meeting at your facility gives staff who might not spend their off hours attending a function like a journal club the chance to participate.

Offering incentives for attendance has been shown to increase participation. Offering food during the journal club sessions is a powerful motivator for people attending, either on or off campus. Other incentives (e.g., continuing education credits or career ladder opportunities) may entice otherwise reluctant staff. A powerful incentive is the ability to earn AARC CRCE® credits for a journal club session. For each meeting, an educational overview, presenter information, evaluation form, and post-test should be completed. For the sake of cost-savings and convenience, multiple journal club meetings can be bundled into one application.

about the author...

Carl R. Hinkson, BSRC, RRT, is a clinical specialist at Harborview Medical Center and lives in Auburn, WA.

Conducting the meeting

Attendees are expected to have read the articles before coming to the meeting, but the presenter should summarize them before the discussion begins. It refreshes everyone before the discussion gets going. Present the articles using a consistent format. Elements of a presentation outline include:

- Title, author, facility
- Research question
- Classify the research design
- Material/method (synopsis)
- Results (review statistical methods)
- Summary (include weaknesses of article)
- Application (change in practice recommendations)
- Further research

After the presentation, the journal club coordinator can then facilitate any discussion of the article, which should include an analysis of the validity of the research and potential application of the content into clinical practice. The coordinator should ensure that the discussion is robust and that all participants have the opportunity to express their views.

The real key to successfully reviewing and critiquing a peer-reviewed article is to answer these questions:

- What were the authors attempting to research and why?
- Did they use the most appropriate methodology and correct statistical methods?
- Do you agree with their findings, and does this research have any impact on your current practice?

Respiratory Care published a series of papers from the symposium "How to Read the Respiratory Care Literature" in the October 2009 issue of Respiratory Care, including an article on reviewing research papers by Charles G. Durbin, MD, FAARC.[2]

Take the article and run with it

There is every indication that large volumes of peer-reviewed research will continue to be published in the future, and this challenges every clinician to keep up their clinical knowledge. Maybe this article will give you enough information to implement a journal club of your own to reap the benefits of analyzing and sharing knowledge among your fellow respiratory therapists. Sponsoring a departmental journal club can be an effective way to engage the staff. ■

REFERENCES

1. Barnes TA, Gale DD, Kacmarek RM, Kageler WV. Competencies needed by graduate respiratory therapists in 2015 and beyond. Respir Care 2010; 55(5):601-616.
2. Durbin CG, Jr. How to read a scientific research paper. Respir Care 2009; 54(10):1366-1371.

Participants in a recent journal club meeting included (from left) Suzanne Koppa, RRT, CPFT (from Multicare Medical Center in Tacoma), and RT student Andrea McKillip and Martina Hoyt, RRT, from Harborview Medical Center.

Lest We Forget: Safety First

by Sam P. Giordano, MBA, RRT, FAARC

As we continue to learn about various proposals to squeeze more costs out of our medical system, we are entering a phase that has resulted in some hospitals already cutting staff in order to better position their organizations (from a business sense) so they can continue to operate after the Affordable Care Act has been fully implemented.

Many of us can recall cost-containment and downsizing efforts undertaken by hospitals in previous years. Perhaps the most profound were initiatives that involved decentralizing selected ancillary service departments. In most instances, the hospitals that downsized in the mid 1990s, if they survived, have had to "back fill" their staffing levels in order to handle the clinical and service demands of their patients and our system. These previous challenges have prepared us well to defend against unwarranted staff reductions via documentation of value.

Indeed, the catalyst that moved protocols forward was partly due to a desire of our profession to provide high-quality respiratory care while acting as utilization gatekeepers — thus minimizing misallocation of services. Targeting misallocation through protocols generates positive clinical outcomes for our patients and positive economic outcomes for our employers. If you provide services by protocol, now is the time to leverage the scientific evidence describing the value of the services you provide in terms that have both clinical and economic relevance. Some examples might be your impact on length of stay, critical care days, readmissions, and generation of additional revenue streams (e.g., pulmonary rehab and outpatient clinics).

about the author...

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

We will always want to focus on clinical excellence first because that is what our patients deserve. While this used to provide ample justification for current staffing levels, it is now imperative that we drive unnecessary costs of care out of the system. This is being done by many of our colleagues by implementing protocols and documenting compliance with guidelines. The compliance documentation component is an extraordinarily important aspect of the new Affordable Care Act. Reimbursement rates will be influenced by those measures for the first time.

Safety comes first

I want to put another issue on your radar screen that we haven't talked about enough — the issue of safety. We all accept that our first obligation as caregivers is to "Do no harm." We've also developed some excellent tools that help us address root causes of safety issues, but they (like all tools) are only as good as the person who uses them. Thus, they are far from foolproof. Some of you may recall a report issued by the Institute of Medicine in 1999 entitled "To Err Is Human." This report estimated that at least 98,000 deaths per year occur in our medical system due to safety issues.

Recently, the U.S. Department of Health and Human Services' Office of Inspector General released another report entitled "Adverse Events in Hospitals: National Incidence Among Medicare Beneficiaries."[1] This report estimates that 13.5% of hospitalized Medicare beneficiaries experienced adverse effects during their hospital stays. This equates to 134,000 Medicare beneficiaries experiencing at least one adverse event per hospital admission.

Moreover, the report also indicates that approximately 44% of all adverse and temporary harm events were preventable, so there is plenty of room for improvement. According to the report, the cost to Medicare and, therefore, to our system was estimated to be $324 million just for October of 2008. The cost related to adverse events in fiscal year 2009 equated to approximately $4.4 billion.[1] Folks! This is some serious money. You have done much to minimize errors and health care associated infections while ensuring that patients safely receive the right respiratory clinical intervention at the right time.

What would happen to the incidence of adverse events if you and your colleagues were eliminated from the hospital workforce? Mistakes happen all the time, but most are recognized early and corrected by that workforce. Next time you discover a mistake, ask yourself who would have caught it if you were not there. All professionals have the additional mission of being a guardian of our patients' safety.

We all know things get more hectic when we are short-staffed, and sometimes this is unavoidable, such as during a flu epidemic or other health care event that necessitates an increase in hospital admissions. We must never lose sight of our responsibility to avoid adverse events. We work with devices, many of which are complex and require an in-depth assessment of the patient's ability to benefit. We also assess risks associated with clinical interventions. Now, more than ever, we need to ensure that we are involved with every safety initiative undertaken by our hospitals. This is the best way to unlock your value as a safety advocate.

Respiratory patients tend to be the most medically frail, so there is not a lot of margin for error. Therefore, we should undertake initiatives to constrain costs by decreasing adverse events. Document your role in avoiding hospital-acquired infections, equipment malfunctions, and other adverse events that result in extended hospital stays, harm to the patient, and unnecessarily high expenditures of our precious health care dollars. Safety is indeed the third pillar on which we base our value to our patients, physicians, and our employers. If you are not tracking safety related issues and adverse events, start immediately.

Downsizing is never easy, but there is one conclusion that even the most aggressive downsizers will agree upon to avoid a staff cut. That conclusion is really a simple statement: "We cannot afford to do without staff, because to do so will trigger adverse events and bring about potential harm to patients."

Brainstorm with your colleagues

I urge all of you to review the Inspector General's Report and then discuss it with your colleagues. Entertain "outside the box" ideas that provoke a more robust culture of safety first. If you generate new ideas, then create pilot programs to test them out and track the results. The fact that you are being aggressive and helping to constrain costs while avoiding harm is a win-win scenario for everyone, not the least of which are our patients. Judging by the results of the Inspector General's Report, health care providers must do better in avoiding adverse and harmful events. Let's step up and make sure we do our part. ■

REFERENCE

1. Department of Health and Human Services Office of Inspector General website. Adverse events in hospitals: national incidence among Medicare beneficiaries. Available at http://oig.hhs.gov/oei/reports/oei-06-09-00090.pdf *Accessed April 25, 2011*

Promoting Asthma Action Plan Adherence During Summer Recess

by Bill Pruitt, MBA, RRT, AE-C

Though we have heard the statistics many times, they bear repeating: Asthma is a serious public health problem. Asthma affects the lives of more than 23 million people, with some 7 million cases found in children less than 18 years of age. In 2008, 4.1 million children had an asthma exacerbation. It is the third leading cause of hospitalization for children under 15 years of age. Direct health care cost in 2010 was estimated to be $15.6 billion, and indirect cost was about $5.1 billion.[1] It is encouraging to note that mortality and morbidity rates are appearing to plateau and/or decrease, but this is still a large and costly problem. The most recent clinical practice guidelines for diagnosing and managing asthma from the National Asthma Education and Prevention Program (NAEPP) strive to decrease the burden of this disease. Under the direction of the NAEPP, the "Expert Panel Report: Guidelines for the Diagnosis and Management of Asthma" was released in 2007 and is referred to as the EPR-3 (third release). In these guidelines, the written asthma action plan (WAAP) is given high priority in providing education to patients. This plan should be given to all patients and include information on daily self-management based on symptoms, peak flow measurements, or both. The WAAP should give recommendations for adjusting medications in response to changes in these monitors (symptoms and/or peak flow measurements) and state when to seek medical help. The EPR-3 includes several samples of WAAPs and shows how the WAAP can be individualized to address each particular patient.[2] Summertime can present special circumstances that influence the use of the asthma action plan for children and teens. This article discusses these issues and explores how we can promote adherence to the WAAP.

about the author...

Bill Pruitt, MBA, RRT, AE-C, is a senior instructor and director of clinical education in the department of cardiorespiratory sciences, College of Allied Health Sciences, at the University of South Alabama in Mobile, and a PRN therapist at Springhill Medical Center and Mobile Infirmary Medical Center in Mobile, AL.

Summertime issues

Summer brings many changes for children and teens with asthma. For most, there is a loss of a routine during the summer recess (unless a summer job is involved), which can lead to stepping away from their asthma action plan and from taking asthma medications as directed. On the other hand, there is less exposure to fellow schoolmates and their colds/viruses or allergens/irritants that may be carried into school on their clothes or in the classroom environment. A study from 2001 found that thunderstorm activity had a strong association with asthma epidemics in the spring and summer. In comparing thunderstorm days to control days, 33% of the asthma epidemic days were preceded by thunderstorms, while there was only a link to 3% of the control days. The hypothesis for this association is that the storm increases the concentration of allergic particles being picked up and transported in a shallow band of air at ground level, along with an influx of cold air.[3]

Despite these potential causes for decreased asthma control, summer often brings a reduction in symptoms and fewer exacerbations.[4,5] This improvement in symptoms has been reflected in a decrease in filling prescriptions for both reliever/rescue and controller medications.[6] As one study mentioned, clinical practice may encourage a "summer holiday" from controller medications.[4] These changes in practice reflect a clear move away from following the WAAP. The change in action is one that says, "I feel better... or my asthma is

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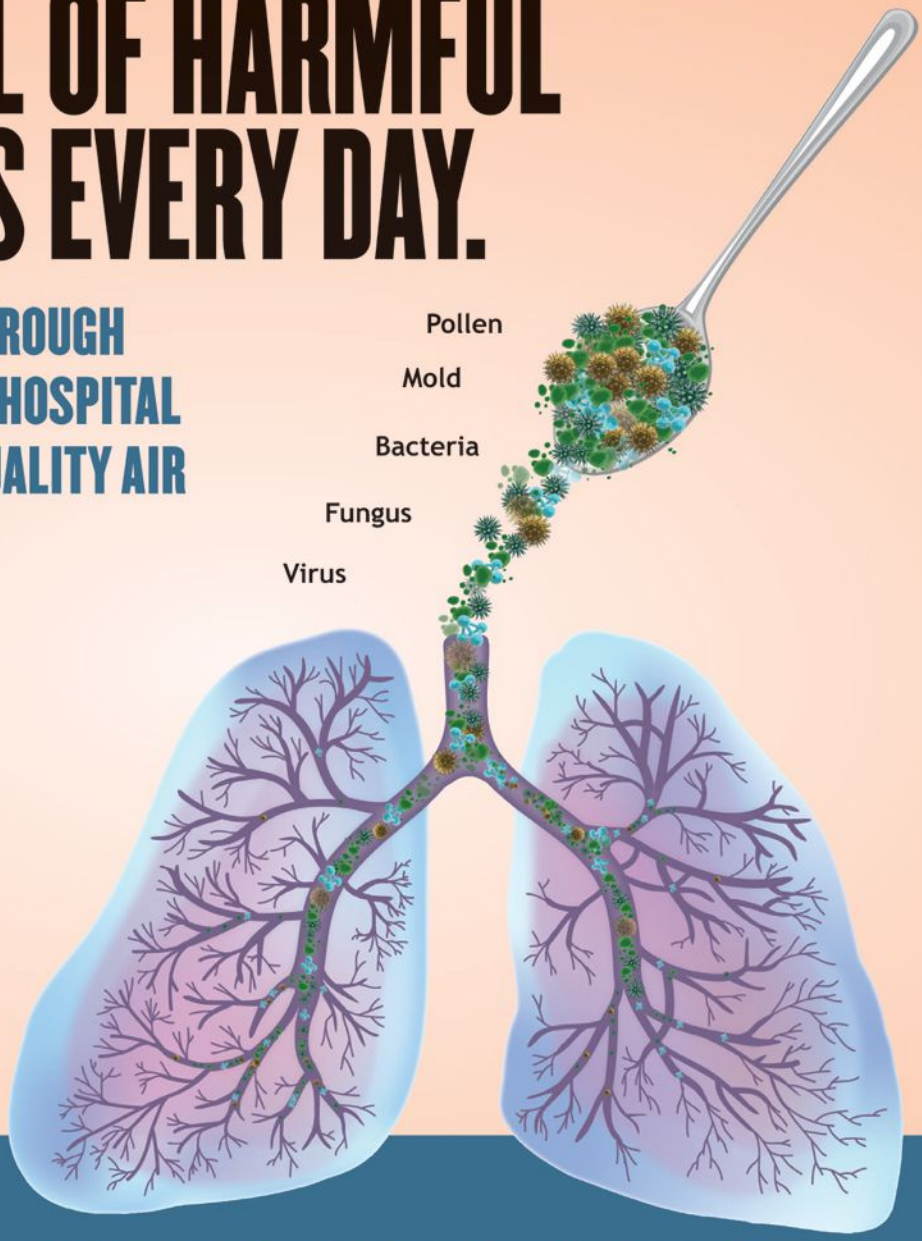

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not too bad… so I'm not going to take my controller medication today…" and so it goes for days, or weeks, or even months. However, going to summer asthma camp has shown a positive influence on asthma health. A study published in 2008 showed that camps for kids with asthma impacted the child's health by increasing knowledge of the disease, increasing use of peak flow monitoring, decreasing absenteeism from school, decreasing anxiety, and decreasing visits to outpatient urgent care.[7] Summer may look like a favorable time for asthmatics, but problems with asthma surge upward as children and teens start back to school and their environment changes.

The September asthma epidemic

Many studies have shown that the return to school has been associated with increases in asthma exacerbation — referred to as the September asthma epidemic. Increased visits to the emergency department, hospitalizations, and unscheduled physician office visits occur just after the return to school. One study from Canada used mathematical modeling to examine the timing and magnitude of the peak of asthma hospitalizations in September and found the zenith to occur 17.7 days after Labor Day for school-age children. Pre-school children showed a peak 1.7 days later, and adults were 6.3 days later. The researchers suggested that "the school-age children are primarily affected and subsequently transmit the agents causing asthma exacerbations to both older and younger family members." Children around six to seven years old were found to be affected earliest and had the most serious problems.[8]

Rhinovirus appears to be the infectious cause for the September epidemic; but also the high levels of allergens that appear in the late summer, the cumulative effect of added exposure to different or "new" triggers in the school environment, and the stress caused by the return to school are thought to add to the increase in asthma symptoms.[8,9] Returning to school is associated with an increase in prescriptions being filled for reliever/rescue and controller medications. This implies that the asthma action plan and the established strategies for controlling asthma have been "set aside" during the three summer months; or these changes may be the result of a spontaneous step down in therapy, but the WAAP is restarted once school is back in session. If the summertime change in therapy is a spontaneous step down, it does not follow the EPR-3 guidelines which say that if a change in therapy is anticipated, a three-month interval of well-controlled asthma should precede the step down.[2] In a study that investigated the seasonal patterns of asthma medication prescriptions, the authors theorized that the concurrent filling of both the reliever/rescue and controller medications just after the start of school shows a lack of understanding by the patient, the family, or both. This lack of understanding may be tied to the idea that asthma exacerbations cannot be prevented but rather that exacerbations require treatment. This study also discussed the idea that the seasonal spike in asthma symptoms and exacerbations may be mitigated by the proper, continued use of controller medications in the summer months.[6]

What can be done?

The written asthma action plan is important, and spontaneous changes to the plan during the summer may predispose the child to failure of asthma control as the new school year begins in the fall. Several suggestions may help reduce this undesirable change in asthma control strategy.

- Stress the importance of adhering to correct and uninterrupted use of controller medications for those with persistent asthma.

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- Schedule at least two clinic follow-up visits each year for persistent asthma. Timing at least one of these visits to occur in the summer (late July or early August) may help bring the patient and family back to the established course of self-care described in the WAAP and reduce the September epidemic.[6]

- Increase the use of reminders to the child with asthma to take their medication. These may be accomplished with written notes, calendar reminders, or an electronic reminder (e.g., watch alarm, pager, or cell phone).[10]

- Enhance accessibility to the medications by keeping them in a backpack or purse, and increase motivation to follow the WAAP. This may be accomplished by using rewards for adherence. A gift certificate to a favorite clothing store or video game shop may bring great success.[10]

- Encourage them to attend summer asthma camp as it tends to increase self-monitoring and reduce school absences and outpatient urgent care visits.[7]

- Increase education of patients and families regarding the usefulness of the WAAP, the problem of the September epidemic, and the strategy of prevention rather than (or in preference to) treatment. The observed increased use of reliever medication during the week or sympoms now occurring during recess/PE activity can be signs of increased inflammation. Catching these early signs while realizing the gradual loss of asthma control will perhaps lead to the connection for WAAP adherence, thus preventing the rhinovirus-induced exacerbation when exposure occurs.

Wave the red flag

As mentioned earlier, the EPR-3 has recommended that asthma patients of every age be given an individualized written asthma action plan. Seasonal variations in actual practice show up in peaks and valleys in prescription fills; and when the fall season arrives, many asthmatics are subject to the September epidemic. These variations in self-management point to the problem of non-adherence with the WAAP. This should wave a red flag for any of us who care for asthma patients. We need to be diligent in educating our patients to use their WAAP and avoid the trap of changing therapy in the short-term. The September epidemic is expensive. It costs money, time, and resources to reverse the exacerbation, reduce the worsening symptoms, and regain control of the asthma — and from what the research is saying, this seasonal issue may be an avoidable problem. ■

We need to be diligent in educating our patients to use their written asthma action plan and avoid the trap of changing therapy in the short-term.

DISCLOSURE

Bill Pruitt also serves as a consultant/speaker for Sunovion Pharmaceuticals Inc. regarding inhaled arformoterol and a consultant/speaker for Pharmaxis Inc regarding inhaled mannitol.

REFERENCES

1. American Lung Association website. Trends in asthma morbidity and mortality. Available at: www.lungusa.org/finding-cures/our-research/trend-reports/asthma-trend-report.pdf *Accessed Feb. 22, 2011*
2. National Heart, Lung, and Blood Institute, National Institutes of Health website. National Asthma Education and Prevention Program: expert panel report 3: guidelines for the diagnosis and management of asthma — full report 2007. Available at: www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf *Accessed Jan. 12, 2011*
3. Marks GB, Colquhoun JR, Girgis ST, et al. Thunderstorm outflows preceding epidemics of asthma during spring and summer. Thorax 2001; 56(6):468-471.
4. Spahn J, Sheth K, Yeh WS, et al. Dispensing of fluticasone propionate/salmeterol combination in the summer and asthma-related outcomes in the fall. J Allergy Clin Immunol 2009; 124(6):1197-1203.
5. Gergen PJ, Mitchell H, Lynn H. Understanding the seasonal pattern of childhood asthma: results from the National Cooperative Inner-City Asthma Study (NCICAS). J Pediatr 2002; 141(5): 631-636.
6. Butz AM, Thompson RE, Tsoukleris MG, et al. Seasonal patterns of controller and rescue medication dispensed in underserved children with asthma. J Asthma 2008; 45(9):800-806.
7. Kaminsky DA, Rice AA, Bissonette M, et al. Exhaled nitric oxide decreases in association with attendance at an asthma summer camp. J Asthma 2008; 45(5):415-419.
8. Sears MR, Johnston NW. Understanding the September asthma epidemic. J Allergy Clin Immunol 2007; 120(3): 526-529.
9. Johnston NW, Mandhane PJ, Dai J, et al. Attenuation of the September epidemic of asthma exacerbations in children: a randomized, controlled trial of montelukast added to usual therapy. Pediatrics 2007; 120(3):e702-e712.
10. Penza-Clyve SM, Mansell C, McQuaid EL. Why don't children take their asthma medications? A qualitative analysis of children's perspectives on adherence. J Asthma 2004; 41(2):189-197.

Crossing the Line: One Transport Team's Struggle To Cross State Lines

by Alex Brendel, MBA, RRT-NPS, and Shannon Ball, RRT-NPS, RPFT, AE-C

Respiratory therapists have become an integral part of many of today's air and ground transport programs. We bring with us an extensive knowledge of the cardiopulmonary system, a unique skill set, and an important question regarding state licensure.

Licensure for respiratory therapy can be a confusing subject, since the variations among the state respiratory therapy licensing laws and rules can be surprisingly significant. Many new graduates to our field, as well as seasoned veterans, don't appreciate the difference between being credentialed and being licensed. For the record: Credentialing is the competency testing process prospective RTs go through with the National Board for Respiratory Care in order to earn the CRT or RRT credential. Licensing is the process individual state boards use to give practitioners the legal right to practice in their respective states. In 49 states, the District of Columbia, and Puerto Rico (only Alaska lacks RT licensure), a license is required in order to practice and credentials are required in order to obtain a license. But what happens when a therapist is called upon to provide care that involves traveling to another state? The answer can be surprising and unnerving.

Many respiratory therapists mistakenly believe they are covered by the license granted from their home state or under EMS guidelines. The truth is, while nurses often practice under compact agreements between states and EMTs are covered under the Office of Emergency Management, RTs must rely on the individual states to grant them permission to provide respiratory care inside their borders. Unfortunately, this issue was not approached by many states during the writing of their respiratory care legislation 10–20 years ago. Undoubtedly this was due in part to the small number of RTs practicing in the transport field. As a result, most states make no exception to, or mention of, transport respiratory personnel in the laws governing licensure. Currently only nine states have provisions in their respiratory care acts accommodating interstate transports: Vermont, South Dakota, Ohio, North Dakota, New Hampshire, Minnesota, Missouri, Massachusetts, and Connecticut.

This issue recently came to light for the RTs on the neonatal-pediatric transport team (NPTT) of Carilion Clinic Children's Hospital in Roanoke, VA. Hopefully, their experiences will familiarize other transport team RTs with the issues and legal ramifications of transporting across state lines.

Virginia, we have a problem

Carilion Clinic Children's Hospital is the referral children's hospital for the entire south-

about the authors...

Transport therapists of the neonatal/pediatrics critical care transport team at Carilion Clinic Children's Hospital in Roanoke, VA, include (from left) Shannon Ball, RRT-NPS, RPFT, AE-C, and Alex Brendel, MBA, RRT-NPS, team leader.

western part of Virginia. The Carilion Clinic NPTT consists of an RN, an RRT, and an EMT/pilot. The team transports neonatal and pediatric patients needing the highest level of care from referring facilities throughout this area — an expanse that covers over 44 counties and 13,000 square miles of Virginia, much of which includes rural sections of the Appalachian Mountains. Due to geographic location and referral patterns, the hospital also services many areas of West Virginia and North Carolina, providing neonatal-pediatric critical care closer to home for many residents in these states who otherwise would have to travel longer distances within their home state for care and services. The team also occasionally transports patients through multiple surrounding states.

The question of licensure came up when one of the respiratory therapists on the NPTT noticed a discussion posting on the AARC Transport Section's website. Heeding the advice of the author, he emailed the Respiratory Care boards in Virginia and the surrounding states, expecting to hear that transport teams were exempt from licensure requirements as long as they were licensed in their home state. With just a few simple keystrokes, "Pandora's Box" had been opened.

The following morning the NPTT faced a few surprises and a new set of challenges. Virginia's RT Licensing Board would not issue a clarification or position statement regarding transport practice outside of the state. But the Board did clearly state that any RT entering Virginia, no matter how temporarily, was required to have a Virginia RT license. Statements from West Virginia and North Carolina RT Licensing Boards were similar: Both of these states required anyone practicing inside their state borders for any length of time to obtain an RT license to do so. The NPTT from Carilion Clinic had seven respiratory therapists on staff at the time. The transport RTs from the hospital could, at any time, be called upon to execute patient transport in any number of states. Licensing all the RTs in multiple states simply would not be a viable solution. The realization of what they had discovered in terms of RT state law requirements came in the immortal words of Commander James A. Lovell, Jr., "Houston, we've had a problem."

That particular problem was further complicated by the fact that in order to reach one of their sister facilities in Virginia, the NPTT routinely took a route that traveled through West Virginia for a few miles before re-entering their home state. The West Virginia RT board confirmed that the RTs would need a West Virginia license to render care while in transit.

The team decided that the only way out of this particular hole was to start digging. Digging, to them, meant hours of research into what other transport teams up and down the East Coast were doing. They were very surprised to learn that most of the other teams were also completely unaware of the problem. Most thought EMS regulations covered the crossing. A few of the teams actually knew they were in violation of state law but chose to simply ignore the problem. This was an issue that had never been approached in their regions.

Looking for a temporary fix, the Carilion Clinic NPTT reached out to the states they visited most: West Virginia and North Carolina. Both states have now issued position statements exempting respiratory therapists on transport from additional licensure requirements for their states, as long as they maintain licensure in their home states.

In return, the Carilion Clinic NPTT worked to secure reciprocity in Virginia. To do this would literally require the state legislature to enact a new law. Like many states, Virginia does not have a standalone Board of Respiratory Care; respiratory therapists instead are regulated by the Virginia Board of Medicine, which receives advice from its Respiratory Care Advisory Board. Any substantial changes to the RT scope of practice would require change in the law. In short, the NPTT was going to Richmond to do just that. By enlisting the help of their administrators, their governmental and external affairs departments, the Virginia Board of Medicine, the Virginia Society for Respiratory Care, and their local legislators, the NPTT was able to form a coalition that has produced two identical bills: HB2253 (introduced in the House) and SB828 (introduced in the Senate) that would allow out-of-state teams to cross into Virginia for the purpose of transport. The bills were introduced late last year and have now unanimously passed both the Virginia House of Representatives and the Senate. They now go to the governor to be signed into law. If approved, they will take effect on July 1, 2011.

Other states also have some work to do

While the licensing issue among Virginia, North Carolina, and West Virginia appears to be solved, this still leaves the large issue of other states that do not have specific transport exemptions.

The NPTT contacted the AARC through the chair of the AARC Transport Section, Steven Sittig, RRT-NPS, C-NPT, FAARC, and Cheryl West, MHA, the AARC director of government affairs. Both have been extremely helpful. Sittig submitted a proposal to the leadership of the

AARC requesting that a position statement be issued by the Association that would support and recognize the need for states to move forward with adopting RT transport exemptions. The request recommended that the position statement support RTs being allowed to cross state lines for up to 12 hours while on a medical transport without obtaining an additional state RT license. If approved by the AARC's House of Delegates and Board of Directors, such a position statement from the AARC would provide national support for state respiratory care societies to move forward with inserting a transport exemption in the RT laws or rules. Some states might have an easier time if their state RT licensure boards have more authority to change the rules without going through the legislature (as was the case in West Virginia and North Carolina). However, for some states such as Virginia, inserting an exemption will have to take the more arduous legislative route.

Even with the recent transport exemption changes in Virginia, North Carolina, and West Virginia, there still remain only a dozen states that allow for the transport of patients across state lines by RTs without needing an additional respiratory therapy license. Hopefully, other states will soon follow the lead of these 12. A position statement from the AARC may help to pave the way, but much still needs to be done to ensure that in the future respiratory therapists are legally along for the ride. ■

Unusual Problem: Catamenial Pneumothorax

by Richard L. Sheldon, MD, FAARC, FCCP

The word "catamenial" refers to menstruation (monthly). Catamenial pneumothorax (CPT) is a pneumothorax associated with a woman's menstruation and is not a true "spontaneous" pneumothorax. CPT represents about one case in 100,000 cases of non-trauma or non-iatrogenic pneumothoraces in women, thus a rare occurrence.[1] CPT occurs in the setting of endometriosis — the endometrial tissue having seeded either the pleural surface, the lung parenchyma, and/or the diaphragm. It is the most common manifestation of the "thoracic endometriosis syndrome" (catamenial hemoptysis, hemothorax, and pneumothorax). Catamenial pneumothorax has been reported in females as young as 10 years of age but is most common in women age 30–40. It has been reported in postmenopausal women with endometriosis.[2]

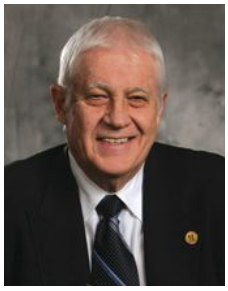
Presenting symptoms

The patient will commonly experience severe chest pain, marked dyspnea, and will frequently report hemoptysis. Coughing will cause sharp chest pain. These symptoms commonly accompany pelvic pain due to the patient's known endometriosis.

Physical findings

The findings on physical examination will depend on how large a pneumothorax has occurred. A small pneumothorax (10% or less) will yield little on physical examination. The typical findings of absent breath sounds and hyperresonance to percussion accompany the larger pneumothorax. Tachypnea, tachycardia, and desaturation as measured by pulse oximetry may occur.

about the author...



Richard L. Sheldon, MD, FAARC, FCCP, is the AARC's American Thoracic Society representative to the Board of Medical Advisors and serves as medical advisor for the AARC Education Section and Diagnostics Section.

Laboratory findings

The diagnosis of CPT can be supported by obtaining CA-125, which is a protein that could be elevated in the presence of ovarian cancers as well as patients with CPT.[3]

Radiographic findings

The typical collapsed lung is seen on chest radiograph with a line contoured to the inner curve of the hemithorax, beyond which no lung parenchymal markings are seen. If a pleural effusion is seen, an air-fluid level will be present. The fluid will be bloody (hemothorax). A tension pneumothorax associated with catamenial pneumothorax has not been reported, but theoretically could occur.

Pathophysiology

There are differing theories to explain the pathophysiology:

1. Diaphragmatic defects can be caused by endometriosis. Endometrial tissue that has implanted on the diaphragm will undergo necrosis due to hormonal activity at the time of menstruation; and the diaphragm will perforate, producing a defect. This defect will then allow endometrial tissue to invade the pleural space and implant itself on the pleural surface.[4]

2. Another theory is that there is a spontaneous rupture of bullae or blebs during hormonal changes. This theory holds that elevated levels of prostaglandin in the serum during menstruation are to blame. Prostaglandin-induced bronchiolar constriction results in alveolar rupture.[5]

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3. The metastatic theory requires endometrial tissue to move into the uterine veins and implant into the lung parenchyma. Those patches of endometrial tissue that are on or near the pleural surface swell, rupture, and bleed during menstruation, leading to air leaks.[5]

Thoracic endometriosis can be classified as either pleural or parenchymal. Pleural endometriosis is the more common form and usually manifests itself as catamenial pneumothorax, hemothorax, and pelvic endometriosis. Pleural endometriosis is believed to be caused by endometrial tissue moving retrograde through the fallopian tubes and reaching the pleura through diaphragmatic fenestrations similar to the proposed transit of air as described in Theory 1 discussed above.

Parenchymal endometriosis usually occurs in women without pelvic disease. This form of endometriosis requires embolism of endometrial tissue from the uterus into uterine veins and then into the lungs by way of the pulmonary arteries (see Theory 3 above).

Treatment

The first occurrence of CPT is usually misdiagnosed and initially treated in the standard manner by placing a small intrapleural catheter into the upper anterior chest wall of the involved hemithorax and aspirating the air. If the pneumothorax recurs, a large bore chest tube can be placed and chemical sclerosis (pleurodesis) is attempted. This process includes injecting into the pleural space an irritant substance (usually talc) that causes adhesions to form between the parietal and visceral pleura. This treatment sequence rarely solves the problem.

Once the correct diagnosis is made, catamenial pneumothorax treatment usually requires surgery by way of video-assisted thoracoscopy (VATS). This technique not only confirms the diagnosis by obtaining samples for pathologic examination and demonstrating the presence of endometriosis but also treats the pneumothorax itself. Partial diaphragmatic resection and/or removal of endometrial implants can be accomplished through the thoroscope. If indicated, pleurodesis can be carried out.

Ovarian rest is mandatory in the postoperative period. Gonadotropin-releasing hormone agonists are used to induce a chemical menopause, thereby temporarily ending the stimulation that causes the endometrial tissue to swell and bleed.

A more aggressive treatment may be required. This treatment involves placing a woven polymesh over the entire diaphragm in order to cover small fenestrations not seen by the surgeon.[6,7] When used with gonadotropin-releasing hormone therapy (mentioned above), this approach to the management of catamenial pneumothorax is proving to be successful where other modes of treatment have failed.

Summary

A pneumothorax occurring (or recurring) in the right hemithorax of a female patient with endometriosis within 72 hours prior to or after menstrual periods should be suspected of being a catamenial pneumothorax. The treatment can be long, difficult, and of limited success. ■

REFERENCES

1. Joseph J, Sahn SA. Thoracic endometriosis syndrome: new observations from an analysis of 110 cases. Am J Med 1996; 100(2):164-170.
2. Pryshchepau M, Gossot D, Magdeleinat P. Unusual presentation of catamenial pneumothorax. Eur J Cardiothorac Surg 2010 May; 37(5):1221.
3. Bagan P, Berna P, Assouad J, et al. Value of cancer antigen 125 for diagnosis of pleural endometriosis in females with recurrent pneumothorax. Eur Respir J 2008; 31(1):140-142.
4. Kirschner PA. Catamenial pneumothorax: a unifying concept. Ann Thorac Surg 2000; 69(5):1644.
5. Van Schil PE, Vercauteren SR, Vermeire PA, et al. Catamenial pneumothorax caused by thoracic endometriosis. Ann Thorac Surg 1996; 62(2):585-586.
6. Leong AC, Coonar AS, Lang-Lazdunski L. Catamenial pneumothorax: surgical repair of the diaphragm and hormone treatment. Ann R Coll Surg Engl 2006; 88(6):547-549.
7. Marshall MB, Ahmed Z, Kucharczuk JC, et al. Catamenial pneumothorax: optimal hormonal and surgical management. Eur J Cardiothorac Surg 2005; 27(4):662-666.

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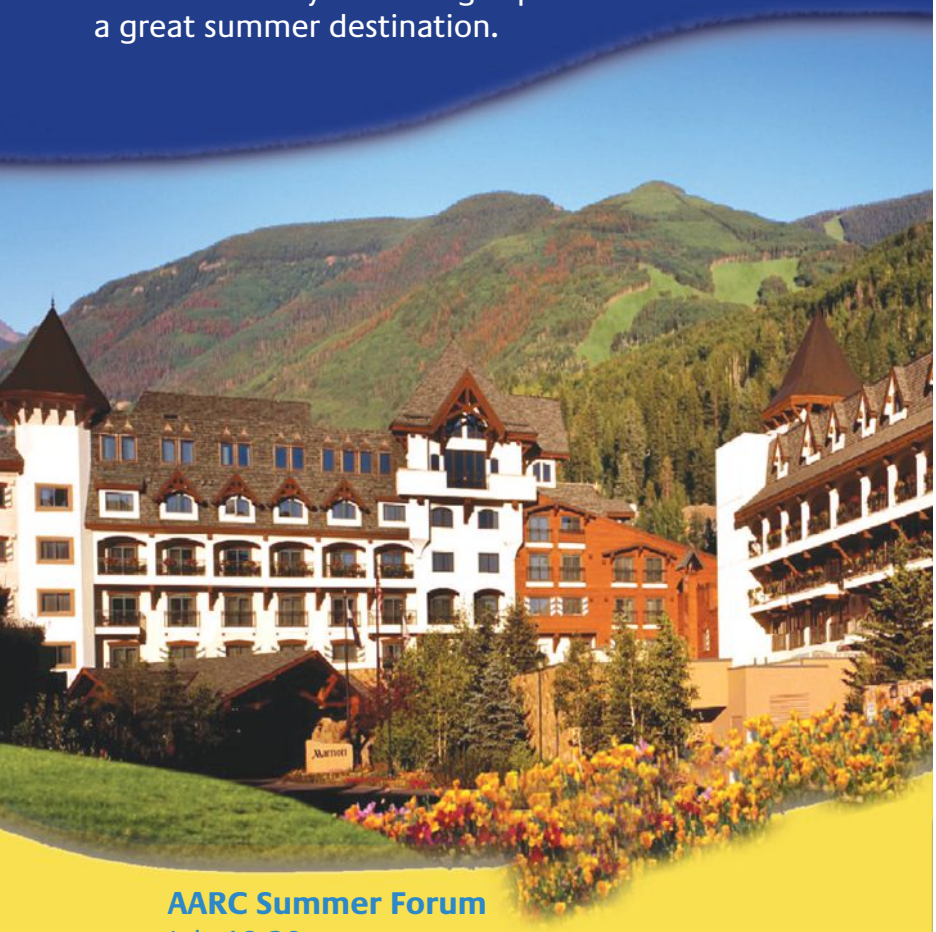

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- EDUCATION POTPOURRI

Join your fellow educators as we cover RT education topics from A to Z. Gain a better understanding of how to incorporate research into your RT program, and how to maximize the impact simulation technology has on learning. Last but not least, find out more about motivational interviewing and how this concept will directly effect the quality of education you provide to your students and patients.

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This symposium will cover a bevy of topics most important to RT managers. Whether you need some helpful hints on how to write, update, or digitize your policy and procedure manual, how to fully engage staff and maximize team commitment, or how to create value-added positions in your RT department when the economics suggest otherwise, there's no other place you need to be than Management Potpourri at the 2011 AARC Summer Forum!

Pre- and Post- Summer Forum Sessions are included in the registration for Summer Forum, but require separate pre-registration if you plan to attend. Beyond the Preceptor and Competency College are also available by pre-registration to non-registrants at a nominal fee. Most sessions are approved for CRCE® contact hours. All programs are presented at the Vail Mountain Marriott Resort and Spa in Vail, CO. Discounts are available for hotel and travel. See the website for details.

* Topics are subject to change.

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AARC 2010 Annual Report of Some of the Activities and Member Services

Membership Milestone Reflects Commitment to the Profession

by Debbie Bunch

2010 in Words and Pictures

In the news

Hundreds of AARC members got actively involved in the DRIVE4COPD campaign.

Respiratory professionals look back on 2010.

A wise person once said, "Membership in your association is the rent you pay to occupy a place in your profession."

As the AARC topped the 50,000-member mark for the first time in its history in the spring of 2010, it was clear that that philosophy had taken hold in the respiratory care profession. Despite continuing economic uncertainty, respiratory therapists from coast to coast and, indeed, around the world, were realizing that the profession is only as strong as the Association that shepherds its growth and development; and they wanted to do their part to make that Association as strong as it could be. The momentum has continued

unchecked throughout the first half of 2011. At press time, AARC membership stood at 52,000 and growing.

But the real story when it comes to 2010 is not the membership milestone — it is the collection of activities and member services that spurred that milestone by drawing new members into the Association. On the following pages you'll see why 2010 was a banner year for the AARC and read about some of your professional Association's ongoing programs.

Many AARC members

make the trek to our International Congress each year, where they learn the latest in the respiratory care profession and get to network with their colleagues from around the world.

Taking a Giant Leap Forward in the Digital Age

The AARC has long been a pioneer in the digital age. Our website **www.AARC.Org** dates back to the 1990s and was one of the first professional association sites to hit the Internet. Our consumer site **www.YourLungHealth.Org** soon followed, providing respiratory patients and their families with trusted information from Association sources. Of course, the "digital age" is an evolving phenomenon. The last several months have seen a significant leap forward in this realm at the AARC as we launched a new "digimag" version of *AARC Times* and redesigned the Respiratory Care website to incorporate a digimag version of the Journal, articles in HTML format with cross linking to references, and a new ePub (electronic ahead of print) feature designed to make papers available to members shortly after their acceptance. The Journal website debuted this past spring.

But the biggest new development came in the form of the AARC's venture into social media. AARConnect (AC) debuted mid-year, providing Association members with a social media online community where just about anything is possible when it comes to networking with colleagues across the nation and around the world.

- All AARC members have a profile page on the site where they can provide some biographical information and upload a photo.

- All of the AARC discussion groups — including those created by members for members — are now also housed there, and each of these groups comes complete with a resource library where documents can be shared and stored for future reference.

- Members can blog on AC, share photos, make contacts, find like-minded members using the "networks" feature, set up RSS feeds, and more.

It's all adding up to a brave new "virtual" world where your 50K+ colleagues in the AARC are never more than a few clicks away.

AARConnect is your direct line to 50K+ members of the AARC.

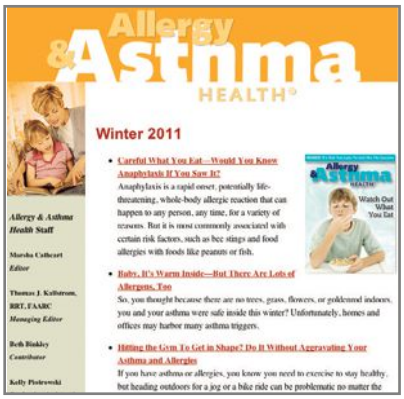
2010 in Words and Pictures

In the news worldwide

AARC representatives

were at the grand opening of the state-of-the-art Grace Anne Dorney Pulmonary & Cardiac Rehabilitation Center in January. Dorney is the wife of ABC newsman Ted Koppel.

Putting Patients First



RTs will tell you there's only one good reason to become a respiratory therapist, and that is to help people with respiratory conditions breathe easier. The AARC lived up to that belief last year on a number of fronts, publishing new patient guides on tobacco dependence treatment and aerosol drug delivery and advocating for respiratory health by supporting tobacco control and other vital legislation. We also helped spread the word about lung health through the International Year of the Lung campaign, providing members with regular updates and resources they could use to get involved in their local areas.

Our biggest contribution, however, came in late July as we became a key

partner in the national DRIVE4COPD campaign. With the lofty goal of screening 1 million people for COPD (an objective that was reached in February of this year), DRIVE4COPD volunteers set out across the nation with stacks of a simple, five-question population screener aimed at assessing a person's risk for developing the condition.

We asked all of you to step up and participate, and the results were overwhelming:

- Seniors learned all about the campaign at the AARC booth at the AARP's Orlando@50 event in early fall.
- State society members in Colorado, North Dakota, New York, and Georgia used the DRIVE4COPD screeners during their World Spirometry Day activities on Oct. 14.
- Members in Georgia, Texas, California, and New York joined forces with the campaign during the Great American Screen Off in November, bringing in even more completed screeners.
- And just about every AARC state society got involved in screening citizens at local community events and health fairs as they pursued top honors in our friendly competition to see which state society could deliver the most screeners in several different categories. Congratulations to West Virginia and Pennsylvania for their award-winning efforts!

Thanks to all of you, DRIVE4COPD went a long way toward ensuring that more people at risk for this chronic lung condition would be diagnosed earlier in the disease process to save thousands from the most devastating effects through lifestyle changes and treatment.

Go online to download a copy of our **Patient's Guide to Aerosol Drug Delivery**

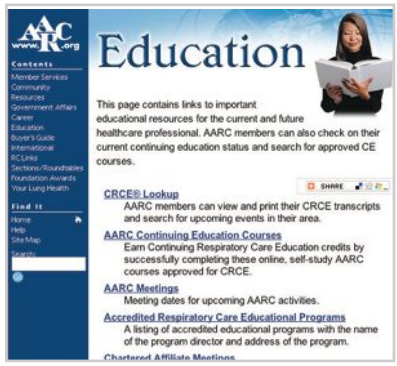
AARC members from across the nation got involved in Haiti relief efforts following the massive earthquake that struck the country early in the year.

Keeping an Eye on Professional Development

Any organization worth its salt is focused on professional development, and the AARC is no different. Last year we achieved that goal by introducing several new programs aimed at helping therapists upgrade their skills. We also continued to plan for our own future and to reach out to the health care community at large with information it needs to ensure quality respiratory care. Our major accomplishments in 2010 tell the story:

■ The third and final 2015 and Beyond Conference took place in July, bringing efforts to define the knowledge, skills, and attributes required for RTs success in the 21st century to fruition. Final recommendations from this historic effort are due out soon.

■ Our online COPD Educator Course joined our Asthma Educator Certification Preparation Course in bringing state-of-the-art disease management training right to your computer screen. Now you can get the skills your organization will need as it deals with health care reform mandates on reducing costly readmissions for chronic conditions.



■ Preventing health care-associated infections, including ventilator-associated pneumonia (VAP), is also on our radar screen. Our traveling VAP Workshop debuted late in the year to ensure more RTs would have access to proven strategies to minimize this deadly complication.

■ Spirometry in the physician's office can help diagnose chronic respiratory disease in its earliest and most treatable stage, but it has always been called into question due to concerns that personnel conducting the test may not have the background and skills necessary to ensure accurate results. In June we launched a new Office Spirometry Certificate program to bring physicians' office workers up to speed on the operation of these devices.

■ At the height of the H1N1 pandemic in 2009, the U.S. Department of Health and Human Services asked the AARC to conduct a survey of its members to determine the number and types of ventilators in the nation's hospitals. That effort culminated in October with publication of the results in *Disaster Medicine and Public Health Preparedness*.

Along with our myriad liaisons to outside groups and organizations — and our webcasts and other continuing education programs — these 2010 activities helped the AARC meet its ongoing mission to promote professional excellence and advance the science and practice of respiratory care.

Our **COPD Educator Course** and **Office Spirometry Certificate** program can both be found on the AARC website.

2010 in Words and Pictures

AARC PACT representatives descended on Capitol Hill in March to educate their members of Congress on legislation important to respiratory care professionals and their patients.

Making Sure Your Voice Is Heard

Passage of the Patient Protection and Affordable Care Act in the spring of 2010 opened the door to a renewed effort to educate our elected officials on the value that RTs add to the health care system and to maintain the important inroads we have made in recent years:

- Along with our partners, we worked throughout much of the year to provide the Centers for Medicare and Medicaid Services (CMS) with critical information aimed at identifying and revising provisions in the new pulmonary rehabilitation benefit that were threatening to compromise the intent of the legislation. The final rule addressed most of our concerns, bringing peace of mind to RTs working in pulmonary rehabilitation programs nationwide and the patients they serve.

- Our Political Advocacy Contact Team made its annual trek to Washington, DC, in March to push for passage of our Medicare Respiratory Therapy Initiative, legislation that would revise the Medicare Part B law to allow qualified respiratory therapists to provide disease management services such as tobacco dependence treatment and medication management and device instruction in the physician's office without the physician being present. A Virtual Lobby Day followed in August to reinforce those messages, and now this vital legislation is pending in Congress as H.R. 941.

- On the state front, we were pleased to see Hawaii's licensure bill signed into law in June. The law was the direct result of years of work on the part of the Hawaii Society for Respiratory Care and brought the number of states with legal credentialing for respiratory care to 49. Only Alaska remains without a licensure law.

- State Medicaid directors heard from the AARC last summer, as we distributed a copy of our position statement on the delivery of RC services in skilled nursing facilities providing ventilator care to these leaders. The copies went out after members of the Tennessee Society for Respiratory Care reported that standards outlined in the statement had been incorporated into their state Medicaid law. Positive responses were subsequently received from the Florida and Pennsylvania Medicaid programs.

Visit our **Capitol Connection** website to learn more about respiratory legislation and how to write your members of Congress.

Thirty-five members

from around the country gathered at NBRC headquarters in Kansas in early spring for an item-writing workshop to develop questions for the upcoming Adult Critical Care exam.

Did You Know?

A lot of the work at the AARC is day-to-day advocacy, with the Association acting on its members' behalf on a plethora of issues. Here are some additional things the AARC has done for you and your patients lately:

- Participated in a U.S. Food and Drug Administration (FDA) conference call on new safety requirements for long-acting beta agonists.
- Supported legislation to prevent Internet and mail order cigarette trafficking to minors. The legislation was signed into law in March.
- Joined other members of the Health Professions Network in annual spring and fall meetings to promote the respiratory therapist as a health care professional.
- Supported legislation to correct language in the Post-9/11 Veterans Educational Assistance Act of 2008 that excludes veterans who are pursuing higher education online or using a distance learning format from receiving a housing stipend.
- Formed new AARC roundtables for members on medical simulation, international medical missions, and geriatrics.
- Assisted the U.S. Department of Health and Human Services (HHS) in getting the word out to members about initiatives currently underway to reduce health care-associated infections in hospitals.
- Activated the AARC Disaster Relief Fund to help members affected by severe flooding in Tennessee.
- Supported quitlines by signing on to a letter to the CMS from the Campaign for Tobacco-Free Kids.
- Joined fellow organizations in providing input to the FDA's Center for Tobacco Products on ways to curtail marketing of tobacco products to youth and minorities.
- Informed everyone about a new Health Resources and Services Administration webpage that provides information on scholarships to respiratory therapists.
- Led a long-standing situation to a positive conclusion when CMS issued final rules permitting practitioners other than a physician to write respiratory care orders.
- Developed a new savings calculator that allows members to add up the value of AARC membership online.

2010 in Words and Pictures

Members from Valencia Community College represented the AARC at the Health Occupations Students of America conference in Orlando, FL, last summer.

■ Educated everyone on new Medicare coverage for smoking-cessation counseling for outpatient and hospitalized Medicare beneficiaries.
■ Requested proposals for the first six courses to be included in the new AARC Leadership Institute, an online learning program being developed that will let members take courses in management, education, and research.
■ Received a thank-you letter from the National Heart, Lung and Blood Institute for the work we did over the past year to raise awareness of COPD.
■ Endorsed new and more graphic tobacco warning labels introduced by HHS and the FDA. ■

FIGURE 1. TOTAL REVENUES IN 2010 (Excluding Investments)

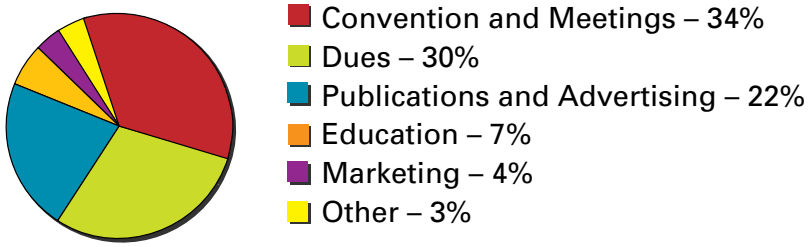
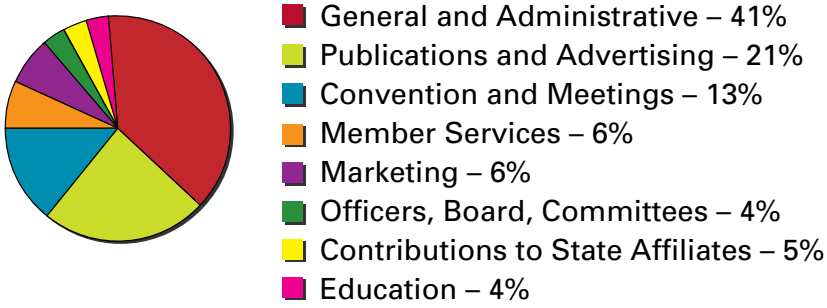


FIGURE 2. TOTAL EXPENSES IN 2010



2010 Annual Financial Report

In February 2011, the AARC engaged the public accounting firm SalmonBeach and Associates to conduct an audit of its financial operations. SalmonBeach issued an unqualified opinion stating that the AARC's financial statements were presented fairly and conform with generally accepted accounting principles. In 2010, AARC's total revenues (excluding investments) were $9,732,000; total expenses were $8,809,000. Figures 1 and 2 highlight the sources of 2010 revenues and expenses. Net assets at the end of 2010 were $18,084,000. ■

AARC members had fun sending in "inspirational" photos of themselves in their official RC Week t-shirts last fall.

A Salute to our 2011 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.

AMERICAN ASSOCIATION FOR RESPIRATORY CARE
AARC
CORPORATE PARTNER

CareFusion

Masimo

COVIDIEN

monaghan

PHILIPS
RESPIRONICS

Dräger

imagination at work

MAQUET
GETINGE GROUP

IKARIA
ADVANCING CRITICAL CARE

Kimberly-Clark

Tri-anim

The Who, Where, and How of Professionalism

A 3-pronged approach to making the most of our respiratory therapy careers

Becoming a true professional takes more than just a college degree and a state license to practice. 2007–2008 AARC President Toni Rodriguez presented a lecture on professionalism at the 2010 AARC International Respiratory Congress in Las Vegas last December. In this article she revisits what makes someone a professional in respiratory care.

by Toni Rodriguez, EdD, RRT

When you graduated from respiratory therapy school and earned your license to practice, you probably assumed that you now had everything you needed to be considered a respiratory therapy professional. But in reality, all an education and license does for any of us is provide a ticket to admission into the respiratory care profession. It doesn't guarantee that we will be good clinicians or that we will achieve everything that is possible for us to achieve. How far we go in our chosen field will depend on the value that people feel we bring to the situations we enter. Making the most of that value is the key to becoming a true professional, and success lies in knowing who we are, where we are going, and how we can get there.

Understanding our scope of influence

It is surprising to me the number of people walking around in this world today who have no idea who they are or what their purpose is. As respiratory therapists, we know we bring a competence in a specialized body of knowledge and skills to the health care team. No one else knows as much as we do about oxygenation, ventilation, and bronchial hygiene. We are the experts in that. So that's one facet defining who we are.

But being a professional respiratory therapist goes well beyond that knowledge and those skills. We also have a responsibility to our patients. We have to be the patient's advocate because if we don't speak up for the patient in the areas of oxygenation, ventilation, and bronchial hygiene, who will? It is our fiduciary responsibility.

We have a responsibility to our organizations and the health care teams we work with, as well. We must look beyond our day-to-day schedule of treatments to consider how the respiratory care we deliver impacts everything from our facility's financial outlook to its accreditation status. We must be cognizant of our colleagues in other disciplines, working with them — not against them — to produce the best outcomes for our patients.

Lastly, we have a responsibility to society as a whole. Whenever a public health issue arises that calls for input from an expert in oxygenation, ventilation, and bronchial hygiene, we should be willing to lend our expertise.

Roadmap to the future

Knowing who we are can help us understand our place in the health care system. But to move forward from that place, we also need to know where we're going. That must begin with a clear understanding of where we've been. Compared to medicine and nursing, respiratory therapy is still a relatively young profession; but at this point in 2011, we've been around for more than 60 years, and we've definitely seen our share of changes. Respiratory therapy that was practiced even 20 years ago is not

Findings look at RTs' future

the respiratory therapy that is practiced today. Change is going to continue, and we are going to have to change with it if we want to maintain our value.

The question is, which direction should we take? Should we just get a crystal ball and hope that we end up on the right path? That's not the road to a bright future. Luckily, the American Association for Respiratory Care has done our crystal ball gazing for us. A few years ago, the AARC put together a 2015 and Beyond Task Force to conduct a series of conferences to determine what the future holds for respiratory therapists. The overriding goal is to prepare all of us so that we will be ready when opportunity comes knocking on the door.

To ensure the validity of the results, the entire process has included stakeholders outside of the respiratory therapy profession with the potential to impact our work environment, including employers, insurers, professional organizations, foundations, educators, state and federal agencies, patients and consumers, credentialing and accrediting agencies, and state and federal governments. We brought them all to the table and asked them, "What do you think you're going to need from a respiratory therapist in the future?"

The first 2015 and Beyond conference focused on the identification of emerging values in our nation's evolving health care delivery system and defined potential roles and responsibilities that the respiratory therapist might meet. The second conference identified 67 specific competencies in seven major areas. The third conference's mission was to formulate a final set of recommendations to guide the profession into the future. Results from the first and second conferences have been published in Respiratory Care. A report on the final 2015 and Beyond conference is to be released this year.

The findings so far provide a provocative look at what our future as respiratory therapists holds:

(continued on page 51)

- Advances in science and technology, as well as the aging of the population, will drive changes in respiratory care.
- New respiratory life-support technologies will be developed and will have to be evaluated at the bedside for cost effectiveness.
- Clinical decisions will become more data driven, and information management will be an important tool in selecting the best therapy for the patient.
- Evidence-based medicine and respiratory care protocols will govern the care we provide.
- Research will be important, because payors are going to demand that only effective care is delivered to their beneficiaries.
- We're going to be members of interdisciplinary care teams that will expect us to articulate our ideas on oxygenation, ventilation, and bronchial hygiene at the bedside.
- We will work more closely with patients and families, not just in the acute care facility, but also across the spectrum of health care as economic realities push more and more patient care out of the hospital and into alternate sites like outpatient clinics, skilled nursing facilities, and the home.
- We will require excellent people skills to work with patients and families and deal with their cultural and economic differences.
- We will play a significant role in the respiratory care components of public health and military and disaster response.
- Disease management skills will be necessary to minimize costly hospital readmissions and ensure patients continue to receive care in the least restrictive and least costly setting.

10 Ways To Keep Your Personal Integrity on Track

Knowing who you are, where you're going, and how to get there can help you become a true respiratory care professional. But all of it is meaningless without personal integrity. Personal integrity forms your moral compass. It guides every decision you make. It tells you when something is right and when it is wrong. People with personal integrity tend to progress up the ranks on the job because they just instinctively know what they should be doing in any given situation, and then they do it. Here are 10 tips you can use to keep your personal integrity on the straight and narrow:

1. Show up for work on time and don't leave early.

2. Avoid "calling off" — that just leaves your fellow RTs holding the bag, and it's a patient safety issue as well if your department can't replace you at the last minute.

3. Don't pass on rumors or gossip or churn up negative feelings among your co-workers.

4. If you have a problem with how something is being handled, go to your supervisor and relate your issue in private and with compassion. Leave judgment out of it.

5. Finish all of your work before leaving for the day. Don't make the therapist on the next shift clean up after you.

6. If you smoke, don't. Quit smoking so you can present yourself to your patients as a professional respiratory therapist representing respiratory health.

7. Be ready, willing, and able to work as part of a team and always treat your fellow team members (inside and outside of respiratory care) with respect. Don't hesitate to provide your expert opinion on oxygenation, ventilation, and bronchial hygiene on rounds or during care-planning sessions.

8. Present a professional demeanor to your patients and their families. That means dressing and grooming appropriately, introducing yourself as a respiratory therapist, and taking the time to answer their questions and address their concerns.

9. Advocate for your patients with other clinicians, even if it means talking to the physician about a treatment or therapy you believe is in error. If you approach that physician with compassion, respect, and the medical evidence, you will be heard.

10. Speak up if and/or when you see incompetence on the part of another clinician — including the physician — that could lead to patient harm. Remember: advocating for your patient is your primary responsibility. ■

About the Author

Toni Rodriguez, EdD, RRT, is director of the respiratory care program at Gateway Community College in Phoenix, AZ. She chairs the AARC's Ad Hoc Committee on the Leadership Institute and serves on the 2015 and Beyond Task Force.

2015 Task Force

(continued from page 49)

The 2015 Task Force members took these findings and developed a consensus statement to guide the rest of the project. They said that upon entry into practice, RTs should possess the identified competencies. Therapists already in the workforce but lacking these competencies should acquire them through post-graduate education and training. Advanced competencies should be acquired through post-graduate education and training and documented by additional testing.

Reimbursement + education

So, now we know where we're going, but how do we get there? There are two major legs on our journey: First, we must gain reimbursement for our services outside of the acute care hospital and, second, we must have access to the post-graduate education we will need in order to add value to our organizations across the spectrum of health care. The AARC has a plan for both:

■ **Medicare Respiratory Therapy Initiative:** This bill, currently pending in the House of Representatives as H.R. 941, would permit certain highly qualified RTs to work under the general supervision of a physician as part of the physician's practice. Right now, the only way RTs can work outside the institutional setting is under the Medicare Part B rule known as "incident to a physician's service." This means the physician has to be in the office suite when the service is being furnished (i.e., direct supervision), and the service is either rendered without charge or considered part of the physician's bill. Our initiative changes that. It would give physicians the flexibility to hire respiratory therapists to provide services when they are out of the office and to charge Medicare separately for those services, although the payment amount they receive will be less than if they performed the service personally. It also places RTs on the same level as other allied health professionals, such as physician assistants and nurse practitioners, who are already identified in the Medicare law under Part B. But the most important aspect of this initiative is to give patients with pulmonary diseases greater access to RTs in settings where their expertise can help improve patient outcomes. This legislation is essential to our ability to follow the tide of health care reform as it moves more and more care outside of the costly acute care hospital and into alternate sites of care.

■ **Leadership Institute:** While the AARC has long provided us with a wealth of continuing education opportunities to augment our respiratory therapy degrees, the Leadership Institute will take the concept to new heights, giving us the chance to take courses in a core curriculum and then specialize in one or more of three tracks: education, management, or research. All of the courses will be available online to make it easy to participate in the program, and the Association also hopes to eventually partner with a degree-granting institution of higher learning in order to offer college credit for the courses. The first six core courses of the Leadership Institute are currently in development.

Becoming a true professional

Our future as respiratory therapists is a bright one, but for us to make the most of it, we must all have the vision to see how we are more than simply bedside clinicians who will go out there today and deliver a finite number of treatments to the patients in our hospitals. We are true professionals, with all that implies — the need to advocate for our patients and the public, to understand where we've been and where we're going, and most importantly, to take advantage of the resources available to us so that we can help our profession reach its full potential. ■

Pulmonary Function Laboratory Quality Aspects

by Susan Blonshine, RRT, RPFT, FAARC

The quality of pulmonary function test results is impacted by multiple variables. Many of these variables can be controlled when specific quality components are addressed within the quality assurance (QA) program. A comprehensive QA program covers the entire testing process. This includes staff aspects such as education and credentialing, equipment quality control, and adherence to international testing guidelines published by the American Thoracic Society (ATS) and European Respiratory Society (ERS).

Both ATS and ERS have published detailed guidelines for spirometry, diffusing capacity, lung volumes, exercise, and interpretation of test results.[1-5] These guidelines also outline educational and competency requirements for staff performing pulmonary function testing. Competence may be demonstrated through formal training programs or professional credentialing. In addition, the ATS published a "Pulmonary Function Laboratory Management and Procedure Manual" update in 2005.[6] These resources are the foundation to determining and evaluating the quality aspects in pulmonary function testing.

Quality gaps

The current state of quality across pulmonary function testing sites in the United States reveals a gap between current recommendations by ATS/ERS pulmonary function testing guidelines and current practice. For example, the use of biological controls has been recommended in ATS guidelines since the late 1970s. A 2007 survey of pulmonary function labs in the United States was presented in an ATS poster session addressing this gap.[7] In this survey, several deficiencies were noted. Pulmonary function laboratories completed biologic control testing only 50% of the time, despite over 30 years of ATS recommendations. The 2005 ATS/ERS guidelines recommend weekly linearity testing on flow-based spirometry systems. The respondents to the survey completed linearity testing only 28% of the time. In a 2009 study, Jensen et al found that among a global clinical trial with 125 laboratories, 25% initially failed DLCO simulator testing. Nearly all of the equipment failures could be resolved after fixing or replacing the device, resulting in a 99% pass rate.[8]

Closing the gaps

The NBRC credentialing examinations for both the Certified Pulmonary Function Technologist (CPFT) and the Registered Pulmonary Function Technologist (RPFT) address many of the aspects required for a successful QA program. The credentialing examinations provide an initial assessment of competence of the individual but can also provide an ongoing assessment as practice changes.

Both the CPFT and RPFT Examination matrices are updated through an NBRC job analysis survey approximately every five years. The most recent survey was conducted in 2007. This survey revealed that 53% of pulmonary function technologists practice in non-teaching hospitals, 98% test adult patients while about half test children, and 75% work in departments organized under respiratory care. The job analysis study supports the content of each form of a credentialing examination for pulmonary function technologists.

The test matrix for the CPFT and RPFT Examinations includes three major areas: instrumentation/equipment, diagnostic procedures, and data management. Within the three major areas are detailed task lists, which address skills in many areas related to the reliability of the test results and quality aspects in pulmonary function testing.

Primary references listed in the resources for the test include the 2005 ATS/ERS guidelines and the 2005 ATS "Pulmonary Function Laboratory Management and Procedure Manual." The complete list can be found on our website at www.nbrc.org. The ATS/ERS guidelines also strongly encourage continuing education. Credentialed technologists can

about the author...

Susan Blonshine, RRT, RPFT, FAARC, is a member of the National Board for Respiratory Care. She has served on the committees for the written registry examination, the written certification examination and the pulmonary function examinations.

voluntarily retake the examinations or a self-assessment examination to assess current skills and knowledge.

Accreditation programs also support the need for pulmonary function technologist education, competence, and professional credentialing. Formal accreditation programs for pulmonary function laboratories are available in Australia; New Zealand; British Columbia, Canada; and Alberta, Canada. Each of these programs has staff competence at the core of the accreditation standards.

The goal for a QA program is to separate the signal from the noise by understanding and controlling the variability in the measurements. A QA program should incorporate training and monitoring, equipment quality control, and test method standardization. Improved quality can likely be achieved through formal training programs, continuing education, and credentialed practitioners.

It is important to understand the educational needs of the pulmonary function testing specialty while incorporating current guidelines and best practices in respiratory care education programs.[9] Completion of the CPFT and RPFT Examinations is one method to assess competence in this specialty area. The self-assessment examinations also provide a method for ongoing assessment and identification of specific areas for continuing education.

Your questions invited

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

REFERENCES

1. Wanger J, Clausen JL, Coates A, et al. Standardisation of the measurement of lung volumes. Eur Respir J 2005; 26(3):511-522.
2. Miller MR, Crapo R, Hankinson J, et al. General considerations for lung function testing. Eur Respir J 2005; 26(1):153-161.
3. Miller MR, Hankinson J, Brusasco V, et al. Standardisation of spirometry. Eur Respir J 2005; 26(2):319-338.
4. Macintyre N, Crapo RO, Viegi G, et al. Standardisation of the single-breath determination of carbon monoxide uptake in the lung. Eur Respir J 2005; 26(4):720-735.
5. Pellegrino R, Viegi G, Brusasco V, et al. Interpretative strategies for lung function tests. Eur Respir J 2005; 26(5):948-968.
6. Pulmonary function laboratory management and procedure manual. New York NY: American Thoracic Society; 2005.
7. Enright PE, Blonshine SB, Harris RL. Suboptimal quality assurance programs in PFT labs (Abstract). Am J Respir Crit Care Med 2007; 175(Abstracts Issue):A606.
8. Jensen R, Leyk M, Crapo R, et al. Quality Control of DL, CO instruments in global clinical trials. Eur Respir J 2009; 33(4):828-834.
9. Blonshine SB, Harris RL, Cangiamilla S. Analysis and comparison of pulmonary function training needs in the United States, Europe, and Latin America: implications for respiratory care education. Respiratory Care Education Annual 2008; 17:13-21.

Industry Watch

HHS updates National Vaccine Plan

The U.S. Department of Health and Human Services has unveiled a new National Vaccine Plan to enhance coordination of all aspects of federal vaccine and immunization activities. The wide-ranging guide is the first update of the National Vaccine Plan since the original was released in 1994. "Vaccines are a critical cornerstone of the public health system," Assistant Secretary for Health Howard K. Koh, MD, MPH, was quoted as saying. "The National Vaccine Plan articulates a vision that will ensure that the nation's prevention strategies protect the public for the next decade and beyond."

The Joint Commission offers new electronic bulletin

A new complimentary electronic bulletin from The Joint Commission offers an in-depth look at the rationale behind new Joint Commission standards, National Patient Safety Goals, and performance measures. It also documents the supporting research and scientific data behind the development of the requirements. "R3 Report — Requirement, Rationale, Reference" will be published on an as-needed basis when new standards, patient safety goals, and performance measures are instituted.

FDA approves new COPD drug from Forest Pharmaceuticals

The FDA has approved Forest Pharmaceuticals' new oral medication for the treatment of severe COPD. Daliresp (roflumilast), which is taken daily, inhibits the enzyme phosphodiesterase type 4 and is indicated for patients with cough and excess mucus linked to bronchitis. The drug is not intended to treat patients with primary emphysema. The safety and effectiveness of Daliresp was demonstrated in two Phase 3 clinical studies that included over 1,500 patients ages 40 and older who had a history of COPD associated with chronic bronchitis and had experienced an exacerbation of the disease during the 12 months prior to beginning treatment.

Kalorama report looks at impact of reform law tax

A new report from Kalorama Information suggests a new tax on device manufacturers may drive the outsourcing of medical devices. According to "Contract Manufacturing in Medical Devices (Materials, Processing, Electronics, Finished Products)," in order to partially subsidize health care financing and reduce the deficit strain, the Patient Protection and Affordable Care Act institutes a 2.3% excise tax on "taxable medical device" sales beginning Jan. 1, 2013. The tax applies to medical devices intended for human use but exempts eyeglasses, contact lenses, and hearing aids, as well as devices that are "generally purchased by the general public for retail or individual use."

"The tax itself won't force a firm to outsource," says Kalorama Information Publisher Bruce Carlson. "But since the law taxes revenues notwithstanding the cost of manufacture — it could add further pressure to bring costs down in order to restore profits." Kalorama Information is a company that does market research in the life sciences.

Sarnova names specialty health care company presidents

Sarnova Inc. has named new presidents for two of its leading specialty health care companies. Steve Lacke will serve as president of Tri-anim Health Services, where he will focus on opportunities within the acute care marketplace. Tim Wedemyer will take over the reigns at EMS for Sarnova, providing direction for two business units, Bound Tree Medical and Emergency Medical Products. Lacke has held the role of executive vice president of marketing at Sarnova since joining the company in August 2009. Wedemyer joined Sarnova in July 2010 and most recently served as executive vice president of operations.

Dey Pharma offers EpiPen app

Dey Pharma L.P. has developed a new app for the iPhone, iPad, and iPod Touch especially for people whose allergies require them to carry an EpiPen. MyEpiPenApp includes a video demonstration showing how to use an EpiPen Auto-Injector. It also provides a slideshow that walks users through the three steps of injection. Users can create multiple allergy profiles and are able to share the user guide and the allergy profiles with other people via email.

Royal Philips Electronics supports sleep initiatives

Royal Philips Electronics recently joined leading Australian sleep researcher Dr. Sarah Blunden and the World Association of Sleep Medicine to launch a new educational module on sleep for children around the world. The program supports teachers in educating children ages 8–12 on the importance of sleep and how it can help improve health.

Breathe Technologies receives FDA clearance for home ventilator

Breathe Technologies Inc. has announced it received FDA clearance for use of its BT-V2S ventilator in the home setting. The one-pound portable device provides ventilation assistance to aid select adult patients who suffer from respiratory insufficiency. "This marks an important milestone not only for Breathe but for the future of COPD disease management and patient quality of life," President and CEO Larry Mastrovich was quoted as saying.

HHS awards contracts to vaccine developers

Health and Human Services has awarded two contracts for the development of next-generation recombinant influenza vaccines. Novavax Inc. will develop new technology to produce vaccines using insect cells to express influenza proteins and create virus-like particles that stimulate a strong immune response in humans. VaxInnate Inc. is developing a recombinant influenza vaccine technology based on combining influenza and bacteria proteins to stimulate a strong immune response to protect against the flu. "The 2009 H1N1 pandemic demonstrated the need for technologies that can provide vaccines more rapidly," says HHS Secretary Kathleen Sebelius. "These next-generation flu vaccines hold the potential to be even more effective and to make the first and last doses of vaccine available sooner than existing flu vaccines."

Helix BioPharma reports U.S. patent

Helix BioPharma Corp. has announced it has received a patent from the U.S. Patent & Trademark Office for the non-small cell lung cancer (NSCLC)-specific antibody component of its L-DOS47 drug candidate. The National Research Council of Canada has granted Helix the right to use this antibody in combination with its DOS47 technology under a worldwide exclusive license agreement that extends to the full term of the applicable patents. L-DOS47 is the company's first therapeutic immunoconjugate drug candidate under development based on its novel DOS47 technology. It is designed to modify the microenvironmental conditions of cancer cells to destroy them. L-DOS47 is intended to offer an innovative approach to the first-line treatment of inoperable, locally advanced, recurrent, or metastatic NSCLC.

Chembio receives small business grant

The NIH has awarded Chembio Diagnostics Inc. a $2.9 million Small Business Innovative Research Phase II grant to continue development of a simple, rapid, accurate, and cost-effective serological test for active TB that can be utilized in resource-limited settings. A prototype test, which was developed in collaboration with the Infectious Disease Research Institute, uses Dual Path Platform technology developed and patented by Chembio, together with selected antigens from a large panel of novel recombinant antigens identified at IDRI. Chembio will continue to collaborate with IDRI as the work moves forward.

Nunez is new chief medical officer at CareFusion

CareFusion Corporation has appointed Carlos M. Nunez, MD, as its chief medical officer. Dr. Nunez is an anesthesiologist, intensivist, hospitalist, and health care technology leader who has devoted much of his business career to the areas of clinical effectiveness, information technology, public policy, and international markets. Most recently, he was chief physician executive at Picis. Prior to that role, he was a practicing clinician and director of education and research in the division of critical care medicine at Carolinas Medical Center Northeast in North Carolina.

Masimo reports good results from new studies

According to Masimo, three new studies presented at the International Symposium of Intensive Care and Emergency Medicine meeting demonstrated the accuracy, reliability, and clinical impact of Masimo noninvasive and continuous measurements, including noninvasive hemoglobin, the Pleth Variability Index, and the Perfusion Index, in ICU patients. The first study found that Masimo SpHb has "the additional advantages of providing continuous measurements noninvasively, which may facilitate hemoglobin monitoring in the ICU." The second study concluded that "PVI can predict fluid responsiveness noninvasively in ICU patients under mechanical ventilation." The third study indicated that PI is a "sensitive indicator of acute hemodynamic responses to LBNP-induced central hypovolemia" and could "detect hypovolemia earlier than [a] 20% decrease in stroke volume."

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

Marketplace

Featuring information on products and equipment from manufacturers

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

RC Currents

IN THE NEWS

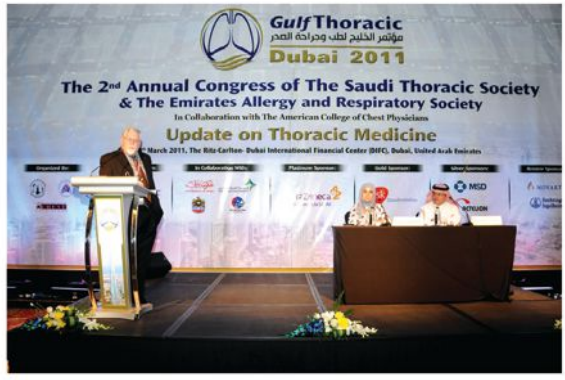
AARC Leaders Present Asthma Prep Course in Dubai

The AARC sent four of its leadership to the 2nd Annual Congress of the Saudi Thoracic Society, the Emirates Allergy and Respiratory Society, in Dubai, United Arab Emirates, March 16–17. Past President Timothy R. Myers, BS, RRT-NPS, joined Respiratory Care Editor in Chief Dean Hess, PhD, RRT, FAARC, and AARC COO Thomas J. Kallstrom, MBA, RRT, FAARC, in presenting the AARC's Asthma Prep Course as a post-graduate offering; and together they delivered several lectures. AARC Executive Director Sam Giordano, MBA, RRT, FAARC, was also at the meeting.

"We attended this meeting in an effort to reach out to our international members," says Kallstrom, noting the AARC experienced a surge in international membership last year, particularly in the Middle East. "The role of the RT in this part of the world is very similar to the model we have in the USA. They have a great desire to expand their education, and much of this is centered on clinical care. This interest was evident while we were there."

Kallstrom says the asthma course attracted a big crowd, and the post-survey feedback was extremely positive. "We had a full house at the asthma course, and actually maxed out in space. Tim, Dean, and I were the presenters with two local physicians."

The AARC also hosted a booth at the event, where AARC leaders were able to engage with physicians as well as therapists, many of whom were already acquainted with the AARC through our science journal, Respiratory Care. "Our journal brings about significant recognition, which was a big draw to our booth," Kallstrom says. A meeting held for RTs gave the leadership team the chance to interact with therapists and hear firsthand about their issues and concerns.



Dr. Dean Hess presented at Gulf Thoracic Society meeting

In addition to these activities, Myers presented "Identifying the Right Device for Inhaled Medication Delivery," "The RT of the Future," and "Heliox & Nitric Oxide" during the conference. Kallstrom spoke on "Empowering COPD Patients To Improve Their Quality of Life"; and Dr. Hess presented "Management of Patients with Asthma on Mechanical Ventilators," "Noninvasive Ventilation," "Weaning Long-term Ventilator-dependent Patients," and "Clinical Trials & Meta-analysis."

Meeting organizers were extremely pleased with the AARC participation and have invited the Association back for the Gulf Thoracic Society Meeting in 2012. "They have asked for an expanded presentation that will include the COPD Educator Course as well as the Asthma Preparation Course," says Kallstrom.

The AARC will be actively participating in a European meeting in the near future as well, and presenters at that meeting will return the favor by traveling to Tampa, FL, for AARC Congress 2011. "In the fall Dr. Hess and Tim Myers will be presenting at the European Respiratory Society in Amsterdam in a noninvasive symposium with two physicians," says Kallstrom. "The same speakers will be making the presentations at the AARC Congress in November."

You can find out more about the Dubai meeting at www.gulfthoracic.com/scientific-program.php. ■

Attendees at AARC Asthma Prep Course

Call for Volunteers:
RTs Needed To Serve the Profession and the AARC

by Karen Stewart, MSc, RRT, FAARC
2010–2012 AARC President

In planning the remainder of my term as AARC president, I realize it's important to receive vital assistance from my colleagues — AARC members — in order to bring to fruition everything the AARC, its membership, and the patients we care for need to accomplish during my presidency. I am now asking you to volunteer your expertise to our professional organization.

Having RT volunteers not only facilitates our profession and Association's growth, it also presents all volunteers with the opportunity to develop and advance their leadership skills, increase their professional contacts, and give back to the profession, as well as the patients we serve.

Volunteers have always been the heart of the AARC and its leadership. Our strength and advancement comes from the countless hours of support volunteers provide through their time and knowledge toward the betterment of their colleagues, patients, and our profession. Last year around this time the AARC reached a milestone of 50,000 members. That's great, and it shows that there are many people like you who need and use the professional tools the AARC provides. Why not get in on the ground floor and collaborate with your fellow RTs to develop new tools to help RTs continually improve and grow as respiratory care professionals?

We need you to volunteer your expertise and skills to work on various committees so that the important work of the Association is accomplished. Although the AARC has a staff to do a lot of the work, it's members like you who volunteer to serve on committees, accept appointments, or offer their time and assistance in a variety of ways, who are truly the backbone of this profession.

There is enormous momentum and potential for the profession as we head into 2012. While no one individual can accomplish all the challenging goals ahead, I know that dedicated respiratory therapists supporting the AARC's efforts can make vast strides toward assuring quality patient care in all settings and securing our profession's place in today's changing health care system.

Many exciting projects are planned for the next few years, but more ideas from AARC members are always welcome to keep a constant flow of creativity and to keep us all energized for what we can do as a collective. We need everyone's energy and input.

With the ever-increasing responsibilities respiratory therapists have, what types of educational and informational needs do you have, and how could the AARC best address your needs? Your ideas are important.

This is *your* Association, and now is the time to step forward. A balance of experienced and new members is needed on all our committees. It is this special mixture that not only makes it possible for the AARC to continue being the vital professional organization it always has been by mentoring in new talent, but also ensures the future of the respiratory therapist in the health care environment as it goes through some of the most sweeping changes in history.

Will you take action now and volunteer your talents? We are always looking for specific projects and activities for our Association so we can steer the future of our profession in a positive direction. Please consider this a friendly challenge — and consider how you can help your Association, the profession, and the patients we serve. Also, network with your fellow AARC members — perhaps someone active in your state society — whom you believe could contribute a special talent or service to the AARC. Encourage them to volunteer so that we can capitalize on the vast amount of expertise available in our Association membership.

You can write to me by contacting the AARC at 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063; kuykendall@aarc.org. Tell me how you would like to serve and provide a copy of your résumé so I can consider how to best use your talents.

We can continue to reach milestones in the respiratory care profession if we all work together to make it happen. Thank you for supporting your professional organization. I look forward to hearing from you soon. ■

Book 'em, Michael

Michael Ray dusts a can left inside a stolen vehicle for fingerprints as part of his volunteer work as a reserve police officer in Corsicana, TX.

Respiratory therapists are known for giving back to their communities, and their volunteerism takes many shapes and forms. For Michael Ray, RRT, a 42-year veteran of the profession who works as an emergency room RT and PALS instructor at Children's Medical Center in Dallas, TX, service has meant stepping into the role of a reserve police officer in this community.

"The opportunity for me to become a reserve deputy sheriff came in 1979," explains the AARC member. "I served with the Navarro County Sheriff's Office until March 1984 when I had the opportunity to transfer to the Corsicana Police Department." Although the work is all done on a volunteer basis, he still holds a Texas Police Officer's license and is authorized to carry a firearm in the course of his duties and while off duty, as well.

Ray estimates he gives about 12–16 hours a week to the police department. In the past, he served as a patrol officer, riding with paid officers as they carried out their duties. Today he's assigned to the Criminal Investigation Division (CID) where his primary responsibilities are to monitor pawn shop activity, recover stolen property, and provide intelligence information that can be used to help solve the crimes. He's been trained to process recovered evidence for latent fingerprints, and occasionally he will go out to the crime scenes to assist the full-time investigators in evidence collection and documentation.

"I have had a number of different 'adventures' both on patrol and with CID," says Ray, recalling one case that stands out in his mind because so much was accomplished so quickly, thanks in large part to an overly chatty suspect. "On patrol one evening my partner and I cleared a major burglary, recovered around $2,000 of crack cocaine, put two felons in jail on warrants, and added additional charges of unlawful possession of a firearm by a felon — all because the young man could not keep his mouth shut and talked enough where I was able to figure out he was a convicted felon. This was all in one evening of work."

In 2010, Ray logged 662 hours of volunteer service at the police department, an accomplishment that earned him a special commendation. "I am a firm believer that we must all give back to our communities and try to make them better for all people to live in," says the therapist. "Some do this through their church, civic groups, the arts, etc. I have been fortunate to be able to provide my service in this fashion." ■

Journal Issues Call for Open Forum Abstracts

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

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

Enter the 2011 AARC Photo Contest

AARC Times is looking for creative members to enter our monthly Photo Contest. Winners will receive a free one-year membership renewal and have their submittal entered into our Photo-of-the-Year Contest with the chance of it being chosen to appear on the February 2012 cover. For instructions and guidelines, select the *AARC Times* icon on www.AARC.org and click on the "Photo-of-the-Year Contest" link. Deadline is Sept. 10, 2011. ■

Hydrocortisone May Ward Off Hospital-acquired Pneumonia in Trauma Patients

Trauma patients who are treated with hydrocortisone are significantly less likely to develop hospital-acquired pneumonia, find French investigators who studied 150 severe trauma patients who were randomly assigned to a continuous intravenous infusion of either hydrocortisone or placebo. The treatment was stopped if patients had an appropriate adrenal response.

Hospital-acquired pneumonia developed by day 28 in 51.3% of the placebo patients versus 35.6% of the patients treated with hydrocortisone. Among patients with corticosteroid insufficiency, 35.7% who were treated with hydrocortisone and 54.4% receiving placebo had developed hospital-acquired pneumonia at day 28.

The average duration of mechanical ventilation-free days was 16 in the hydrocortisone group and 12 in the placebo group. Acute lung injury or acute respiratory distress syndrome developed in 4.1% of the hydrocortisone patients and 14.5% of the placebo patients. The average ICU length of stay was 18 days in the hydrocortisone group and 24 days in the placebo group. Hyponatremia developed in 9.2% of the placebo patients versus none of the hydrocortisone patients. The study was published in the March 23/30 edition of JAMA. ■

Get "More of the Story"

Today's complex communications environment gives us lots of opportunities to get you information you can use. With the publication of *AARC Times* in digital form, available on the website with all of its multimedia options, we now have the ability to give you more of the story than you can read in the print issue of *AARC Times* alone.

In the April issue we brought you the first of our expanded coverage with a video of the University of Colorado's Simulation Lab. AARC Member Allen Wentworth, MEd, RRT, is director of the WELLS Center, which is a regional laboratory for simulations for all health disciplines. Featured on page 66 of the digital April issue of *AARC Times*, the WELLS Center is brought to life even more with a video and expanded coverage on our *AARC Times* "More of the Story" website.

We'll bring you blog posts, discussion threads, photo galleries and more as we continue to expand our coverage for you in the digital version of *AARC Times*. From www.AARC.org, click on Resources. Then select *AARC Times* Magazine for the full digital version or select "More of the Story" for the added features. ■

AARC Supports Bill To ☼♏□♏♋● Competitive Bidding

The AARC sent a ***letter*** to the sponsors of a new bill in Congress to repeal the Medicare competitive bidding program for certain durable medical equipment and prosthetics, orthotics, and supplies, including oxygen and oxygen equipment.

"With the implementation of competitive bidding in January 2011 and the planned expansion to 90 metropolitan areas, the AARC is concerned that the program will have a negative impact on the pulmonary patient's ambulatory care," writes AARC President Karen Stewart, MSc, RRT, FAARC, in support of the legislation.

The Association fears the current law (which views oxygen and oxygen equipment as "commodities" subject to the lowest bid price) will stifle technological innovation, making it harder for patients who require home oxygen to leave their homes and lead active lives. The program also has the potential to limit medically appropriate therapy for Medicare beneficiaries who need it.

H.R. 1041, the ***Fairness in Medicare Bidding Act***, was introduced into the House of Representatives by Glenn Thompson (R-PA) and Jason Altmire (D-PA) on March 11. ■

Investing in Success

by Walt Wilson, BSRT, RRT

Copiah-Lincoln RT students are thrilled with their new "digs."

The respiratory care technology (RCT) program at Copiah-Lincoln Community College has just moved into the brand new $4.2 million Howell C. Garner Instructional Center in Natchez, MS. The program was started in 1990 as a dual program; however, it converted to advanced-level only in 2000. We currently accept a maximum of 15 students each fall, with an average graduating class of nine.

Until this past spring, the RCT program was located in the previous landscaping and design area on the Copiah-Lincoln campus. The college made acceptable modifications, but several issues were encountered over the years. The classroom and lab were directly adjacent to each other, which was disruptive for the students and instructors. The noises from the heating and cooling program, which was housed next door, proved distracting. The compressed gas for the program was provided by the welding program's compressor, which is not filtered or dehumidified. The limited space impeded any possible expansion of the program.

Five years ago, previous college president Dr. Howell Garner committed to constructing a state-of-the-art allied health and science building in Natchez. After his retirement, Dr. Ronnie Nettles was appointed president, and he achieved Dr. Garner's goal. The college administration encouraged and expected the instructors to provide input into the design and customizing of each department. The RCT program now has its own oxygen, air, and vacuum sources, all of which are hospital grade. Each student is provided with a wall-mounted medical gas station. The program has a large lab that is completely separated from the classroom. An ICU simulation room is also included, as well as a pulmonary function lab.

To ensure the new building was filled with state-of-the-art equipment, the college also received $740,000 in funding, which is being used to purchase the most current technology. Our program has already purchased two new pulmonary function testing systems, including an impulse oscillometry system (IOS) and body plethysmography system. We believe we are the first program in the country to purchase an IOS system. This technology is providing our students with access to the newest technology and will also offer opportunities for research. Another critical care ventilator will be purchased with the funds too.

Cophiah-Lincoln decided to invest in the RCT program based on the success that the program has experienced. We have enjoyed 100% job placement and a 100% CRT pass rate on the first attempt over the last three years. The RRT pass rates are well above the national average as well. Our reputation in the surrounding area is well known and respected, and our advisory committee consists of the directors from all of the area clinical affiliates, who actively participate and support the program.

Dr. Barry Tillman is our medical director, and he is also an active member of the advisory committee. Dr. Tillman, who is a board certified pulmonologist, regularly presents current cases to both classes several times during the fall and spring semesters. Graduates from the program have practiced or are practicing in 15 different states. The program is also heavily involved in community service, especially asthma education in area K–12 schools, Special Olympics, and the Cystic Fibrosis Great Strides Walk. Our students love the new building and have been amazed at the changes that have occurred. ■

Walt Wilson, BSRT, RRT, is program director of the respiratory care technology program at Copiah-Lincoln Community College in Natchez, MS.

RT Student Members: Send Us Your Stories and Editorials

AARC Times is always looking for good stories from AARC student members that relate special experiences and give the RT student perspective on the respiratory care profession they have chosen as a career. We have published the stories of several student members in *AARC Times* this year, and we continue to encourage you to share your experiences.

Have you volunteered at a summer asthma camp or helped organize the DRIVE4COPD program in your state? Have you advocated for respiratory therapy in your state capitol or on Capitol Hill? Maybe you and your RC student friends have collaborated to build a house with Habitat for Humanity. Perhaps you witnessed a life-saving event outside the hospital setting or experienced something that took your breath away. Whatever the story, we would like to review it.

If you have a story to tell, please contact *AARC Times* Editor Marsha Cathcart at cathcart@aarc.org and include in the subject line, "Student Member Story." Be sure to give us your full name, AARC member number, a brief description of the story subject, and why you would like to have it published. Then attach a Word document of the story. We hope to hear from you soon! ■

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 at 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.

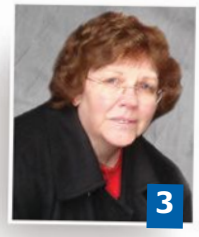
Once we receive your information, we may use it to prepare an "RC Currents" story about your service in the military. The AARC honors those who serve, and we would like to share your story with your respiratory care colleagues here and abroad. ■

▶Transitions

Jose Quinones, MS, RRT-NPS, RPFT, has received a 2011 Excellence Award from the National Institute for Staff & Organizational Development. The award recognizes outstanding contributions to teaching, leadership, and learning. He has also received the Joseph and Sophia Ables Endowed Chair in Respiratory Care and the State University of New York Chancellors Award for Excellence in Teaching. Quinones is the respiratory care program director at Westchester Community College in Valhalla, NY, and a per diem respiratory therapist at Montefiore North in The Bronx, NY. (Photo 1)

Robert Conley, BA, RRT-RPFT, retired in April from his position as lead respiratory care practitioner at Shady Grove Adventist Hospital in Rockville, MD. Conley received his original training at Children's National Hospital in Washington, DC, in 1968 under the Military 1W program and earned his associate's degree in respiratory therapy from the University of the District of Columbia in 1972. He earned a bachelor of arts degree in education in 1967. Prior to joining Shady Grove in 1989, he was director of respiratory care at Washington Adventist Hospital in Takoma Park, MD.

Arzu Ari, PhD, RRT, CPFT, has been promoted to associate professor with tenure at Georgia State University in Atlanta. Dr. Ari is a well-known researcher in respiratory care, with more than 29 published studies or abstracts to her credit. (Photo 2)



Cindy Pallott was tragically killed in a car accident last February. She was a student in the respiratory care program at Youngstown State University in Youngstown, OH, where she had been recognized by the Office of Student Diversity Programs as a nontraditional student who had achieved academic success while "breaking the odds." A mother and grandmother, she volunteered for breast cancer awareness and was active in the Student Organization for Respiratory Care, which is establishing a scholarship in her memory. Pallott would have graduated this May with her BSRC and polysomnography certificate of completion. (Photo 3)

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

Omalizumab Cuts Asthma Attacks, Symptoms

A new study conducted among 419 children and adolescents ages 6–20 with moderate to severe allergic asthma found treatment with omalizumab nearly eliminated seasonal increases in asthma attacks and decreased asthma symptoms. The children came from inner-city areas in eight U.S. cities; 60% were African-American and 37% were Hispanic.

In addition to standard therapy, half of the participants were randomly assigned to receive omalizumab and the other half a placebo. Drug or placebo was delivered via injection every two to four weeks over the 60-week study. Participants were reassessed for symptoms every three months, and their non-trial medications were adjusted according to the National Institutes of Health's asthma management guidelines.

Children and adolescents who received omalizumab had a 25% reduction in days with symptoms and a 30% reduction in asthma attacks compared with those who received the placebo. They also had a 75% reduction in hospitalizations, and the spring and fall increases in asthma attacks that were seen in the participants receiving placebo were almost eliminated in those receiving omalizumab. Participants who tested positive for cockroach allergy and who had high levels of cockroach allergen in their homes fared the best in the study.

Since omalizumab targets the allergic antibody immunoglobulin E (IgE), the authors believe these findings suggest a link between allergies and viral infections. "The spike in asthma attacks in the fall, which is associated with colds and other viral airway infections, disappeared in the kids in the omalizumab group," says study author William Busse, MD, from the University of Wisconsin-Madison. "Because the drug specifically targets IgE, which is the antibody responsible for allergies, our observations show the possible interplay between allergies, respiratory viruses, and IgE in provoking asthma attacks."

The study was published in the March 17 edition of the *New England Journal of Medicine*. ■

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

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

Understanding Mucus Production Could Lead to New Therapies

Researchers who previously found that normal cell death following an inflammatory response in the lungs is aided by a protein called Bik have now determined that cigarette smoke disrupts Bik, offering a possible explanation for why mucus production runs rampant in people with chronic bronchitis — and offering a new path to treatment.

In the new study, the investigators examined both human airway tissue samples and mouse models. Human samples were derived from autopsy tissues and bronchial brushings taken from individuals with chronic bronchitis and healthy controls. Mice were exposed to cigarette smoke for six hours per day, five days per week for three weeks. Following exposure, lung tissue samples were collected and examined for the presence of Bik.

The researchers determined that Bik was significantly reduced in the bronchial brushings of patients with chronic bronchitis compared to healthy controls. Examination of autopsy tissues confirmed the finding. Mice exposed to cigarette smoke also had significantly reduced Bik levels and increased numbers of mucus-producing cells.

In order to determine whether Bik remains suppressed even after cessation of cigarette smoking, the investigators then took mice who had previously been exposed to cigarette smoke and exposed them to filtered air for 60 days. Those mice still exhibited significantly lower levels of Bik.

"We found that cigarette smoke suppresses Bik levels in humans and in mice models, and mucus cells increased threefold in mice exposed to cigarette smoke," Yohannes Tesfaigzi, PhD, director of the COPD program at the Lovelace Respiratory Research Institute in Albuquerque, NM, was quoted as saying. "Moreover, the mouse study suggests that Bik remains suppressed in former cigarette smokers who have persistent chronic bronchitis. In humans, Bik was reduced even more in former smokers who had chronic bronchitis compared to former smokers without."

The good news is, the researchers were able to use genetic approaches to restore Bik levels in human airway epithelial cells and in the airways of cigarette smoke-exposed mice, which in turn reduced the epithelial cells in the mice. They believe this finding could lead to new treatments.

The study was recently published online ahead of print by the *American Journal of Respiratory and Critical Care Medicine*. ■

▶ Strange But True…

Healing Hearts: Researchers at UT Southwestern Medical Center have found that newborn hearts can heal themselves. When they removed 15% of the organ from newborn mice, the hearts grew back all the lost tissue within three weeks. The challenge now, say investigators, is to find a way to help adult hearts remember how they were once able to do that.

Alzheimer's May Be All in the Liver: Investigators from the Scripps Research Institute and ModGene LLC have found that the beta amyloid that commonly accumulates in the brains of Alzheimer's patients may have its roots in the liver. The discovery came after the researchers identified a gene in the liver that produces the substance. From there, they injected mice with the cancer drug imatinib, which cannot penetrate the brain but has been found to reduce the production of beta amyloid in laboratory studies. Beta amyloid in both the blood and the brain dropped dramatically.

Touched by a Robot: Will patients accept being touched by a robotic caregiver? Georgia Tech researchers asked that question in a new study and found it all depends — patients more readily accepted the touch when it was aimed at performing a necessary task than they did when it was intended to offer comfort.

New and Improved Antibiotics: Wrapping existing antibiotics in tiny nanofibers might be a way to combat antibiotic resistant infections, reported scientists at the National Meeting & Exposition of the American Chemical Society. In tests, the tiny fibers (so small they can't even be seen with a microscope) dramatically boosted the disease-fighting capabilities of antibiotics used against a variety of bacteria and fungi, including *E. coli* and *Pseudomonas aeruginosa*.

Fewer ZZZZZs = More Pounds: Skimping on sleep can pack on the pounds. Columbia University researchers found people consumed about 300 additional calories a day when they slept four hours a night compared to when they slept nine hours a night. The favorite sleep-deprived food was ice cream.

Destination Wedding: Gottlieb Memorial Hospital in Melrose Park, IL, didn't let hospitalization for terminal cancer keep one of their patients from seeing her daughter get married. On March 1, staff gathered with friends and family from Texas, Las Vegas, and Ohio as Patricia Wallenberg watched her oldest daughter, Amy, walk down the aisle at the Loyola University Health System facility. ■

Longer Lives, Fewer Deaths

Americans are living longer, report officials from the Centers for Disease Control and Prevention. According to the government agency, life expectancy for a baby born in 2009 now stands at 78 years and two months. Meanwhile, the age-adjusted U.S. death rate is falling, down 2.3% between 2008 and 2009. Death rates for 10 of the 15 leading causes of death — including several respiratory diseases — led the charge:

- Heart disease, down 3.7%
- Cancer, down 1.1%
- Chronic lower respiratory diseases, down 4.1%
- Stroke, down 4.2%
- Accidents/unintentional injuries, down 4.1%
- Alzheimer's disease, down 4.1%
- Diabetes, down 4.1%
- Influenza and pneumonia, down 4.7%
- Septicemia, down 1.8%
- Homicide, down 6.8%

Deaths from kidney disease, liver disease, hypertension, and Parkinson's disease were unchanged. ■

Read the Rest of the Story at AARC.org

- Be prepared to handle the challenge of competency assurance documentation — www.aarc.org/headlines/11/03/competency_manual/
- AARC supports CDC's National Asthma Control Program — www.aarc.org/headlines/11/04/nacp/nacp_letter.pdf

Contribute to Writer's Corner

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

CDC Statistics Are Telling

According to the latest statistics from the Centers for Disease Control and Prevention, the percentage of non-elderly adults who reported delaying or forgoing medical care due to concerns about costs rose from 9% in 1999 to 15% in 2009. The problem was most significant among the uninsured, with 37% reporting that they delayed or decided not to get care due to cost versus 14% on Medicaid and 9% with private health insurance.

The statistics also show more people are dying at home. In 2007, about a quarter of all deaths occurred at a person's residence, compared with 16% in 1989. ■

A Bright Side to Allergies?

Researchers from the University of Illinois at Chicago who used self-reported data on medically diagnosed allergies and antihistamine use for 419 patents with glioma and 612 cancer-free patients found the more allergies the subjects had, the less likely they were to have the brain tumors. Age at allergy diagnosis and years since diagnosis were not associated with glioma risk, nor was antihistamine use.

"Our study confirms that there is a relationship between the immune system of allergy sufferers and glioma risk," study author Bridget McCarthy, PhD, was quoted as saying. "A comprehensive study of allergies and antihistamine use with standardized questions and biological markers is essential to further delineate the biological mechanism that may be involved in brain tumor development." The study was published in a recent issue of *Cancer Epidemiology, Biomarkers & Prevention*. ■

Nicotine Drives Diabetic Complications in Smokers

California researchers who presented their findings at the recent American Chemical Society meeting have for the first time linked nicotine to diabetes complications.

While it has long been known that smoking increases the risk of developing diabetes complications and that diabetic smokers have higher levels of HbA1c than diabetic nonsmokers, the exact substance in cigarette smoke responsible has eluded medical science. Using human blood samples, these investigators showed that concentrations of nicotine similar to those found in the blood of smokers did, indeed, raise levels of HbA1c by as much as 34%. The higher the levels of nicotine, the greater the production of HbA1c.

The finding raises questions about the advisability of using nicotine replacement therapies in diabetic smokers who are trying to kick the habit, but these researchers believe the permanent benefits of quitting smoking would likely outweigh any downside of short-term use. However, long-term use of nicotine replacement therapies in these patients could be a concern. ■

Higher Diagnosis Rates = Lower Fatality Rates

Regions of the country where chronic conditions are more likely to be diagnosed have lower case-fatality rates for those conditions, report Veterans Affairs researchers publishing in the March 16 edition of JAMA. They conducted an analysis of the average number of nine serious chronic conditions (cancer, COPD, coronary artery disease, congestive heart failure, peripheral artery disease, severe liver disease, diabetes with end-organ disease, chronic renal failure, and dementia) diagnosed among 5,153,877 fee-for-service Medicare beneficiaries in 306 hospital referral regions (HRRs) in 2007.

The mean number of chronic conditions diagnosed across the HRRs was 0.90; the median was 0.87. The average number of diagnosed conditions per Medicare beneficiary ranged from 0.58 in Grand Junction, CO, and Idaho Falls, ID, to 1.23 in Miami, FL, and McAllen, TX. Diagnosis frequency had a strong positive correlation with measures of physician encounters and diagnostic testing.

Not surprisingly, the number of conditions diagnosed was related to risk of death: Among patients diagnosed with zero, one, two, and three conditions, the case-fatality rate was 16, 45, 93, and 154 per 1,000, respectively. However, as regional diagnosis frequency increased, the case fatality associated with a chronic condition dropped. "Among patients diagnosed with one condition, the case-fatality rate decreased in a stepwise fashion across quintiles of diagnosis frequency, from 51 per 1,000 in the lowest quintile to 38 per 1,000 in the highest quintile," write the authors. "For patients diagnosed with three conditions, the corresponding case-fatality rates were 168 and 137 per 1,000." ■

Getting the "All Clean"

Health care professionals know they need to wash their hands before entering a patient's room, but that doesn't mean they always do it. Hospitals have tried all sorts of ways to increase compliance, from hallway reminder signs to periodically stationing someone outside of rooms to track who washed and who didn't.

The University of Illinois Medical Center at Chicago has a better solution. They just purchased a new automated system that senses whether physicians, nurses, respiratory therapists, and other clinicians have washed up or not before entering a patient's room in the ICU. It works like this: After a clinician has washed his hands with soap or gel, a sensor in the hallway or patient room sends a wireless "all clean" message to a badge worn by the caregiver. A wireless monitor above the bed then searches for the message as the clinician approaches. Absent the signal, the badge vibrates, reminding the wearer to wash. All interactions are recorded in a real-time database to monitor who is and isn't adhering to the handwashing protocol. ■

Blood Test Could Identify Early Emphysema

Could a simple blood test help identify smokers at risk for emphysema? Yes, report researchers from Weill Cornell Medical College who assessed levels of circulating endothelial microparticles (EMPs), which are shed during the disease process as pulmonary capillaries are injured and die. The initial patient population of 92 subjects included healthy nonsmokers, healthy and symptomatic smokers with normal lung function, and healthy smokers with normal spirometry but low DLCO. To confirm their findings, the assessment was repeated in two prospective cohorts, including a group of 92 patients similar to the initial patient population and a group of 15 patients with HIV.

Results showed both symptomatic smokers and healthy smokers with normal spirometry and normal DLCO had mild increases in EMP levels compared to healthy nonsmokers. There was no difference in EMP levels between healthy and symptomatic smokers. However, healthy smokers with normal spirometry but low DLCO had a significant increase in EMP levels. "This suggests that the vascular-based contributions to the development of emphysema may contribute to the early development of the disease and may identify a point in time where intervention with smoking cessation therapy may prevent the irreversible lung destruction associated with the development of COPD," notes study author Ronald Crystal, MD.

The study appeared in a recent issue of the *American Journal of Respiratory and Critical Care Medicine*. ■

ATS Releases New IPF Guidelines

The American Thoracic Society (ATS) has released new clinical guidelines on the diagnosis and management of idiopathic pulmonary fibrosis (IPF), replacing the ATS guidelines published in 2000.The new guidelines cover current knowledge in the epidemiology, etiology, diagnosis, and management of IPF, as well as available treatment options, including pharmacologic and non-pharmacologic therapies and palliative care. The guidelines were published in the March 15 edition of the *American Journal of Respiratory and Critical Care Medicine*. ■

New Members

Welcome to the AARC

U.S. Members

A

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Porch, Lon, Guntersville, Al*

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Skinner, Susan, Hunter, Ar*

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Arellano Gonzalez, Melissa, Tucson, Az
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Brown, Susan, Mesa, Az
Bustos, Sonia, Goodyear, Az
Campbell, Dianne, Tucson, Az
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Cronin, Nicole, Vail, Az
Day, Maria, Phoenix, Az
Desanti, Jacob, Phoenix, Az
Dondajewski, Melanie, Mesa, Az
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Espinoza, Santos, Phoenix, Az
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Hurte, Myashan, Phoenix, Az
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Tejada, Ana, Chandler, Az
Tinkham, Michelle, Tucson, Az
Trujillo, Angela, Phoenix, Az
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Young, Jason, Phoenix, Az

C

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D

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Kerkulah, Nulah, Wilmington, De

F

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Prins, Marina, Palm Bay, Fl*

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Yates, Teresa, Melbourne, Fl*

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White, Samantha, Lizella, Ga*

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Mebrat, Beriso, Portland, Or*
O'Brien, Cynthia, Portland, Or*
Stone, David, Medford, Or*
Wood, Jared, Troutdale, Or

P

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Masio, Danice, Conemaugh, Pa
Mestlin, Terrence, Ranshaw, Pa*
Pancurak, Michael, Erie, Pa
Peruso-Gray, Mary, Johnstown, Pa*
Salvi, Shauna, Erie, Pa
Scanlon, Denise, Pittston, Pa*
Smith, Lisa, Erie, Pa
Thompson, Joann, Scottdale, Pa*
Traxler, Kimberly, Bellefonte, Pa*
Trobee, Regina, Union City, Pa
V, Louis, Jenkintown, Pa
Vankirk, Nancy, Riverside, Pa*
Weaver, Shawn, Fairhope, Pa*

R

Gedeon, Pierre, Providence, RI*
Macomber, Donna, Warren, RI*
Zuba, Jeff, North Providence, RI*

S

Celestin, Pierre, Columbia, SC*
Donnelly, Cynthia, Fort Mill, SC*
Duvall, Georgia, Summerville, SC
Francis, Francis, Columbia, SC*
Johnson, Kevin, Charleston, SC
McCutchen, Allison, Charleston, SC
Sanders, Rudenia, Summerville, SC

Christion, Ametrea, Sioux Falls, SD*
Langland, Nicholas, White, SD*
Misar, Lois, Sioux Falls, SD*

T

Boyd, Daniel, Arlington, Tn*
Burton, Brian, Hendersonville, Tn*
Cox, Fay, Atoka, Tn*

Duffield, Kenneth, Murfreesboro, Tn*
Gloven, Laura, Cleveland, Tn*
Kirk, Lasonya, Antioch, Tn*
Kraus, Cynthia, Rockwood, Tn*
Shuman, Susan, Murfreesboro, Tn*
Young, Calvin, Memphis, Tn*

Alvarez, Eileen, Anthony, Tx*
Beadle, Becky, Midland, Tx*
Bell, Christina, Ingleside, Tx*
Berg, Deborah, Spring, Tx
Butler, Lana May Ling, Houston, Tx*
Chipman, Amanda, League City, Tx*
Crawford, Cynthia, Galveston, Tx*
Crockett, Franci, Rowlett, Tx*
Eapen, Abraham, Sugar Land, Tx*
Echevarria, Amy, Houston, Tx
Engel, Gayla, Aledo, Tx*
Fernandez, Denise, San Antonio, Tx*
Fremont, Allan, El Paso, Tx*
Garner, Melissa, Garland, Tx*
Goldwater, Matthew, Georgetown, Tx*
Goranson, Corrie, El Paso, Tx*
Graham, Nancy, Mansfield, Tx*
Guerra, Annette, San Antonio, Tx*
Haney, Colleen, Clifton, Tx
Harris, Lisa, Houston, Tx
Hernandez, Lizeth, El Paso, Tx*
Hernandez, Roberto, Bedford, Tx*
Horn, Michele, The Colony, Tx*
Jackson, Iva, Houston, Tx*
Kearney, Scott, Frisco, Tx*
Lopez, David, San Elizario, Tx*
Ly, Mocque, Fort Worth, Tx*
Malone, Yolanda, Midland, Tx*
Martin, Jason, Justin, Tx*
McClain, Angelina, Irving, Tx*
Mott, Julie, Beaumont, Tx*
Nelson, Davida, Garland, Tx*
Nwoko, Chuck, Sachse, Tx*
Oduh, Carlende, San Antonio, Tx*
Parker, Risa, Allen, Tx*
Pharr, Richard, Flint, Tx*
Phillips, Debbie, Panhandle, Tx*
Rogers, Glenna, Dallas, Tx*
Sandor, Elizabeth, Corpus Christi, Tx*
Sheppard, Rakeshia, Baytown, Tx*
Shumway, Letitia, Kemp, Tx*
Smith, William, Rockwall, Tx*
Sutherland, George, Mansfield, Tx*
Thomas, Stanley, North Richland Hills, Tx
Varghese, Baby, Keller, Tx*
Waldrup, Barbara, Houston, Tx
Waqar, Muhammad, Houston, Tx*
Wilkinson, Yvonne, Granbury, Tx*

U

Chugg, Joanne, Pleasant View, Ut*
Ivers, R Shane, Provo, Ut
Larsen, Elicia, American Fork, Ut
Moon, David, Pleasant Grove, Ut*
Moseley, Robbie, Salt Lake City, Ut*
Newsome, Deborah, Hurricane, Ut*
Smith, Kristen, Springville, Ut
Uzoigwe, Joseph, West Valley, Ut*

V

Ali, Tehmeena, Bealeton, Va*
Berry, Cindy, Low Moor, Va*
Carrington, Michele, Chesterfield, Va*
Claiborne, Lisa, Mechanicsville, Va*
Cutler, Roshonda, Chesapeake, Va*
Johnson, Matilda, Fredericksburg, Va*
Marshall-Gwathmey, Debra, Richmond, Va*
Rooney, Lee, Lynchburg, Va*
Siem, Jason, Woodbridge, Va*
Skvarka, Beth, Newport News, Va*
Stevenson, Thomas, Doswell, Va*
Vinson, Antwanetta, Norfolk, Va*
Williams, Sonya, Highland Springs, Va*

W

Anderson, Thomas, Sunnyside, Wa*
Bailey, Henry, Puyallup, Wa*
Banaban, Roslina, Kent, Wa
Baska, Claudene, Vancouver, Wa*
Benson, Carl, Tacoma, Wa*
Benson, Jessica, Renton, Wa
Bielik, Charles, Seattle, Wa
Cichy, Melinda, Bellingham, Wa*
Clarke, John, Des Moines, Wa
Coats, Sean, University Place, Wa*
Colborn, Heather, Olympia, Wa*
Deo, Reetu, Renton, Wa
Esteban, Christina, Renton, Wa
Garbe, Theresa, Renton, Wa*
Golub, Artem, Auburn, Wa
Gomez, Franchesca, Des Moines, Wa
Griffin, Jennifer, Renton, Wa
Griffin, Mark, Seattle, Wa*
Grounder, Ashita, Kent, Wa
Grounder, Prasheel, Kent, Wa
Harnedy, Katherine, Silverdale, Wa*
Harpe, John, Sequim, Wa
Haydash, Maryna, Renton, Wa*
Hilton, Charles, Puyallup, Wa*
Johnson, Melanie, Bothell, Wa
Kogut, Wojciech, Bremerton, Wa*
Kruse, Reuben, Chehalis, Wa*
Lecce, Phillip, Tacoma, Wa
Lee, Ruthetta, Seattle, Wa
Mumbi, Esther, Bonney Lake, Wa
Nguyen, Man, Seattle, Wa
Ocol, Jay, Bellevue, Wa*
Rodricks, Jyoti, Issaquah, Wa*
Rzhyska, Ruzhena, Auburn, Wa
Sesmundo, Jason, Seattle, Wa*
Susina, Yelizaveta, Federal Way, Wa*
Tatro, Cynthia, Spokane, Wa*
Watkins, Aeriell, Puyallup, Wa
White, Tara, Kent, Wa*
Williams, Lakeidra, Covington, Wa
Word, Todd, Seattle, Wa*

Ball, Carlos, Milwaukee, Wi*
Bechtum, Holly, La Crosse, Wi*
Behrs, Terri, Milwaukee, Wi*
Busse, Dana, Wausau, Wi*
Ferg, Jessica, New London, Wi*
Heiser, Tara, La Crosse, Wi*
Jaedike, Timothy, Evansville, Wi*
Jakel, Rhonda, Curtiss, Wi*
Janssen, Kaleigh, Weston, Wi*
Jensen, Darcy, Portage, Wi*
Kruger, Trudy, Sturgeon Bay, Wi*
Mukhieva, Leeda, Madison, Wi*
Solum, Rachelle, Greenfield, Wi*
Vandervelde, Simone, Beaver Dam, Wi*
Vang, Mia, De Forest, Wi*
Wentorf, Brenda, Madison, Wi*
Zimmerman, Tracy, Brownsville, Wi*

Blankenship, Jack, Williamson, WV
Hensley, Heather, Williamson, WV
Webb, Joshua, Oceana, WV
Willis, Taylor, Logan, WV

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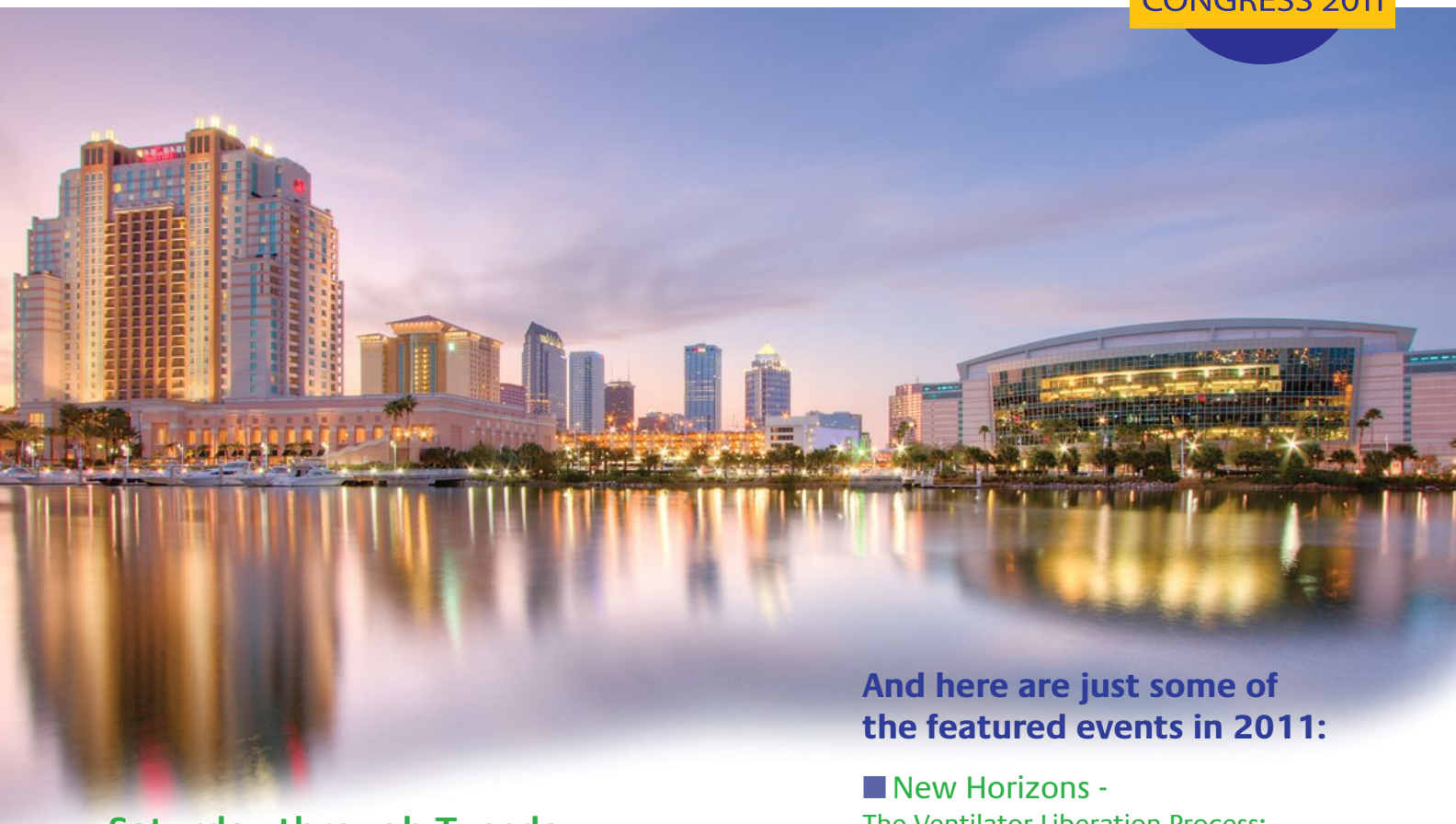
Naser, Suha Ahmad, Abu Dhabi, United Arab Emirates
Perez Oco IV, Jose, Al Ain, Abu Dhabi, United Arab Emirates
Pescardero, Angelica, Al Ain, Abu Dhabi, United Arab Emirates
Ross, James, Picture Butte, Ab, Canada
Sanchez, Frederick Ann, Al Ain, Abu Dhabi, United Arab Emirates
Van Loey, Carl, Diegem, Belgium
Waddleton, Gail, Doha, Qatar

AARC Congress 2011

The 57th International Respiratory Convention & Exhibition



Saturday through Tuesday
November 5-8, 2011
Tampa Convention Center, Tampa, FL

Join us this November in the warmth of the Florida sunshine at the Tampa Convention Center, situated right on the waterfront of beautiful Tampa Bay. It's your single best opportunity to increase both your professional worth and the investment value you can return to your company or institution.

- 250+ sessions on current respiratory care topics
- 170+ speakers
- 300+ original research projects
- 4 days of networking and education
- 3 days with industry exhibitors, most offering product discounts exclusive to Congress attendees
- 25+ CRCE credits

And here are just some of the featured events in 2011:

New Horizons - The Ventilator Liberation Process:

Learn from the world's leading experts about the latest evidence on weaning patients from mechanical ventilation; from the role of non-invasive ventilation and tracheostomies, to ventilator weaning modes and utilization of protocols. Dazzle your physicians back home by sharing this evidence-based research fresh off the press!

Respiratory Care in 2011 - N. American vs. European Perspective:

Be sure to attend this symposium to learn how clinical practice differs between N. America and Europe as it relates to mechanical ventilation and NIV. Does the N. American approach to managing these patients measure up to our friends from across the pond? Attend this symposium to find out!

2011 Year in Review:

Established leaders in the field will review published manuscripts from 2011 covering all aspects of Respiratory Care from Education to Management to Pulmonary Rehabilitation and Long Term Oxygen Therapy. Stay current on all areas important to your practice by attending one of the premier symposia of the entire Congress.

Find our more at www.AARC.org/education/meetings

BE A PART OF THE AARC NOW!

Your Membership Makes A Difference

ACTIVE MEMBER

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

ASSOCIATE OR SPECIAL MEMBER

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

STUDENT MEMBER

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

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

Membership Application

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

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

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

Last Name _____ First Name _____

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

City _____ State _____ Zip _____

Phone No. (_____) _____ Email Address _____

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

Work Information: Place of Employment _____

Address _____ City _____

State _____ Zip _____ Phone No. (_____) _____

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

Preferred Mailing Address: ☐ Home ☐ Business

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

For Student Member (Required)

School/RC Program _____ Address _____

City _____ State _____ Zip _____

Phone No. (_____) _____ Program Director _____

Expected Date of Graduation Month _____ Year _____

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

Primary Job Responsibility (check one only)

☐ Clinical Specialist ☐ Director of Clinical Education ☐ Director ☐ Disease Manager
☐ Diagnostic Technologist ☐ Instructor/Faculty/Professor ☐ Medical Director ☐ Manager
☐ Marketing ☐ Nurse ☐ Owner ☐ Other
☐ Program Director ☐ Patient Educator ☐ Pulmonary Function Technologist ☐ Product Management
☐ Sales ☐ Supervisor/Coordinator ☐ Sleep Technologist/Polysomnographer ☐ Sleep Technologist/Specialist
☐ Staff Therapist ☐ Student

Type of Business

☐ DME/HME ☐ Educational Institution ☐ Home Health Agency ☐ Long Term Acute Care/Rehab
☐ Manufacturer/Distributor/Pharma ☐ Military ☐ Hospital ☐ Other
☐ Physician's Office ☐ Skilled Nursing Facility ☐ Sleep Lab Free Standing ☐ Sleep Lab Hospital Based
☐ Student ☐ Temp ☐ Outpatient Facility

Check the Highest Degree Earned

☐ PhD ☐ EdD ☐ MEd ☐ MBA ☐ MS ☐ MHA ☐ MHS ☐ MPA ☐ MPH ☐ MSEd ☐ MSN
☐ MA ☐ BSRT ☐ BSRC ☐ BS ☐ BHS ☐ BSEd ☐ BSN ☐ BA ☐ AAS ☐ AS ☐ 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** _____

AMERICAN ASSOCIATION FOR RESPIRATORY CARE

AARC An Excellent Investment

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

PLEASE SIGN

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

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

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

Signature _____ **Date** _____

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

Membership Fees (U.S. dollars only)

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

Choose One Level of Membership

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

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

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

Or

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

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

Or

AARC PLUS MEMBERSHIP (All publications and other special benefits)

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

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

Or

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

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

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

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

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

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

Payment Information

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

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

Card Number _____ Card Expires _____ /_____ Signature _____

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

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

Thanks for Being Part of the Team

Revised May 2010

Classifieds

ADVERTISING SECTION

For Sale/For Rent

Oakes' Books Now on Cell Phones — and More!

Oakes' Books (in expanded format) are now available online via hospital computer, tablet, laptop, and smartphone. Fully searchable, topically indexed, objective-driven tutorials, forums, and more. Take the tour at www.RespiratoryUpdate.com.

AARC Times Classified Advertising Information & Requirements:

Classified Word Advertisements

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

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

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

Recruitment Display Advertisements

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

Powerful connections

ONTARIO | NAMPA | BOISE | BAKER CITY | Saint Alphonsus

Saint Alphonsus Health System is seeking the following:

Respiratory Therapist—NICU

Saint Alphonsus Regional Medical Center is among the top 5% of hospitals nationwide for clinical performance and was named Idaho's only Distinguished Hospital for Clinical Excellence by HealthGrades, the nation's most trusted source of health care provider information.

To apply, please visit: **saintalphonsus.org**

Live out your calling by working at Saint Alphonsus.

Saint Alphonsus Health System

EOE

Eugene, OR

Lane Community College

CLINICAL EDUCATION COORDINATOR - RESPIRATORY CARE PROGRAM

NOTIFICATION:
The Clinical Education Coordinator fulfills CoARC key personnel position requirement of Director of Clinical Education.

Incumbent will develop, evaluate and teach assigned Respiratory Therapy classes, facilitate learning, and interact with students in classroom, clinical or online instructional settings.

SALARY/WAGE RANGE:
$47,218 - $63,389 per academic year.

REQUIRED EDUCATION:
Currently Registered Respiratory Therapist (RRT), Baccalaureate degree.
*If from out of state you will be required to have a temporary license from the State of Oregon license prior to start date.

To apply, please visit:
http://apptrkr.com/185589

AA/EEO/ADA. Women and Minority Candidates are encouraged to Apply.

Respiratory Manager
Central Texas

Many health care advancements in Waco are found only at Hillcrest, such as our major Level II Trauma Center, our Level III Neonatal Intensive Care Unit, and the highest diagnostic technology available including our Aquilion 64-slice CT scanner. From surgery to radiology, from the ICU to our Heart and Vascular Center, from Obstetrics to Orthopaedics, continuous improvement in every area of service is one of our core values.

Responsibilities include leading our respiratory team along with managing the department budget, patient charging, procurement and reporting statistics while maintaining quality improvement. Other duties include being responsible for staffing, evaluations, education and counseling of Associates.

Previous supervisory/management experience is required. RRT preferred, CRT accepted. Must have or be able to obtain an RCP with the state of Texas.

Hillcrest Baptist Medical Center
Partnered with Scott & White Healthcare
100 Hillcrest Medical Boulevard
Waco, Texas 76712
www.hillcrest.net
jobs@hillcrest.net
254-202-3557

Manager, Respiratory Care

St. Mary Medical Center

Philadelphia Suburbs

In this role, you will be responsible for the training, supervision, and coordination of all aspects of the Respiratory staff. Duties include:

- Interacting closely on a daily basis with all staff Pulmonologists and department leads
- Coordinating the day-to-day operation of Respiratory Therapy
- Developing and maintaining departmental capital and operational budgets, critical success reporting, and financial performance

As the premier healthcare facility in Bucks County, PA, and its most comprehensive, we offer more as a healthcare provider and as an employer. Expect to be challenged to new levels at our exceptional facilities, including the county's only state-accredited Trauma Center, an impressive Heart Center, a regional Cancer Center, a major orthopedics program, and an exceptional women's services program. But also expect to find greater satisfaction with our friendly environment, great benefits, and inspirational setting on a beautiful 53-acre campus.

Requirements include 5-8 years experience, BLS, PA state license, RRT, and ALS. Bachelor's degree and CPFT, NPS, and AE-C preferred.

We offer a friendly, supportive work environment in beautiful Bucks County. Safe, free parking is available.
To apply, please visit www.stmaryhealthcare.org/jobs. EOE

Langhorne-Newtown Rd., Langhorne, PA 19047

www.stmaryhealthcare.org

WESTERN SCHOOLS

RT PUBLISHING OPPORTUNITIES

Western Schools is a nationally accredited provider of continuing education (CE) home-study courses for health care professionals. We are seeking self-motivated, experienced RT practitioners for an exciting new initiative to plan, write, and edit CE courses for RT practitioners.

EDUCATION PLANNER: Assess CE topic needs; recruit and guide authors to write courses and exams; review manuscripts. *Required:* bachelor's degree or higher; active RT license; knowledge of current respiratory therapy issues; computer proficiency. Background in academia, CE, or publishing a plus. Must be organized, detail-oriented, able to multi-task, and have excellent communication skills. On-site part-time contracted position in West Bridgewater, MA.

CONTENT EDITORS: Review and revise manuscripts in your area of expertise. *Required:* active RT license; previous publishing experience. Work-from-home. Payment is on a per project basis.

AUTHORS: Write articles and short CE courses for RT practitioners on RT topics. *Required:* active RT license; 5+ years of experience in subject area; previous publishing experience. Work-from-home. Payment is on a per project basis.

PILOT STUDY PARTICIPANTS: Complete new home-study courses and provide feedback. Receive free contact hours upon successful completion. Must be a licensed RT.

Send CV or resume to: authors@westernschools.com with cover letter indicating the position(s) for which you wish to be considered. Include writing sample for author/content editor positions.

BOISE STATE UNIVERSITY

Clinical Assistant Professor/ Clinical Associate Professor Department of Respiratory Care Search # HS-0009-01

The Department of Respiratory Care at Boise State University invites you to join our innovative faculty and staff team for a rewarding and exciting career in respiratory care education. We are accepting applications for a fulltime, 9-month, non-tenured clinical track position in our Commission on Accreditation for Respiratory Care (CoARC) accredited program. Appointment will be made at either the Clinical Assistant Professor or Clinical Associate Professor rank, depending on qualifications.

You will have the opportunity to:
- Participate in the on-campus Associate and Bachelor's Degree Programs teaching lecture, laboratory and clinical courses
- Participate in the online, degree-completion program

Minimum qualifications include:
- Master's Degree in a related field
- Registered Respiratory Therapist
- Teaching experience
- Demonstrated effectiveness in teaching
- Outstanding current, clinical skills, with recent experience in critical care

Salary and benefits: Salary is commensurate with experience and qualifications, plus an excellent benefits package including medical/dental/vision/life/LTD insurance, retirement plan, reduced tuition benefits, sick leave, paid holidays, as well as other benefits.

If you are interested in this position: Please submit a letter of interest, names of three references, and curriculum vitae to:
Boise State University
Department of Respiratory Care
Jeff Anderson, MA, RRT
Director of Clinical Education
1910 University Drive
Boise, ID 83725-1850
janders@boisestate.edu
208-426-3674

Review of applications will begin immediately and will continue until position is filled.

Boise State University offers a new workload policy for professors aimed to give them more flexibility.

About the University: http://www.boisestate.edu/
About the City of Boise: http://www.boisechamber.org/
About the Department: http://respther.boisestate.edu/

As of August 17, 2009, Boise State University is a smoke free campus.

Boise State University is strongly committed to achieving excellence through cultural diversity. The University actively encourages applications and nominations of women, persons of color, and members of other underrepresented groups. EEO/AA Institution, Veterans preference.

Calendar of Events

AARC & State Society Programs

June 1–3
Oak Brook Terrace, IL
ISRC 43rd Conference and Exposition
Contact www.isrc.org or Kelli DeBerry at (708) 423-8888

July 17–20
Vail, CO
AARC Summer Meetings
Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

August 3–5
Biloxi, MS
40th Tri-State Respiratory Care Conference
Contact Doug McIntyre at (985) 764-6754 or www.tsrcc.net

August 3–7
Savannah, GA
Georgia Society for Respiratory Care's Summer Clinical Symposium
Kathryn Morgan at (404) 299-4641 or www.gasrc.org

August 15–16
Columbus, OH
33rd Annual State Meeting of the Ohio Society for Respiratory Care
Contact beth.cooper@cchmc.org or www.OSRC.org

August 16–18
Prescott, AZ
ASRC's 45th Annual AzSRC Conference
Contact www.azsrc.org or Amy.Bardin@yahoo.com, (623) 205-4930

August 22–23
Las Vegas, NV
2011 NSRC Conference at The Orleans
Contact Connie Small or Bonnie Weaver at (707) 807-9311 or www.nsrc.us

September 22–23
Verona, New York
31st Annual Symposium of the NYSSRC
Contact Chuck Svoboda, (315) 792-5476 or www.nyssrc.com

September 27–28
Sioux Falls, SD
South Dakota Society for Respiratory Care's Annual Meeting and Conference
Contact lora.bornhoft@sanfordhealth.org

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

October 26
Lung Health Day
Contact AARC, (972) 243-2272, www.aarc.org

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

Submissions for the next available issue are due June 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

CALL FOR ENTRIES

AARC Times

PHOTO CONTEST

IMPORTANT: PLEASE READ THE FOLLOWING PHOTO REQUIREMENTS

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

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

NO | YES

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

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

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

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HERE'S HOW IT WORKS:

AARC Times will collect photo entries from the membership. Contest finalists will receive **FREE DUES** on renewal AND will automatically be entered into the publication's Photo-of-the-Year Contest, which will take place in the November 2011 issue.

The Photo-of-the-Year winner will see his or her photograph on the **COVER** of the February 2012 issue of *AARC Times*!

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- Send a brief background story with the photo.
- Photos will not be returned and become the property of the AARC.
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- Photographic prints of good quality are acceptable. Please **read the requirements we have provided at left** so that you send your photo in a format that can be used and reproduced in a magazine.

WWW.AARC.ORG

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