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# Young RTs

## Blazing the Path to Excellence

Sherry Whiteman, BHS, RRT;
Ryan Sharkey, BSRT, RRT-NPS;
and Matthew Trojanowski, MSc, RRT

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# Table of Contents

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• Refine and expand the scope of practice for respiratory therapists in all care settings.
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• Establish professional standards and outcomes supported by scientific evidence.
• Advocate for federal and state health care policies that enhance patient care, patients' access to care and professional practice.
• Partner with governmental agencies, community organizations, third-party payers, professional societies and the public to promote healthy behaviors and prevent cardiopulmonary disease.
• Broaden consumer and health care providers' knowledge and understanding of the value of respiratory therapists in providing safe, competent and cost-effective care.

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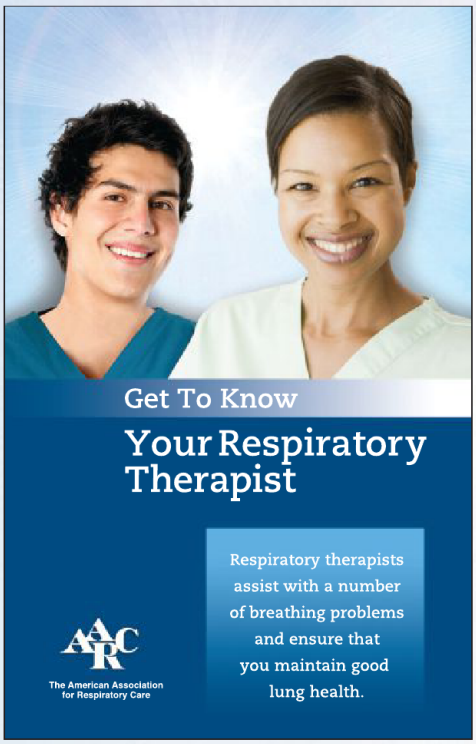


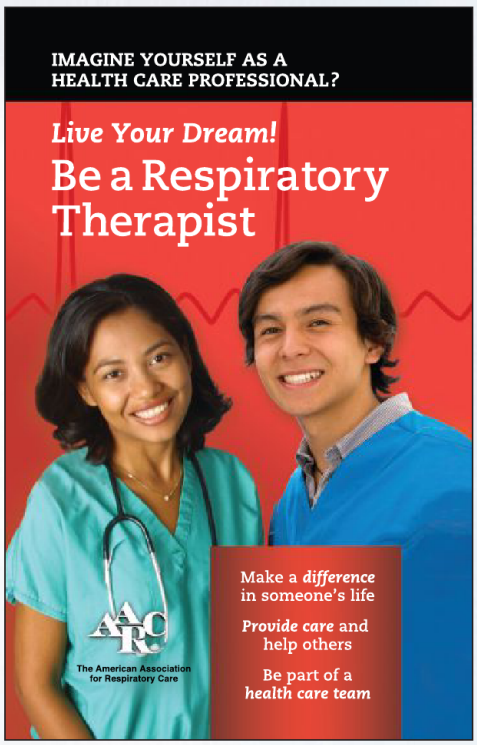


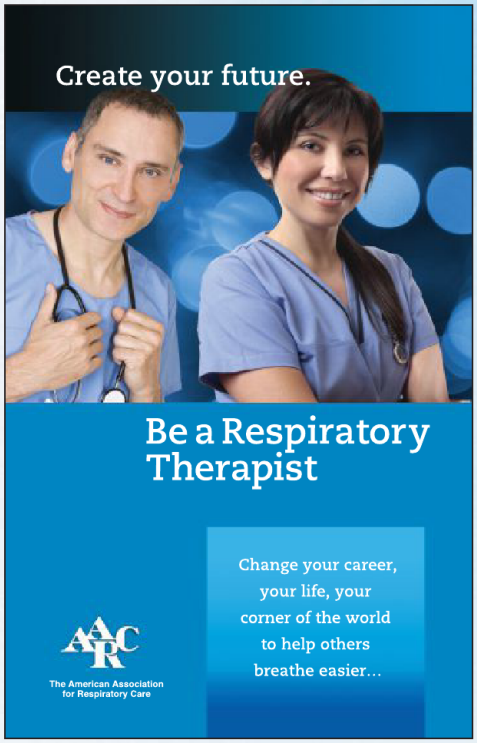


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# The RT's Role in Bronchopulmonary Dysplasia Prevention and Management

by Dana Evans, MHA, RRT-NPS, AE-C

In 1967, Norway et al first described bronchopulmonary dysplasia (BPD) as an infant chronic lung disease characterized by fibrosis, airway inflammation, smooth muscle hypertrophy, and oxidative injury.[1,2] This presentation of BPD, now referred to as "classic" BPD, was primarily seen in large preterm infants who required prolonged mechanical ventilation, high ventilating pressures, and high inspired oxygen concentrations.[1] Despite profound advances in the prevention and management of neonatal respiratory distress, BPD remains the most common form of chronic lung disease in infants today.

## Bronchopulmonary dysplasia in the 21st century

Due to significant advancements in medical care, the survival rate of extremely low gestational age and birth weight (BW) neonates has steadily increased.[3] Each year in the United States, approximately 60,000 infants are born at less than 30 weeks gestation, weighing less than 1500g.[2] Not surprisingly, the incidence of BPD increases as BW decreases (BW 501–750g = 47%, BW 751–1000g = 25%, BW 1001–1250g = 11%, BW 1250–1500g = 5%).[2,4]

The premature infants described by Norway et al were born at gestational ages 8–10 weeks later than the extremely premature infants of today.[2] As such, the mechanism of pulmonary injury is different and significantly more complex in infants today. "New" BPD is characterized by arrested alveolarization and abnormal capillary development.[5]

The lungs are still developing when the premature infant is born. The canalicular stage (~16–26 weeks gestation) marks the beginning of the lung as a gas-exchanging organ. In the saccular stage (26 weeks-term), the alveolar capillary bed and alveolar begin to form (with the first alveoli present at about 32 weeks). Birth at this vital time in development can result in permanent damage or ineffective progression of alveolar development, leading to long-term pulmonary complications.[5] These effects are worsened with the application of mechanical ventilation and oxygen.

This "new" BPD is significantly less severe than classic BPD (with infants requiring moderate oxygen concentrations and often able to be ventilated at lower pressures or noninvasively). Despite a lower severity of illness, these infants tend to have a longer length of stay and higher cost of care.[5]

## Outcomes

Infants with BPD require health services long after they are discharged from the neonatal intensive care unit. BPD has been associated with reduced lung function, airway hyperresponsiveness, growth retardation, neurodevelopmental delay, pulmonary hypertension, and retinopathy of prematurity.[2,5] In the first year of life, up to 50% will require hospital admission due to acute respiratory distress resulting from respiratory infection.[5]

Since the BPD patients of today are born significantly earlier than those born under the classic definition, the long-term data currently available may not be comparable.[2] Because new BPD is associated with decreased alveolarization, which may not completely repair, the long-term effect of extreme prematurity on lung function is not yet fully understood. Additional studies are needed to determine the lingering effects into adolescence and adulthood. There is some concern that today's neonatal ICU graduates will present with a new type of COPD as adults.[2]

about the author...

Dana Evans is the respiratory care manager at Mercy Children's Hospital-St. Louis in St. Louis, MO.

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### Prevention and management

The best management strategy for BPD is to prevent it from developing. Several methods have been shown to decrease the incidence of BPD, though more research is required to identify which are most effective.

Prevention of preterm birth is the ideal method of decreasing both the incidence and severity of BPD. For those patients in whom this is not possible, antenatal steroids are the most effective single intervention for speeding lung maturation, though their full impact on the rate of BPD remains unclear.[4]

### Oxygen

Oxygen is the most common drug used in neonatal care. It must be used cautiously to prevent oxidative injury. Even brief exposure to high oxygen concentrations in the delivery room (DR) can result in greater need for ventilator support and significantly higher rates of BPD.[3,6] DR resuscitation with room air is ideal but often insufficient to maintain targeted $SpO_2$ values in the preterm infant.

While it is clear that caregivers are directed to avoid high $FiO_2$, the most beneficial target $SpO_2$ range for this patient population is the subject of ongoing research. To date, the research recommends initiating resuscitation with an oxygen concentration between 0.3–0.5.[6]

### Ventilation and surfactant

Mechanical ventilation alone can interfere with lung development in preterm infants by further disrupting alveolarization. Surfactant therapy, "gentle" ventilation techniques (focused on prevention of barotrauma/volutrauma), and low $FiO_2$ may reduce the severity and incidence of BPD.[6]

Whenever possible, intubation should be avoided. Nasal continuous positive airway pressure (NCPAP) and nasal intermittent mandatory ventilation (NIMV) have been successfully used to manage respiratory distress syndrome (RDS) and apnea in the premature infant. In the DR, each infant must be individually assessed to determine the level of support needed (invasive versus noninvasive). More research is needed to clearly determine which infants should be intubated and treated with surfactant. At this time, most evidence recommends this step for patients with significant RDS (increased work of breathing and high oxygen requirement).[6] Unfortunately, intubation is required to administer surfactant therapy. Many hospitals have begun intubating for surfactant administration and then immediately extubating to CPAP with success. NIMV may further decrease the need for intubation in infants requiring more support than NCPAP (as can be the case with infants who experience apnea).[6]

A 2011 meta-analysis evaluating volume-targeted versus pressure-limited ventilation concluded that preterm infants who were ventilated using a volume-targeted strategy had a reduced incidence of death, BPD, air leak, and intraventricular hemorrhage, and a decrease in total ventilator days.[7] In addition, permissive hypercapnia ($PaCO_2$ 50–60 mmHg, pH 7.25–7.35) can help lessen the need for high ventilator pressures and can lead to a decrease in ventilator days.[4]

### Postnatal steroids and caffeine

The use of postnatal steroids remains controversial. While steroids have been shown to speed extubation, they have also been linked with neurodevelopment injury.[6] Additional research is needed in this area. Caffeine

works to treat apnea of prematurity, thus potentially decreasing the need for mechanical ventilation.

### Role of the RT

The ultimate goal of respiratory care interventions is to lessen long-term pulmonary and neurologic sequelae of BPD. The best way to achieve this goal is to reduce overall incidence and severity of illness. Given that BPD is extremely complex in nature, treatment requires an individual focus, multiple strategies, and a multidisciplinary team approach.

The respiratory therapist is often present with the premature infant beginning with his first breaths in the delivery room. We are keenly positioned to provide care that may prevent the development of pulmonary injury during this extremely vulnerable time in the infant's life (both in the DR and beyond). RTs must become familiar with therapeutic interventions and ventilation techniques that may lessen the severity of respiratory distress and perhaps prevent the onset of BPD. We must be more aggressive about being less aggressive in the way we ventilate these tiny patients. Avoidance of intubation should be attempted, with CPAP and NIMV considered. A strategy that employs gentle or noninvasive ventilation techniques, rapid extubation, surfactant administration, minimal oxygen concentrations, and treatment of apnea of prematurity may reduce the incidence and severity of bronchopulmonary dysplasia (though not eliminate it entirely).

It is clear that the implications of our actions resonate long after the baby leaves our NICU "nest." ■

#### REFERENCES

1. Northway WH Jr, Rosan RC, Porter DY. Pulmonary disease following respirator therapy of hyaline-membrane disease: bronchopulmonary dysplasia. N Engl J Med 1967; 276(7):357–368.
2. Baraldi E, Filippone M. Chronic lung disease after premature birth. N Engl J Med 2007; 357(19):1946–1955.
3. Vento M, Moro M, Escrig R, et. al. Preterm resuscitation with low oxygen causes less oxidative stress, inflammation and chronic lung disease. Pediatrics 2009; 124(3):e439–e449.
4. Bhandari A, Bhandari V. Pitfalls, problems, and progress in bronchopulmonary dysplasia. Pediatrics 2009; 123(6):1562–1573.
5. Eber E, Zack MS. Long term sequelae of bronchopulmonary dysplasia (chronic lung disease of infancy). Thorax 2001; 56(4):317–323.
6. Jobe AH. The new bronchopulmonary dysplasia. Curr Opin Pediatr 2011; 23(2):167–172.
7. Wheeler KI, Klingenberg C, Morley CJ, Davis PG. Volume-targeted versus pressure-limited ventilation for preterm infants: a systematic review and meta-analysis. Neonatology 2011; 100(3): 219–227.

# Overlap Syndrome

by Karla Smith, BSRT, RRT, RPSGT

Dr. David Flenley introduced the term "overlap syndrome" in 1985 to define a combination of COPD and obstructive sleep apnea (OSA) resulting in nocturnal hypoventilation and hypoxia. Studies have determined that the severity of hypoxia and hypoventilation in overlap syndrome is far worse than in either OSA or COPD alone. Recent data suggests that the two diseases exist in approximately 1% of adults, while overlap syndrome exists in 10–20% of patients with OSA.[1]

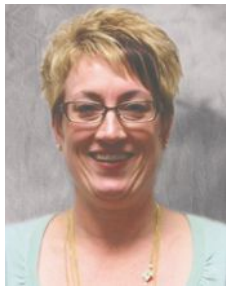
## Chronic obstructive pulmonary disease

According to the Global Initiative for Chronic Obstructive Lung Disease, the definition of COPD is: "A common preventable and treatable disease, characterized by persistent airflow limitation that is usually progressive and associated with enhanced chronic inflammatory response in the airways and the lung due to noxious particles or gases."[2]

COPD causes abnormal nocturnal alterations in gas exchange and ventilation. In fact, patients with daytime hypoxemia ($PaO_2$ <55 mmHg) and hypercapnia experience a more drastic drop in oxygen saturation during sleep, and this is particularly noted in rapid eye movement (REM) sleep.[3] The ongoing hypoxia during wake and sleep in patients with COPD leads to decreased cardiac function, and decreased oxygenation causes increased pulmonary hypertension, thus increasing the risk of these patients to develop heart failure as well.

Patients with COPD suffer from worse sleep quality when compared to the sleep quality of healthy individuals.[4] They seem to have more frequent awakenings as well as increased complaints of insomnia. COPD patients were also found to have decreased slow wave sleep and decreased time in REM. This resulted in more complaints of daytime sleepiness and non-refreshing sleep.

about the author...



Karla Smith, BS, RRT, RPSGT, is the sleep center coordinator at St. Alexius Medical Center in Bismarck, ND.

## Obstructive sleep apnea

The medical definition of OSA is: "Brief periods of recurrent cessation of breathing during sleep that is caused especially by obstruction of the airway or a disturbance in the brain's respiratory center and is associated especially with excessive daytime sleepiness."[5]

Due to the increased sleep fragmentation from the frequent brain disturbances, people suffering from OSA not only have excessive daytime sleepiness but also increased inability to concentrate, decreased productivity, and increased risk of a motor vehicle accident due to drowsy driving. Hypertension is also a real consequence of OSA along with coronary artery disease and increased risk of stroke and even death.

One major risk for OSA is a BMI of ≥30 kg/m2. The increase in the obesity epidemic seen in the United States in recent years could be putting more people at risk for OSA, increasing the number of Americans with OSA to greater than 10 million.[6]

## Overlap syndrome

The correlation between OSA and COPD is determined by pathophysiological mechanisms that may cause or exacerbate each other. For example, cigarette smoking by patients with COPD can cause upper airway inflammation, thus increasing the incidence of upper airway obstruction. Also, COPD patients may have a redistribution of edema while lying in the supine position, causing pressure on the airway. Furthermore, the use of corticosteroids to treat inflammation in COPD can cause an increase in waistline girth,

which as stated earlier, is a major contributing factor to OSA. It was also discussed earlier that patients with COPD have significant oxygen desaturations, which are also noted in patients with OSA.

Finally, both COPD and OSA have links to cardiovascular disease. Systemic inflammation seen in both of these diseases can cause endothelial dysfunction as a result of hypoxia, which promotes atherosclerosis. This would seem to dictate that there is a greater risk of cardiovascular morbidity and mortality in overlap syndrome than with each individual disease alone.[7]

## Diagnosis

In an ideal world, a patient known to have either COPD or OSA would be evaluated by a pulmonologist and a sleep specialist.

According to American Thoracic Society/European Respiratory Society guidelines, all patients with COPD should be evaluated for OSA due to the fact that their sleep quality is decreased and they generally have profound oxygen desaturation.[8] COPD patients who present with the typical risk factors for OSA, such as obesity, loud disruptive snoring, increased neck size, excessive daytime sleepiness, and witnessed apnea, should be evaluated and screened to rule out OSA. Also, patients who present with refractory hypertension, polycythemia, pulmonary hypertension, cor pulmonale, or irregular heart rhythm should undergo a comprehensive sleep evaluation.

Similarly, patients with OSA should be given a detailed examination that touches on smoking history and the respiratory system. Also, patients with OSA should have an evaluation for COPD if they exhibit hypoxemia and hypercapnia, since these are consequences of COPD.

## Treatment

The treatment for overlap syndrome is not different from that of each disease alone. The goal of treatment is

Once treated, we know that these patients have a really good chance of having increased quality of life and improvements in comorbid conditions.

to maintain the airway to prevent sleep-disordered breathing and to assure adequate oxygenation. Each case should be treated individually and all aspects of each disease should be addressed. This includes obesity, heart failure, and pulmonary hypertension.

Treatment options can include oxygen, oral device, positive airway pressure (PAP), or noninvasive positive pressure ventilation.[9] It is worth noting that the American Academy of Sleep Medicine does not recommend using auto-PAP on patients with COPD.[10]

Some of the treatments to consider for patients with overlap syndrome are:

- **Oxygen**: Oxygen alone should not be used to treat overlap syndrome but as a supplement if needed to maintain oxygenation along with PAP therapy. However, supplemental oxygen should be used for patients with COPD who exhibit daytime and nocturnal hypoxia. Studies have shown that the addition of supplemental oxygen for more than 18 hours per day improves mortality.[11,12]
- **Weight loss:** Weight loss should be instituted to decrease the BMI, as this is a contributing factor to OSA. Weight loss is not recommended in patients with severe COPD, but those patients with less severe COPD would benefit from a well-balanced diet. Nearly all patients with COPD can benefit from an exercise program. Also, exercise not only decreases BMI in patients with OSA but promotes better quality sleep.
- **Bronchodilators and corticosteroids:** Using these medications can treat the underlying lung disease and helps to prevent a decrease in oxygen desaturation nocturnally by improving oxygenation by promoting bronchodilation and less work of breathing.
- **Continuous positive airway pressure:** CPAP is still the gold standard for treatment of OSA as well as an acceptable standard treatment for overlap syndrome. Patients with severe sleep-disordered breathing may benefit from CPAP to improve the cardiovascular symptoms by decreasing the blood pressure over time. These patients may also benefit from bi-level, due to the fact that they have difficulty oxygenating and difficulty exhaling due to decreased lung compliance.

Respiratory therapists are treating patients with these disorders every day. As clinicians, we should be able to easily recognize that the COPD patient being admitted for an exacerbation of his disease may benefit from a comprehensive sleep evaluation. Doing a simple STOP-BANG questionnaire or asking questions about sleep hygiene and sleep fragmentation can assist in getting to the diagnosis of overlap syndrome. Once treated, we know that these patients have a really good chance of having increased quality of life and improvements in comorbid conditions.

When treating a patient with overlap syndrome, it is important to treat the two diseases together, making sure to address the sleep-disordered breathing to assure the respiratory muscles are maintained during sleep while addressing the need for increased bronchodilation as well as increased oxygenation to decrease shortness of breath. ■

REFERENCES

1. COPD this week website. Aggelakas AS. COPD and obstructive sleep apnea: the overlap syndrome. Available at: www.copdthisweek.com/2012/11/copd-and-obstructive-sleep-apnea.html *Accessed Aug. 30, 2013*
2. GOLD website. Other resources: GOLD teaching slide set. Available at: www.goldcopd.org/other-resources-gold-teaching-slide-set.html *Accessed Sept. 27, 2013*
3. Ezzie ME, Parsons JP, Mastsronarde JG. Sleep and obstructive lung diseases. Sleep Med Clin 2008; 3(4):505–515.
4. Fleetham J, West P, Mezon B, et al. Sleep, arousals, and oxygen desaturation in chronic obstructive pulmonary disease. The effect of oxygen therapy. Am Rev Respir Dis 1982; 126(3):429–433.
5. Rabe KF, Hurd S, Anzueto A, et al. Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease: GOLD executive summary. Am J Respir Crit Care Med 2007; 176(6):532–555.
6. Young T, Palta M, Dempsey J, et al. The occurrence of sleep-disordered breathing among middle-aged adults. N Engl J Med 1993; 328(17):1230–1235.
7. Owens RL, Malhotra A. Sleep-disordered breathing and COPD: the overlap syndrome. Respir Care 2010; 55(10):1333–1344.
8. American Thoracic Society website. Celli BR, MacNee W, et al. Standards for the diagnosis and treatment of patients with COPD: a summary of the ATS/ERS position paper. Available at: www.thoracic.org/statements/resources/respiratory-disease-adults/copdexecsum.pdf *Accessed Aug. 16, 2013*
9. Hiestand D, Phillips B. The overlap syndrome: chronic obstructive pulmonary disease and obstructive sleep apnea. Crit Care Clin 2008; 24(3):551–563.
10. Morgenthaler TI, Aurora RN, Brown T, et al. Practice parameters for the use of autotitrating continuous positive airway pressure devices for titrating pressures and treating adult patients with obstructive sleep apnea syndrome: an update for 2007. Sleep 2008; 31(1):141–147.
11. Continuous or nocturnal oxygen therapy in hypoxemic chronic obstructive lung disease: a clinical trial. Nocturnal Oxygen Therapy Trial Group. Ann Intern Med 1980: 93(3):391–398.
12. Medical Research Council Working Party. Long term domiciliary oxygen therapy in chronic hypoxic cor pulmonale complicating chronic bronchitis and emphysema. Lancet 1981; 1(8222):681–686.

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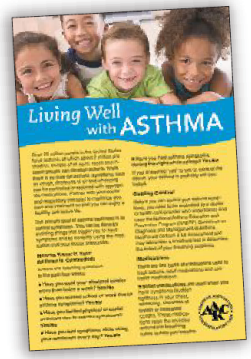



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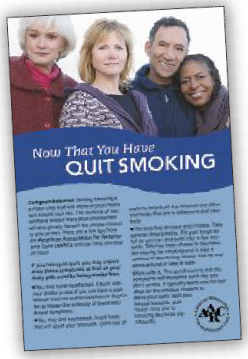


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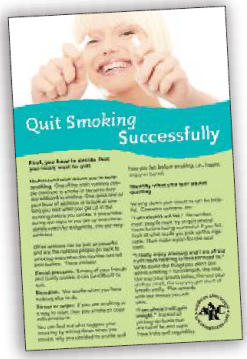



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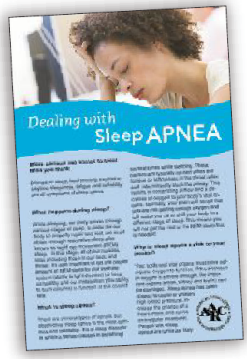



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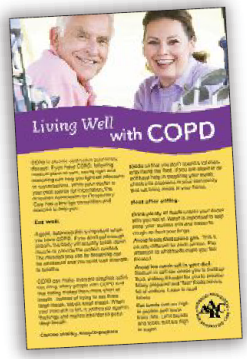



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Ventilation for Life

# Noninvasive Ventilation

by Keith D. Lamb, BS, RRT, RRT-ACCS

Noninvasive ventilation (NIV) is used extensively in almost every aspect of respiratory care, from chronic use at home to the support of acute respiratory failure in the ICU.

There is a clear advantage to not invading the native lower airway tract with an endotracheal tube when it is not clearly indicated. Nosocomial infection, tracheal injury, and an increased incidence of harmful sequelae from positive pressure ventilation can be avoided.[1] Conversely, airway protection and higher levels of ventilatory support cannot be achieved when the upper airway is depended upon during noninvasive ventilation.[2]

There are distinct pathologies where NIV has been proven to have clear benefit. Cardiogenic pulmonary edema and COPD are two that have been successfully supported using NIV. Additionally, when there is immunosuppression and a greater potential for opportunistic infection exists, the introduction of harmful microorganisms into the lower respiratory tract has been avoided through the use of NIV to delay endotracheal intubation.[3]

NIV can be divided into two distinct categories: negative pressure ventilation (NPV) and noninvasive positive pressure ventilation (NIPPV). All noninvasive ventilation is performed without tracheal cannulation.

## Some history

NIV can be traced back to the 1930s when the first "tank ventilators" (or iron lungs) were designed. These machines were the earliest technology to use negative pressure ventilation. These machines were able to support general respiratory failure but were unable to provide respiratory support to the sickest and most debilitated patients. Later, during the devastating polio epidemic of the 1940s–1950s, NIV was delivered via intermittent positive pressure ventilation using devices that were fashioned out of experimental regulators, rubber hoses, and early interface designs.[4] Leap forward to today where modern NPV is provided by advanced biphasic cuirass technology, and NIPPV can be achieved using microprocessor controlled ICU ventilators.

## Negative pressure ventilation

As previously mentioned, iron lung technology is one of the earliest forms of NPV. The functionality of this device, like all NPV devices, is provided by applying negative pressure to the thorax so that it (the thorax) expands and air is inspired, much like normal physiologic breathing. Also like physiologic breathing, exhalation relies on the natural recoil and elasticity of the human respiratory system. Although not used as readily as it once was during the early outbreaks of poliomyelitis, over the last few years NPV has seen renewed interest due to a better understanding of the potential negative sequelae associated with positive pressure ventilation. This renewed interest in the more physiologic NPV has brought with it advances in modern devices. The most advanced NPV has come in the form of biphasic cuirass ventilation (BCV).

BCV uses a device that applies influence to both the inspiratory and expiratory phase. This closely mimics natural breathing. This also allows for avoidance of positive pressure ventilation. This technology is available for all avenues of care in that it can be used in the hospital, rehabilitation center, and at home. These devices are generally small and easily transported.


about the author...

Keith Lamb, BS, RRT, RRT-ACCS, is the adult critical care supervisor at UnityPoint Health System in Des Moines, IA, and chair of the AARC's Adult Acute Care Specialty Section.

Additionally, newer devices offer external chest wall oscillation, which potentially aids in the clearance of pulmonary secretions. Because this technology is biphasic, there is control of both phases of breathing. This allows for the manipulation of inspiratory/expiratory ratios, providing better ventilator-patient synchrony. Despite some of these potential advantages, NPV remains more of a support mechanism for the chronically ill and is not commonly utilized in the acute care setting.[5]

## Noninvasive positive pressure ventilation

The most common way to provide NIV today is via NIPPV. Today, NIPPV is a mainline supportive therapy in acute respiratory failure due to several sources. Patients who can benefit from this treatment include those with COPD, acute cardiogenic pulmonary edema, and the immunocompromised. Additionally, NIPPV is effectively used to attenuate chronic disorders such as obstructive sleep apnea (OSA), nocturnal hypoventilation, and some neuromuscular deficiencies. In a recent review of the literature, the use of NIPPV in respiratory failure associated with chest trauma significantly reduced the rate of endotracheal intubation as well.[6]

Respiratory failure caused by infection, sepsis, and acute respiratory distress syndrome (among others) has not had the same overall success rate with NIV.[7] That said, when used in carefully selected patients, NIPPV can effectively support the underlying pathology and avoid tracheal intubation and all of its untoward complications.[8,9]

## Equipment and interface

NIPPV is generally delivered by portable flow generators in two ways. The first is continuous positive airway pressure (CPAP), which is applied via one continuous level of pressure. As an example, the machine may deliver a pressure of 5 cm $H_2O$. This pressure is maintained throughout the inspiratory and expiratory cycle. CPAP is primarily utilized to manage functional residual capacity in acute respiratory failure or to stent soft tissue obstruction in OSA.

Bilevel positive airway pressure (BPAP) is similarly applied. BPAP employs two separate pressure levels. The baseline pressure, or expiratory positive airway pressure (EPAP), is maintained as the baseline pressure much like CPAP. A pre-determined inspiratory positive airway pressure (IPAP) is delivered in addition to the EPAP whenever the patient spontaneously breathes or a breath is time cycled by the clinician setting a mandatory frequency (f). This alternation between two pressures (EPAP and IPAP) or delta P, is primarily responsible for ventilation and unloading or attenuating work of breathing.

**Figure 1. Interfaces for noninvasive ventilation**

The patient-machine interface plays an extraordinarily important and pivotal part in the successful employment of NIPPV. This cannot be overemphasized. Interfaces come in many variations. (See Figure 1).[2]

Generally accepted indications and contraindications for NIPPV in acute/critical care include:

**Indications**

- Hypercarbic COPD exacerbations
- Cardiogenic pulmonary edema
- Hypoxemic respiratory failure in immunosuppressed patients
- Hypoxemic respiratory failure in postoperative (post-thoracotomy) patients
- Mild respiratory failure in patients with chest trauma without traumatic brain injury
- Nocturnal hypoventilation syndrome
- Obstructive sleep apnea

**Contraindications**

- Unable to fit mask
- Medically unstable
- Agitated or uncooperative
- Unable to protect the airway
- Swallowing impairment
- Severe facial trauma
- Excessive secretions not managed by clearance techniques
- Recent upper airway or upper gastrointestinal surgery.

## Acute care

Advancements in the application of NIPPV have improved outcomes in the acute care setting. Acute respiratory failure (ARF) comes in many shapes and sizes. Many of these are amenable to the use of NIV, and many patients have been spared endotracheal intubation and resultant complications by judicial use of this technology.

COPD is characterized by acute exacerbations resulting in muscle fatigue, recurrent pulmonary infections, reactive airways, and gas exchange abnormalities. Concurrent hypoxemic and hypercarbic respiratory failure are not uncommon. NIPPV is generally applied in such a way that both restores functional residual capacity (FRC), improving oxygenation, and attenuates work of breathing, improving ventilatory failure.[10]

Cardiogenic pulmonary edema manifests secondary to pump failure. This pump failure leads to inadequate stroke volume and an inability of the left heart to effectively remove circulation from the lungs. The resultant edema causes inadequate gas exchange and ARF. CPAP can restore FRC that is effected by pulmonary edema. There is not a preponderance of evidence supporting the use of BPAP over simple CPAP unless there is concurrent ventilatory failure. CPAP or EPAP (when using BPAP) helps to restore FRC and improves oxygenation.[11]

Immunocompromised patients are at a much higher risk for infection. This is especially true when there are invasive interventions involving indwelling lines, catheters, and endotracheal intubation. In such patients who are experiencing ARF, there may be some added advantage for a trial of NIV to avoid creating a direct route for infection via an endotracheal tube.[11]

Trauma involving the chest often results in pulmonary contusions, rib and other intra-thoracic bone fractures, atelectasis, and respiratory failure. Gas exchange abnormalities and an increase in work of breathing are not uncommon due to mechanical failure caused by disrupted chest wall integrity. Flail chest, poor pain control, and hypo-inflation can encourage volume loss, retained secretions, and atelectasis. When NIV is instituted early, these adverse sequelae from chest trauma can potentially be avoided. In a review published last year, there was clear evidence that when NIV was instituted in chest trauma with associated respiratory failure, intubation rates were significantly reduced.[6]

## Subacute care and home care

OSA and nocturnal hypoventilation syndrome can be effectively managed outside of the acute care setting with NIV. While CPAP is generally employed in support of OSA, it is often necessary to provide ventilatory support in obese OSA patients and those with hypoventilation syndrome.[8]

## We do these things best

Importance of the RT's role in managing patients being treated with NIV cannot be overemphasized. A keen understanding of respiratory physiology, the technical aspects of NIV, and the profound importance of appropriate patient-machine interface fall uniquely under the umbrella of things the RT does best.

When patients are carefully chosen and NIV is instituted by those who are experienced in its use and knowledgeable about the finer aspects of its management, NIV can effectively support patients with respiratory failure and avoid escalation to more invasive and potentially injurious forms of mechanical ventilatory support. ■


REFERENCES

1. Keenan SP, Mehta S. Noninvasive ventilation for patients presenting with acute respiratory failure: the randomized controlled trials. Respir Care 2009; 54(1):116-126.
2. Hess DR. How to initiate a noninvasive ventilation program: bringing the evidence to the bedside. Respir Care 2009; 54(2):232-245.
3. Gupta P, Pendurthi MK, Modrykamien AM. Extended utilization of noninvasive ventilation for acute respiratory failure and its clinical outcomes. Respir Care 2013; 58(5):778-784.
4. Pierson DJ. History and epidemiology of noninvasive ventilation in the acute-care setting. Respir Care 2009; 54(1):40-52.
5. Linton DM. Cuirass ventilation: a review and update. Crit Care Resusc 2005; 7(1):22-28.
6. Chiumello D, Coppola S, Froio S, et al. Noninvasive ventilation in chest trauma: systematic review and meta-analysis. Intensive Care Med 2013; 39(7):1171-1180.
7. Agarwal R, Aggarwal AN, Gupta D. Role of noninvasive ventilation in acute lung injury/acute respiratory distress syndrome: a proportion meta-analysis. Respir Care 2010; 55(12):1653-1660.
8. Ward S, Chatwin M, Heather S, Simonds AK. Randomised controlled trial of non-invasive ventilation (NIV) for nocturnal hypoventilation in neuromuscular and chest wall disease patients with daytime normocapnia. Thorax 2005; 60(12):1019-1024.
9. Weng CL, Zhao YT, Liu QH, et al. Meta-analysis: Noninvasive ventilation in acute cardiogenic pulmonary edema. Ann Intern Med 2010; 152(9):590-600.
10. McNeill GBS, Glossop AJ. Clinical applications of non-invasive ventilation in critical care. Contin Educ Anaesth Crit Care Pain 2012; 12(1):33-37.
11. Mehta S, Al-Hashim AH, Keenan SP. Noninvasive ventilation in patients with acute cardiogenic pulmonary edema. Respir Care 2009; 54(2):186-197.

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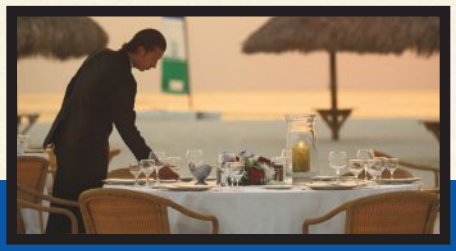


# Fire Them All and Let God Sort Them Out[1]

by Anthony L. DeWitt, JD, RRT, FAARC

It isn't every day that a case report surfaces that involves both the law and respiratory therapists. However, Alexander Assariathu v. Lone Star Health Management Associates, L.P. (www.ca5.uscourts.gov/opinions/unpub/12/12-10730.0.wpd.pdf) is one such case. The story it tells of the perils of departmental reorganization is worth considering.

The Assariathu case involved a respiratory therapy department with 32 people. Chris Evans, a new department manager, was hired and sought to reinvent the department. As almost any new department manager has thought at one time or another, Evans imagined it might be easier if he could just fire everyone and start from scratch. Working with his hospital human relations (HR) department, that is exactly what he did.

Every respiratory therapist working at the hospital was told they would need to reapply for their jobs. Evans and his HR person devised 10 interview questions that Evans asked each therapist when they reapplied. The first nine were scored on a scale of 1 to 5 and were designed to test one of the following characteristics: overall attitude (four questions), abilities (three), knowledge (one), and skills (one). An "extra credit" question, worth three points and intended to assess knowledge, skills, and abilities, asked, "What do you bring as an employee to DRMC?" The maximum score a therapist could achieve was 48. After interviewing each of the 32 employees, Evans determined a cut-off score of 24 would be the determining factor in whether a therapist kept his job. Therapists who made more than 24 would keep their jobs, while therapists who made less would lose their jobs.

Evans took notes while conducting the interviews. The human resources coordinator and Evans subsequently awarded each employee a composite score based on Evans' notes, his recollections of the interviews, and some extrinsic evidence, including performance appraisals. DRMC terminated all 15 therapists, including seven of eight plaintiffs, who scored below 24.

One plaintiff actually scored above 24 but was also terminated; he had received corrective counseling in the previous year. In total, 16 of the hospital's 32 respiratory therapists were fired: 12 were Asian, one was black, and three were white. Of the 16 remaining, seven were Asian, two were black, and seven were white. Between January and June 2010, the hospital hired 10 new therapists, seven of whom were white. Assariathu and seven other therapists of Indian national origin sued the hospital under the Texas Human Rights Act and Title VII for discrimination.

But without intending to, Evans complicated the hospital's defense because he lost the interview notes he had made during the interviews. This allowed the plaintiffs to attack his decision-making as motivated not by the objective criteria defined by the questions, but rather, on the basis of pretext. Essentially the plaintiffs argued that Evans' stated rationale for their terminations was simply a cover-up for discrimination based on their national origin.

The federal District Court in Texas did not agree. The plaintiffs could not point to any evidence that Evans had ever intentionally discriminated against any individual on the basis of their national origin. There was one individual who was identified as making rude remarks about

about the author...

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It is always useful to have a check against violating federal and state anti-discrimination laws before you take action that draws a lawsuit.

several therapists' race, but that individual was not involved in the decision-making process. After reviewing the evidence, the Fifth United States Circuit Court of Appeals said this:

*"Our analysis begins with DRMC and HMA's articulated nondiscriminatory reason for the terminations: departmental restructuring, citing the seven low scores in the interviews with Evans, and, in the case of Joseph, prior corrective counseling. Plaintiffs do not dispute that poor job performance is a legitimate, non-discriminatory reason for termination.… Therefore, DRMC and HMA have met their burden of production with regard to Joseph. Plaintiffs do contend that, despite producing the low interview scores of the seven other plaintiffs, DRMC and HMA have not articulated a legitimate, non-discriminatory reason, because the justification for the scores is not 'clear and reasonably specific.'… Although conceding that Evans' interview notes were lost, DRMC and HMA have extensively explained the scores through deposition testimony and the production of documents, including the interview questions and the characteristic each question was intended to assess… DRMC and HMA have satisfied their burden of production."*

This case teaches some useful lessons. First, when making personnel decisions, they should be rigorously documented with reliance on objective data. Subjective data, for example, how a manager evaluates a person's "attitude," should be avoided as a basis for making personnel decisions.[2] It is always possible to attribute to subjective beliefs a component of discriminatory motive.

For its efforts in trying to modernize and improve the clinical skills of its respiratory care department, the hospital bought itself a discrimination lawsuit. Even if this situation was covered by insurance, it probably cost the hospital in the neighborhood of $100,000–$200,000 to defend this action. People had to appear for depositions (meaning they were paid for not working, as well as having to pay someone to cover for them), court reporters had to be paid, and of course, the hospital's lawyers also got paid. That price tag would've paid for a lot of man-hours to treat patients!

Another consideration in departmental restructuring is simply the impact that the restructuring will have on the department morale. Even if every effort is made to rely on objective data, there will be people who feel that individuals within the department were unfairly treated. There will be people who believe that personnel were retained who shouldn't have been retained and that others were let go who should not have been let go. This is simply a fundamental tenet of human nature.

The approach adopted here, firing all and then allowing them to reapply, gave no appreciation to the length of service that each therapist had invested in the organization. A therapist who had been with the hospital for 10 years was treated exactly the same as a therapist who had been with it for 10 days. This kind of one-size-fits-no-one approach has a negative impact on loyalty and morale, and therefore, ultimately, on patient care.

Generally, the best approach to restructuring is to lay out a vision of what the department will be and a plan for those within the department to help get them there. Every effort should be made to get people to buy into the vision. Those who do not buy into the vision can be reminded that there are other opportunities for therapists at other locations. When therapists fail to buy into the restructuring plan (for example, by not obtaining particular credentials or the additional education necessary to meet standards), those documented objective failings can be a proper basis for personnel actions.

Every personnel decision that involves termination of an employee should probably be reviewed both by human resources and by the hospital's legal department. Managers are unlikely to know how courts will view a particular action, but hospital attorneys will. It is always useful to have a check against violating federal and state anti-discrimination laws before you take action that draws a lawsuit. ■

**FOOTNOTES**

1. Arnaud Amalric was an abbot during the Crusades in the 13th century. He supposedly told a soldier preparing to assault a city that included people both friendly to, and antagonistic to the crusaders, that he should not worry if he killed friendly people because "the Lord knows those that are His own." From this historical story comes the phrase adopted by countless armies, "kill them all and let God sort them out."

2. Saying an employee has a "bad attitude" is subjective and difficult to defend. Saying an employee is frequently late for report, does not give or receive a full report, and does not finish assignments given to her are objective measures that document a bad attitude and that can be supported with time records and statements. If you can't support it with an observable behavior, it isn't good evidence at the time of termination.

# PCP Shortage Will Drive the Need To Expand RT Scope of Practice

by Karen Stewart, MS, RRT, FAARC

As you read this article, open enrollment in the Health Insurance Marketplaces is underway. This new expanded coverage will provide insurance to approximately 30 million people over the next decade, 32% of whom will be enrolled in the Medicaid program.[1] In states that are expanding Medicaid under the law, Medicaid will now cover adults under age 65 who make up to 133% of the federal poverty level.[2]

That's good news for people who need health care coverage, but it's creating some problems as well. According to the American Association of Medical Colleges, universal coverage will lead to a 4% increase in the use of all physicians; the Bureau of Health Professions projects a 5.2% increase.[3] So the question we now have is, will 30 million people with some form of "insurance" have access to a physician?

## Other factors

Answering that question is tricky, and not only because of changes resulting from the Affordable Care Act. A 2012 study published in the "Annals of Family Medicine" suggests the nation will need nearly 52,000 additional primary care physicians (PCPs) by 2025.[3] What is surprising is the fact that population growth will be the biggest factor, driving the need for around 33,000 of those additional physicians. Population aging will account for another 10,000. Only 8,000 of the additional physicians we'll need, or an increase of 3% in the current workforce, can be attributed to the insurance expansion.

What we know today is that less than one out of three physicians practices primary care, and in 2011 only 7% of the 17,000 students graduating from medical school chose primary care.[4] Extracting the details shows that only 34% of the PCP need will be met, creating a shortage of over 34,000 physicians.[3]

While there are some shortages of specialists, these are not as significant as those seen with PCPs, and most are located in specific geographic regions. Clearly, the biggest problem we'll face under health care reform is access to primary care.

about the author...

Karen Stewart, MS, RRT, FAARC, is the program manager for the hospitalist program at Thomas Memorial Hospital in South Charleston, WV. She served as AARC president in 2011–2012.

## Closing the gap

Now that we know that there is a definite shortage of PCPs to meet the needs of patients, we also know there will be a need for additional providers to fill the void. Nurse practitioners, physician's assistants, and other qualified individuals must step up to help close the gap.

The respiratory therapist can be an asset in extending care to patients. If we look at the language in the proposed Medicare Respiratory Therapist Access Act of 2013 (H.R. 2619), we can see that if passed the law would cover "pulmonary self-management education and teaching" when furnished by a qualified respiratory therapist in a physician practice. This would create an opportunity for a qualified respiratory therapist working in a physician practice to be paid for services under the Medicare law.

Back in 2006, Stoller et al published an editorial in Respiratory Care titled "Disease Management as an Evolving Role for Respiratory Therapists" indicating the respiratory therapist has a role in this increased scope of practice.[5] Another reinforcement for the respiratory therapist in an expanded role outside the walls of the hospital was the Phil Kittridge Memorial Lecture, "Thinking Outside the Box: Moving the Respiratory Care Profession Beyond

the Hospital Walls," presented by Timothy Myers, MBA, RRT-NPS, FAARC, in November of 2012 and published in the August 2013 issue of Respiratory Care.[6] The discussion includes the respiratory therapist as a patient educator and disease manager.

The RT's role as a physician extender is a key premise in the AARC's 2015 and Beyond project as well. Findings that came out of the three groundbreaking conferences held to establish the knowledge, skills, and attributes needed by the RT workforce of the future clearly identified a future health care system that can benefit from greater involvement by RTs in chronic disease management and other services delivered outside the acute care hospital.

## RTs already getting involved

While there are limited publications in other journals acknowledging the therapist in this expanded role, some facilities and organizations are paving the way. For example, AARC member Janet Fantazia, BHS, RRT, AE-C, of Modesto, CA, is starting a position as a disease manager for Sutter Health Medical Center, where she will have the opportunity to write her own job description as she develops this role in the outpatient arena.

Another department at Summa Health System-Akron City Hospital just assigned two respiratory therapists to work in their high-risk physician practices. AARC member Timothy Buckley, BS, RRT, FAARC, the system director, describes the role in their patient-centered medical home programs: "Patients identified who are coded with CATS (COPD, asthma, tobacco abuse, and sleep apnea) will be scheduled in group appointments after an initial visit."

During the 90-minute session, respiratory therapists will provide 30 minutes of smoking-cessation assistance and then cover topics concerning the patient's chronic diseases. Each patient will have a specific action plan. The patients will attend sessions once per week for six weeks and then move to once-per-month sessions. Buckley says, "The Summa Health System sees this program as the future of how to take care of patients with chronic disease, done in a community setting and not in the acute care hospital."

## Support H.R. 2619

It is essential for the respiratory therapist to become the preferred extender in physician practices for those patients with chronic respiratory disease. Hopefully, this conversation will encourage RTs to continue to support this expanded scope of practice, demonstrate their value, and push their legislators to support and pass the Medicare Respiratory Therapist Access Act of 2013.■

## Preparing for Opportunity

As the two examples in Karen Stewart's article illustrate, respiratory therapists are already getting more involved in the chronic disease management of their patients. What can you do to ensure you're ready to join them? Here are some courses and credentials you might consider:

- Check into becoming a Certified Tobacco Treatment Specialist, or CTTS. Since virtually all chronic respiratory patients who smoke will require extensive guidance on smoking cessation, demonstrating your knowledge in this area could help you get your foot in the door.

- Earn the Certified Pulmonary Function Technologist (CPFT) and/or Registered Pulmonary Function Technologist (RPFT) credentials from the National Board for Respiratory Care. Many chronic disease management programs rely on pulmonary function testing for the initial diagnosis and ongoing management of patients, so these credentials could set you apart from the crowd as well.

- Acquire the Asthma Educator-Certified credential from the National Asthma Educator Certification Board. This exam is open to RTs, and the AARC's Asthma Educator Certification Preparation Course offers an easy — and online — way to get ready for the test. The course is approved for 10.5 hours of CRCE credit as well.

- The AARC also offers a COPD Educator Course that covers all the bases when it comes to treating and educating patients with the nation's third leading cause of death. A certificate of completion is issued upon successful completion of a post-test, and those who pass the test receive 10 hours of CRCE credit.


REFERENCES

1. PWC website. 30 million newly-insured under the Affordable Care Act: Who are they? Available at: www.pwc.com/us/en/health-industries/publications/health-insurance-exchanges-and-medicaid-expansion.jhtml *Accessed Nov. 25, 2013*
2. Healthcare.gov website. What if my state is not expanding Medicaid? Available at: https://www.healthcare.gov/what-if-my-state-is-not-expanding-medicaid/ *Accessed Nov. 25, 2013*
3. Petterson SM, Liaw WR, Phillips RL Jr. et al. Projecting US primary care physician workforce needs: 2010–2025. Ann Fam Med 2012; 10(6):503–509.
4. American Medical News website. Lawmakers warned primary care can't absorb ACA expansions. Available at: www.amednews.com/article/20130211/government/130219971/7/ *Accessed Nov. 25, 2013*
5. Stoller JK, Niewoehner DE, Fan VS. Disease management as an evolving role for respiratory therapists. Respir Care 2006; 51(12):1400–1402.
6. Myers TR. Thinking outside the box: moving the respiratory care profession beyond the hospital walls. Respir Care 2013; 58(8):1377–1385.

# Move Over, Baby Boomers – The Millennials Have Arrived!

Three therapists under 30 show how their generation is leading the profession into the future

# Back when this magazine was founded in 1977, respiratory care was still a relatively young profession, and just about everyone in it was fairly young as well.

Indeed, finding clinicians — or even managers — over the age of 40 to feature on our pages could be a challenge.

Well, that was then, and this is now. Today respiratory care has come of age, and so have a great many of its practitioners. If you're one of those folks who has been around since the late '70s, '80s, or even '90s, you may wonder where the future leaders of our profession are.

On our cover this month, we feature three 20-something AARC members who should ease your mind. They've been in the profession for only a few years, but they're already standing out from the crowd.

You can read more about respiratory care and members of the AARC in "News Now" and on our website, www.AARC.org, where we feature respiratory therapists' challenges and accomplishments.

## Who: Sherry Whiteman, BHS, RRT
## Where: Joplin, MO

**First learned about the profession:** I began my medical education in nursing. After a year in the program, I didn't feel a passion for it. My sister had recently been accepted into the respiratory care program, and she introduced me to the field. I entered the program with a very limited understanding of what respiratory care was really about but found myself drawn to the fact that we specialize in a particular body system and that I could work in the ER or ICU doing critical care. I quickly found my passion in critical care and emergency management.

**Went to school at:** I graduated in December 2007 from the Missouri Southern State University (MSSU)/Franklin Technology Center Consortium for Respiratory Care in Joplin, MO. As a student in the classroom, I was terrified to work with mechanical ventilation. Once I began clinical rotations, the classroom theory translated seamlessly into real-life practice, and I became more comfortable. I soon learned how much I enjoy mechanical ventilation, and that has carried over to my teaching career.

**How she got her first job:** My first job was at Central Kansas Medical Center in Great Bend, KS. It was in a medically underserved area in need of respiratory therapists. The facility sent a recruiter to the school in search of students interested in moving to Kansas for work. I viewed this as an opportunity to grow as a therapist and jumped at the chance. I also participated in professional activities like the John Rogers Memorial Scholarship and the AARC Sputum Bowl, and attained my bachelor's degree in health science. These activities set me apart from my counterparts.

**Mentors who made a difference:** Glenda Pippin, BSRT, RRT-NPS, CPFT, program director at MSSU, has been a mentor to me. As a student, Glenda was my academic advisor. During that time, she enthusiastically encouraged me to pursue my goals. I could count on her support during the program and after graduation. Glenda was always available to assist me in pursuing opportunities. Her support level has been a big influence in my career. Our relationship now, as colleagues, is invaluable.

Shawna Strickland, PhD, RRT-NPS, FAARC, associate executive director of education for the AARC, has also mentored me as a professional. She is an example of what I strive to become as a respiratory therapist — dynamic, focused, and well respected.

**What she's doing today:** I work at MSSU/Franklin Technology Center as a respiratory care instructor, as well as PRN at Mercy-Carthage Hospital. I teach in the classroom and in the clinical setting, allowing me to assist students in bridging classroom theory with clinical practice. For situations not available in clinical, I have access to our high-fidelity simulation lab to design scenarios for students to work through, creating a comprehensive learning experience. Watching the students connect classroom learning with clinical practice, whether in clinical or simulation, is very rewarding.

**Top two accomplishments so far:** My top two accomplishments are becoming a respiratory care educator and becoming the AARC National Sputum Bowl Committee chair. I am proud of these accomplishments because they are both my passion. As an instructor, I get to actively participate in creating the next generation of practitioners who will impact the world. The Sputum Bowl has been a personal passion since the first time I pulled out a buzzer to practice at school. Becoming the committee chair allows me to share something I love with other members of the respiratory community.

**Where she sees herself in five years:** In the next five years, I will complete my master's of science in career and technical education leadership from the University of Central Missouri. I plan to continue taking leadership roles in education, and I hope to continue taking active roles in various positions with the Missouri Society for Respiratory Care, as well as with the AARC.

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**FOR ALL INFORMATION!**

# Who: Ryan Sharkey, BSRT, RRT-NPS
# Where: Charlottesville, VA

**First learned about the profession:** As a second-generation respiratory therapist, my dad, Patrick Sharkey, BS, RRT-NPS, RPFT, had a major impact on my choosing to enter the profession. I was always interested in hearing stories from his clinical experiences as an RT. I began college as an exercise science/physical therapy major, but quickly realized that I wanted to work with more acutely ill patients in my career; respiratory therapy gave me that ability.

**Went to school at:** I attended Gannon University in Erie, PA, and graduated in 2012. My experiences in the baccalaureate program allowed me to develop critical-thinking skills, which gave me an advantage coming out of school as a new grad. During clinicals, I was always challenged intellectually, which fueled my critical-thinking skills development. The faculty truly cared and pushed to develop each student into a successful RT, both clinically and as a servant leader in health care. My time at Gannon certainly started my career in the right direction.

**How he got his first job:** Obtaining my credentials as early as possible is what I think gave me an advantage as an RRT-NPS prior to working. Making contacts though networking is an important aspect as an RT, especially at the AARC Congress. That is where I met the group from the University of Virginia Health System and made contacts that would later help me land an interview and the job.

Creating opportunities to connect and network with some of the most passionate RTs from around the world is a great benefit of attending the AARC Congress. I used this venue to share my enthusiasm for respiratory care among potential employers who were looking to encourage professional development and sustainable growth among new graduate RTs.

**Mentors who made a difference:** While in school, Robert Tarkowski, RRT-NPS, RPFT, was instrumental in my evolution as a student. His guidance allowed me to become more aware of what I could achieve and how I could progress as a leader. After graduation, Daniel Rowley, MSc, RRT-ACCS, FAARC, guided my development as a clinician. He has pushed me to seek opportunities to grow throughout all aspects of the profession. He has created educational opportunities that will stick with me throughout my career and also is who really directed me to become involved in the AARC and Virginia Society for Respiratory Care (VSRC).

**What he's doing today:** I continue to work at the University of Virginia Health System. The ability for RTs to practice at a high level with great collaboration with physicians, nurses, and fellow RTs is the best thing about my job. The respiratory therapy group here is so strong, and that gives us the ability to practice at the level we do. My co-workers are always ready to help no matter the circumstance. It's reassuring to have a great team of co-workers.

**Top two accomplishments so far:** Continuing my education at Northeastern University in the Masters in Respiratory Care Leadership Program is certainly a highlight, and I am proud I have started. It is a challenging program that will open many future career opportunities for me. Having my abstract accepted to the Open Forum is another accomplishment I am proud of; being able to participate in clinical research and presenting research findings at a scientific symposium is something I will strive to reproduce through manuscript development as I become more involved and experienced in research.

**Where he sees himself in five years:** Upon completion of my master's degree, I seek to fill a greater role in research and influencing the practice of respiratory care. I also look forward to being more involved in the VSRC, contributing to committees, and maybe even serving as president of the society in the future. I see a lot of potential to get younger RTs involved in AARC activities, and I hope to be able to show them you don't need a great amount of experience to be involved or to make a difference. It only takes the drive and passion for respiratory therapy, coupled with continuing professional development, to impact the profession.

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## For details and registration, visit www.aarc.org/education/exam_prep/.

The AARC Exam Prep Course is an educational program of the American Association for Respiratory Care.

## Who: Matthew Trojanowski, MSc, RRT
## Where: Baltimore, MD

**First learned about the profession:** My path to becoming a respiratory therapist started shortly after graduating in 2006 with a bachelor's degree in music theory and composition. While I had a passion for composing music, I realized that it was not necessarily something that I saw as a full-time career. I chose to explore careers in the health care industry because I wanted to apply the analytical skills and creativity I developed through studying music and wanted to have a positive impact on the health of others. I also wanted a career that required a high level of interaction with sophisticated technology. A family friend mentioned the field of respiratory therapy, and it seemed like a perfect fit for me.

**Went to school at:** I studied respiratory therapy at Allegany College of Maryland. Through classroom instruction and clinical rotations, I was able to appreciate how RTs function in various capacities throughout an array of environments. But my education in respiratory care did not end after entering the workforce. After working for three years as a neonatal respiratory therapist at The Johns Hopkins Hospital, I elected to enroll in the Masters in Respiratory Care Leadership Program at Northeastern University. I attribute much of my growth in the field to this decision and strongly believe that making a commitment to furthering one's education is paramount to realizing success in the profession.

**How he got his first job:** I focused on the basics, such as excelling in academics and clinical proficiencies; but more importantly, I wanted to ensure I would enter the workforce as a well-rounded practitioner. To accomplish this, I exercised a great deal of thought when deciding where to complete my clinical rotations. I wanted to make certain that I was exposed to as many aspects of the profession as possible.

I also thought it was important to participate in initiatives that would demonstrate my commitment to the profession. For example, I participated in the AARC Sputum Bowl competition and helped organize activities to promote the profession to fellow students at Allegany College. I believe having a well-rounded clinical education experience and demonstrating a sincere commitment to the profession enabled me to successfully earn my first job as a respiratory therapist in the Johns Hopkins neonatal ICU.

**Mentors who made a difference:** I would not be where I am today were it not for the support and guidance of so many individuals, such as my instructors at Allegany College, and my colleagues (both past and present) at Johns Hopkins. In my current position, I owe a great deal of gratitude to my director, Anthony Bilenki, MA, RRT, for taking a huge leap of faith in promoting me to a management position so early in my career and, more importantly, for providing me with continued guidance to help ensure my success as a manager.

I also owe a debt of gratitude to Thomas Barnes, EdD, RRT, FAARC, director of the Respiratory Care Leadership Program at Northeastern, for opening my eyes to the plethora of professional service opportunities that exist for respiratory therapists, and for motivating me to seek out a leadership position. I continue to be inspired by leaders in the field, many of whom I have had the privilege to learn from through interactions in the AARC Management Section and Leadership Book Club. The sense of community within our profession is truly one of its greatest strengths.

**What he's doing today:** I currently serve as the manager of adult respiratory care services at Johns Hopkins. I love my job because every day that I come to work I learn something new. I am surrounded by highly talented individuals and enjoy collaborating with them to establish and realize goals aimed at ensuring a productive future for the department. It's no secret that health care is facing unprecedented challenges, and I truly enjoy the fact that my current position allows me to work with others to bring about positive change and create new

opportunities focused on overcoming any obstacles we encounter.

**Top two accomplishments so far:** I am most proud of earning a master's degree in respiratory care leadership from Northeastern University, and for attaining a management position at Johns Hopkins after only five years in the field. Both required a significant amount of time and effort to accomplish, and I believe they have laid a foundation upon which I can continue to learn and grow in an effort to make increasingly meaningful contributions to the future of our profession.

**Where he sees himself in five years:** I hope to have the opportunity to have an increasingly meaningful impact on the profession and serve as a positive example for future generations of respiratory therapists. It is my goal to remain an active participant in the respiratory therapy community and to motivate others to do the same regardless of what title(s) I may hold over the span of my career. I plan to continue to take advantage of opportunities to expand my proficiencies and knowledge. In addition, I plan to maintain an active role in the AARC at both the local and national level, where I can continue to serve as an advocate for the profession while also being inspired and guided by the accomplishments of so many exemplary colleagues.

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# Where Are They Now?

In our August 2008 issue of *AARC Times*, we featured another group of up-and-coming RTs on the cover, and we thought now might be a great time to go back and see how they've fared since we first touched base with them. Would our original instincts about their potential to be leaders in respiratory care be right?

Take a look at where they were then, and where they've gone since. We think you'll agree, these AARC members are living out their goals and objectives in respiratory care.

## Thomas Knowles BSRT, RRT, RPSGT

**Then:** A BSRT, RRT, RPSGT who was serving as a clinical instructor in cardiothoracic anesthesia at the Cleveland Clinic in Cleveland, OH. He received the INO Therapeutics First-Time Author Literary Award in 2006, and his top goal for the future was to move into research and possibly product development.

**Now:** He's finishing up his MHA degree at Ohio University this year and is now the manager of respiratory therapy and sleep and a quality data analyst for the University Hospitals Health System in Geneva, OH.

**Top accomplishment since 2008 article:** Starting a comprehensive pulmonary rehabilitation program in Geneva that has allowed the facility to fully integrate the pulmonary services offered to its patients, which Knowles says ties right into his second top accomplishment — a 44% reduction in unplanned related readmissions since 2009. ■

## J. Brady Scott MS, RRT-ACCS

**Then:** An RRT who was working as a clinical supervisor at Duke University Medical Center in Durham, NC. He had received the 2007 Adult Acute Care Specialty Practitioner of the Year award and was looking toward a career in respiratory research.

**Now:** He earned his BSRT in 2010 and his master's of science degree in 2013. He's currently serving as an assistant professor at Rush University in Chicago, IL, and has taken on the co-editorship of the AARC's Adult Acute Care Section Bulletin. He was also part of the AARC Adult Critical Care Specialist Prep Course in Las Vegas in 2013, and this past November he presented "Airway Management of the Trauma Victim" in the "Respiratory Care and the Trauma Patient" pre-course at AARC Congress 2013 in Anaheim.

**Top accomplishment since 2008 article:** Earning a faculty appointment and academic rank of assistant professor at Rush University. In that role, he received the Outstanding Clinical Instructor award from recent graduates. ■

## Rachel Blake Jokela
## BSRC, RRT

**Then:** An RRT and staff therapist at the Mayo Clinic in Rochester, MN. She received the NBRC/AMP Robert M. Lawrence, MD Education Recognition Award when she was a junior in her respiratory therapy program, and she also competed in the National Sputum Bowl student competition in Orlando in 2007.

**Now:** After working as a staff therapist for two years at the Mayo Clinic and another two years at the University of Minnesota Medical Center, she took advantage of an opportunity to move from direct patient care to a role as a patient safety specialist for the Minnesota Hospital Association MHA. Two years later she became the adverse health events program director for the Minnesota Department of Health, where she says her strong clinical background regularly comes into play as she works with hospitals, surgical centers, and their medical teams on a daily basis to prevent adverse events from happening and in helping facilities when they do occur. She still holds her RRT credential and has been on several mission trips with pediatric cardiac surgery teams to Honduras and Ecuador, volunteering as an RT to care for the patients in the hours and days after surgery.

**Top accomplishment since 2008 article:**
She worked with patients for a total of five years and says she enjoyed every minute of it but felt a calling to do something to help keep patients safe. Her top accomplishment has been obtaining the position of running the adverse health events program for Minnesota. ■

## Natalie Napolitano
## MPH, RRT-NPS, FAARC

**Then:** An RRT-NPS, AE-C who was serving as a clinical manager at Inova Fairfax Hospital in Falls Church, VA, and as president of the Virginia Society for Respiratory Care. She was working toward her master's degree and considering an eventual move into the nonprofit/government realm.

**Now:** Today she has earned her master's degree in public health, has become a Fellow of the AARC, and is a clinical specialist at The Children's Hospital of Philadelphia in Philadelphia, PA. As the new chair of the AARC's Neonatal-Pediatrics Section, she sits on the AARC Board of Directors and also serves on the International Committee, is the AARC representative to the National Asthma Education & Prevention Program, and has assisted with the AARC's annual lobby day on Capitol Hill the last four years. She is working with colleagues on the development and implementation of a respiratory and critical care training program for physicians and nurses in Milot, Haiti, and was invited to travel to China to speak at the Tongji Ventilation Conference in Shanghai and consult in the neonatal ICU in Xi'an.

**Top accomplishment since 2008 article:**
Finding her dream job doing clinical research to assist in finding answers to the many questions that remain in the practice of respiratory care. ■

# Allergy & Asthma Network Mothers of Asthmatics Launches USAnaphylaxis Map

by Tonya Winders, MBA

**Last year the Allergy & Asthma Network Mothers of Asthmatics (AANMA) launched the USAnaphylaxis™ Map,**

an interactive Web tool to track the progress of state laws regarding emergency anaphylaxis preparedness plans in schools. The tool links users with AANMA's Anaphylaxis Community Experts (ACE), local volunteers who provide free education and training programs to schools, scouts, coach and sporting organizations, and emergency response services such as fire departments and rescue squads.

Anaphylaxis kills more than 600 unsuspecting victims each year in the United States, many with no previous history of allergy. A bee sting or eating the wrong food can cause a deadly response within minutes. An estimated 3 million children have been diagnosed with food allergy, but 25% of food-related anaphylaxis reactions in schools occur among students without a diagnosis.

"The only effective treatment for anaphylaxis is auto-injectable epinephrine," says allergist Richard Weber, MD, president of the American College of Allergy, Asthma & Immunology (ACAAI), AANMA's partner in the nationwide Anaphylaxis Community Experts (ACE) educational outreach program www.aanma.org/2010/12/find-an-anaphylaxis-community-expert-ace/. "Epinephrine should be used at the first sign of symptoms, as most deaths occur when treatment is delayed."

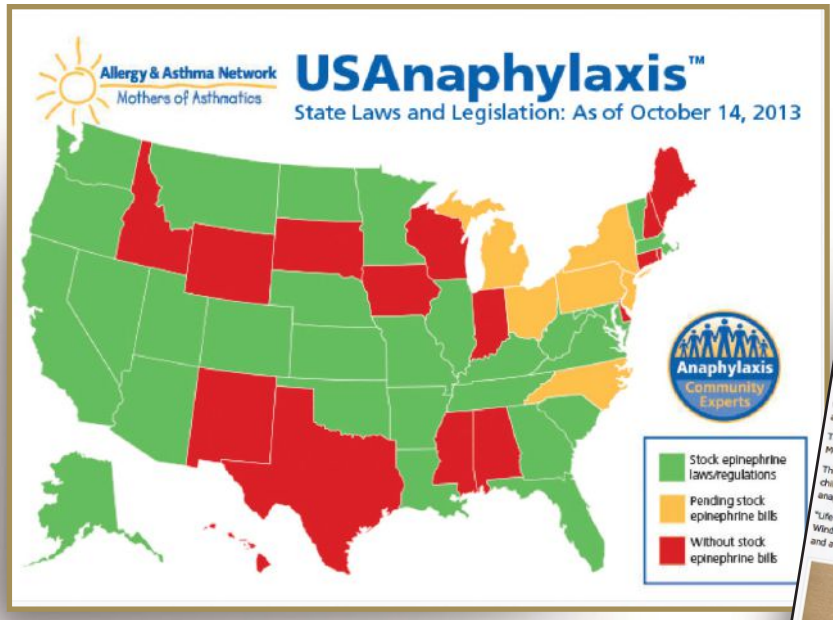
The School Access to Emergency Epinephrine Act was introduced on Sept. 12, 2013, in the Senate by Sen. Richard Durbin (D-IL) and Sen. Mark Kirk (R-IL) and co-sponsored by 20 other senators. It encourages states to require schools to keep lifesaving epinephrine on hand and brings this potentially lifesaving legislation one step closer to passage. The companion bill, sponsored by Rep. Phil Roe, MD (R-TN) and House Democratic Whip Steny Hoyer, MD (D-MD), was already approved by the U.S. House of Representatives on July 30.

Thirty states now have legislation requiring emergency anaphylaxis plans that include staff training for use of epinephrine auto-injectors and allowing schools to stock emergency supplies of the medication to treat life-threatening allergic reactions for students who may not have ever been previously diagnosed.

AANMA's USAnaphylaxis Map tracks legislation and contains links

Log on to **www.aanma.org/advocacy/meds-at-school/ and get more information on the Breathe at School campaign.**

# The USAnaphylaxis map tracks progress of state laws





to state laws and educational resources — inviting parents, school staff, and other members of the community to further laws in their state and implement new policies.

Schools work hard to provide a safe learning environment for all children. However, most are not prepared to handle life-threatening episodes of anaphylaxis among students who've never experienced one before or do not have an epinephrine auto-injector on hand. Simply having the medication available is only the first step. Staff, students, and families must also learn to recognize the signs of anaphylaxis and take steps to prevent exposure to allergens.

The national network of more than 250 Anaphylaxis Community Expert teams (ACE teams) of volunteer allergists, school nurses, and parents work with local groups to help coordinate best practices that fit the unique characteristics of each community. ACE teams help schools and parents work together to ensure no student dies of anaphylaxis at school.

The USAnaphylaxis Map builds on AANMA's continued efforts to promote safety for children in schools. Our Breathe At School campaign coordinates grassroots support across the country to ensure students have the right to carry their prescribed life-saving asthma and anaphylaxis medications in school. All 50 states have passed laws regarding asthma medications; all except New York have similar laws regarding anaphylaxis medications. For more information on AANMA's advocacy efforts, visit www.aanma.org/advocacy today. ■

**about the author...**

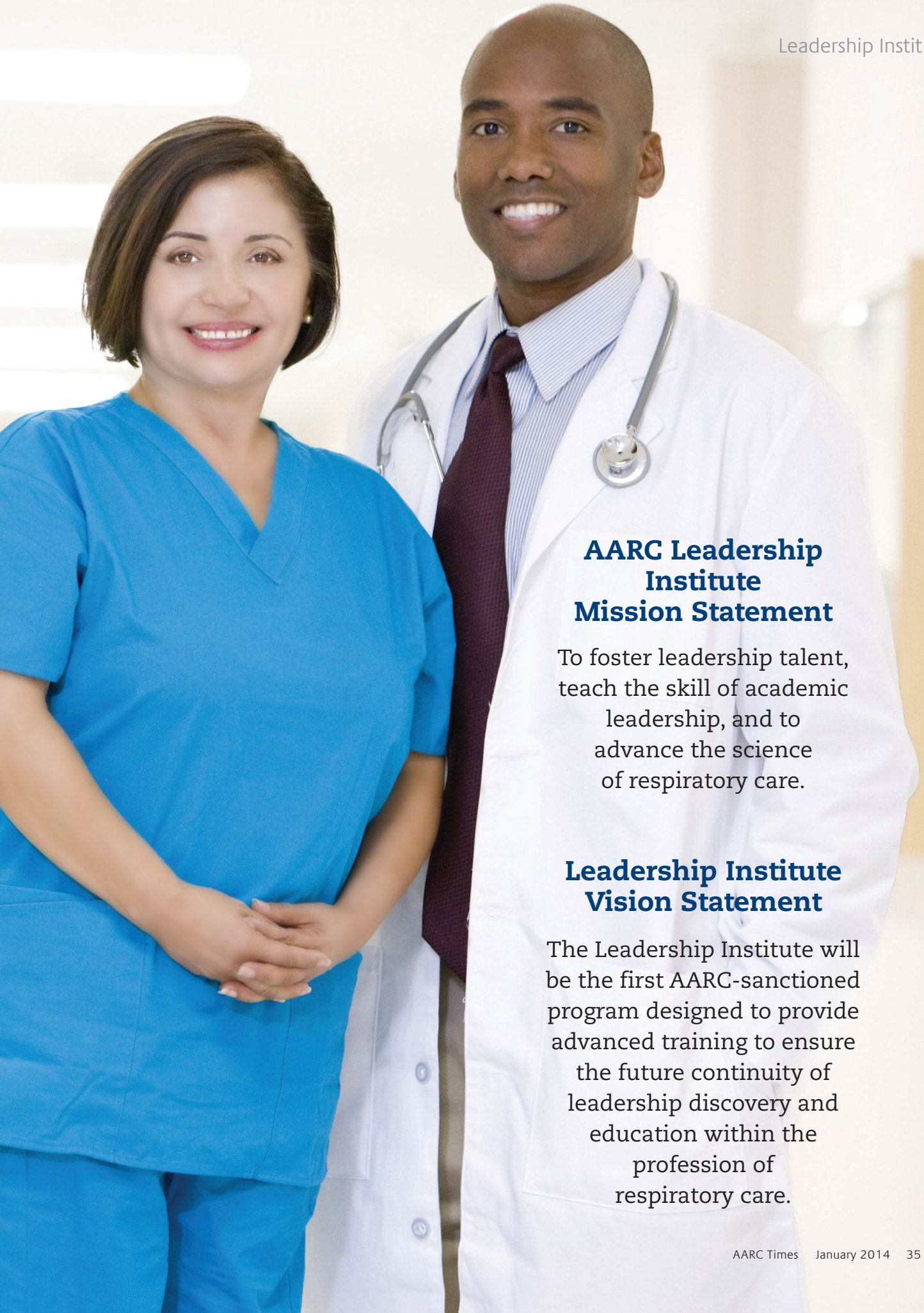
Tonya Winders, MBA, is chief operating officer of Allergy & Asthma Network Mothers of Asthmatics, based in McLean, VA.

# Introducing the AARC Leadership Institute

## Management, education, and research tracks provide the essentials for success

Bedside skills will always be the backbone of respiratory care. But to move up some of the career ladders available in the profession, you need more than the ability to manage a mechanical ventilator or deliver an aerosol treatment. New training courses from the AARC can help.

The AARC's new Leadership Institute will kick off in early 2014. We sat down with AARC Associate Executive Director-Education Shawna Strickland, PhD, RRT-NPS, FAARC, to find out how it can help you grow your career.



## AARC Leadership Institute Mission Statement

To foster leadership talent, teach the skill of academic leadership, and to advance the science of respiratory care.

## Leadership Institute Vision Statement

The Leadership Institute will be the first AARC-sanctioned program designed to provide advanced training to ensure the future continuity of leadership discovery and education within the profession of respiratory care.

*What was the premise behind the AARC's decision to develop the Leadership Institute?*

The premise behind the Leadership Institute is that there are a lot of respiratory therapists who are excellent clinicians who are promoted to different positions in management, education, and/or research without a foundation of knowledge within those areas. Let's say I'm a great clinician. I have a good rapport with staff and physicians and nurses and patients and families and employees, and I do a really great job in my clinical role. It's assumed that I'll be a good manager or educator or researcher and I'm promoted. But I have no skill in that area. I have no knowledge. I didn't learn anything like that in my respiratory care program.

Sometimes those excellent clinicians flounder a bit when they're in a role outside of that clinician's role and end up thinking that maybe they should get some formal education. But there are barriers to that. A lot of people will say: I don't have the time, I don't have the money, or maybe I just don't have the desire to get an advanced degree beyond what I already have. That means their manager is going to have to spend a great deal of time with them just to teach them up to the basic points of their new role. And that could mean two or three weeks of two full-time employees doing nothing but going over basic concepts.

The Leadership Institute provides a foundation of knowledge for education, management, and research roles, depending on the need. And that assists the respiratory therapist in getting caught up outside of training hours. It also frees up the manager to help the person acclimate to more hospital- or facility-specific tasks because the basics are covered in the course.

*Does the AARC foresee individuals taking the initiative to choose one of these tracks? Or do you see a situation where, especially in the management track, managers would say: "Here are our up-and-coming RTs; I'm going to acquire funding, and I'm going to have them take this course"?*

Ideally, I'd like to see both. Individuals who have an interest in management, research, or education can show some initiative by taking one or more of these leadership tracks. Then when they do sit for that interview or apply for that really awesome job, they'll have yet another way to say, look, not only am I a great clinician with these proven skills but I've also taken the initiative to complete this course and to gain foundation knowledge within this area. It's kind of like the adage: "Dress for the job you want, not the job you have." Prepare for the job you want, don't be content to rest on your laurels. You never know what the future is going to hold.

On the other hand, if I'm a manager and I have a few potential respiratory therapists for my shift supervisor jobs, it's worth it for me to spend a certain number of dollars to put these people through this program rather than spend two weeks, 40 hours a week, for two FTEs to go over the same basic information.

I can also envision a situation where the research track could be incorporated as part of a grant. If a respiratory therapist is part of grant writing and obtaining grant monies to do research, building in this course could drastically improve his performance or the performance of others on the grant team, especially for new researchers who are joining in on their first project.

## AARC Leadership Institute Faculty

**Leadership Institute Chair**
Toni L. Rodriguez, EdD, RRT, FAARC
Program Director,
Respiratory Care Program
Gateway Community College
Phoenix, AZ

**Management Track Chair**
Richard M. Ford, BS, RRT, FAARC
Director, Respiratory Services
UC San Diego Health System
San Diego, CA

**Education Track Chair**
Linda I. Van Scoder, EdD,
RRT, FAARC
Program Director,
Respiratory Care Program
Indiana Respiratory Therapy
Education Consortium
Indianapolis, IN

**Research Track Chair and Research Track Faculty**
Robert L. Chatburn, MHHS,
RRT-NPS, FAARC
Research Manager, Adjunct
Professor of Medicine
Cleveland Clinic
Cleveland, OH

*Once people complete these modules, are they going to get a certificate they can show prospective employers or their own employer documenting their completion of the training?*

Absolutely. AARC will provide a certificate of completion to show that the respiratory therapist has completed all of the requirements that are necessary within the Leadership Institute; and that encompasses a lot of activities, mentoring discussions, and additional readings and steps found within the modules. For example, the research track incorporates some National Institutes of Health training. A lot of the activities can help respiratory therapists gain not only knowledge that they can showcase with a certificate but actual skills that they are able to demonstrate outside of the course.

I also want to stress that the objectives for these modules weren't just written off the cuff. Experts worked tirelessly on developing the competencies and then vetting all of them. They have been through a strict peer-review process; and the content has been based on competencies that are vital to the respiratory care manager, educator, or researcher. These are immediately applicable competencies.

*You mentioned that there's mentoring involved in this. How will this mentoring take place?*

The course is asynchronous — that means that it's online at your own pace. You have a certain time frame to complete the course and take the post-module quizzes. When you've passed all the post module quizzes, you've passed the course.

Along the way we understand that some of these concepts may be difficult to grasp initially, and it's hard to learn outside of human interaction. So we're going to build specific communities on AARConnect for the people who enroll in the Leadership Institute. All of our course faculty will serve as mentors within these communities.

For example, Rob Chatburn wrote the research track. So if I'm a participant and I'm working through Module 3 and there's a concept there that I really just don't understand, I can log on at two o'clock in the morning if I want to and post my question. Then the next time Rob is on AARConnect he'll see the message, he'll post back, and you'll have a bit of a dialogue about the topic. As the number of participants in each track increases, you'll get a much more robust conversation so that we can learn from each other.

*So it will be a way to not only get to know your mentors but also to get to know your fellow students.*

Exactly. But, of course, that's totally optional. Some people don't enjoy the back-and-forth discussion on discussion boards. And that's perfectly fine. If you don't need to learn that way, you don't have to participate. But it's yet another tool to help you gain as much knowledge and get as much mentoring as possible from that community.

The other thing is, all of the conversations on AARConnect will be archived. So if you don't want to post a question yourself, you can go to the archives and see if someone else has already covered it.

## Management Track Faculty

Cheryl A. Hoerr, MBA, RRT, FAARC
Director, Respiratory Therapy
Phelps County Regional Medical Center
Rolla, MO

Garry Kauffman, MPA, RRT, FAARC
Director, Respiratory Care Services
Wake Forest Baptist Medical Center
Winston-Salem, NC

John Sabo, MS, RRT, RN, FAARC
Administrative Director, Respiratory Care/Sleep
St. Luke's Episcopal Hospital
Houston, TX

John Salyer, MBA, RRT-NPS, FAARC
Director, Respiratory Therapy
Seattle Children's Hospital and Research Institute
Seattle, WA

Shawna L. Strickland, PhD, RRT-NPS, FAARC
Associate Executive Director—Education
American Association for Respiratory Care
Irving, TX

*You mentioned Rob Chatburn did the research track. Do you want to talk about the other faculty members?*

I'd be happy to. Toni Rodriguez is the Leadership Institute chairperson. When she was in her presidency at the AARC, she helped bring this to fruition. So we've been working on it for a bit of time. But good products take a lot of time to develop, and we're really pleased with how this has turned out.

The management track chair is Rick Ford. He has recruited a fantastic group of authors — Garry Kauffman, Cheryl Hoerr, John Salyer, John Sabo. All of these people have contributed a module or two to the management track, and their collective wisdom is just fantastic. So the topics are very, very intense and very relevant to the respiratory care manager rather than just general management principles, making sure the respiratory therapist is in context with this. This is immediately applicable to your job.

Linda Van Scoder is the education track chair; and again, she's recruited some amazing authors — Dr. Toni Rodriguez, Diane Oldfather, Dr. Christine Hamilton, Dr. Sarah Varekojis. Again, they all address respiratory-specific issues facing not just the formal educator but also the department and patient educator. So we are making sure that every module is completely relevant to the respiratory therapist and their goals in education, management, and research.

*That's a really good point for people to understand — that even if you have an MBA degree, you don't necessarily have an MBA that is specific to respiratory care. This is all education that is specific to how you will do your own job as respiratory care manager, educator, or researcher.*

Absolutely, and at the same time, you get to earn continuing education credit.

*Anything else you would like to add?*

I think something that I really want to reinforce is the opportunity — not a mandate, but the opportunity — to obtain mentoring from these authors and the track chairs. Yes, it's about the education you can get right now. However, it's also about what you can apply to your job, what you can keep with you, and then building relationships to carry you through your job. Because we know that the education you learn right now is going to be helpful to you. But when you're away from that — it might be six, eight, ten months down the road — and you get into a situation and you think, wow, this was kind of covered in that Leadership Institute, you have a place to turn. If Rob Chatburn is your mentor in the research track, you can contact him on AARConnect and he can help you through it. Or if you have a management issue, you can contact Cheryl Hoerr in the AARConnect community and ask her for some advice.

So it's also about building connections, about building your own arsenal of experts who can help you down the line. And, in turn, you'll learn how to mentor others so you can pass it on in the future. It would be nice if this could turn into one of those pay-it-forward type of things.

There are just a lot of opportunities here, and I think that's what I want to impress the most on people. ■

## Education Track Faculty

Christine A. Hamilton, DHSc, RRT, AE-C
Director of Clinical Education, Assistant Professor
Tennessee State University
Nashville, TN

Diane R. Oldfather, MHEd, RRT
Program Director
Rolla Technical Center
Rolla, MO

Toni L. Rodriguez, EdD, RRT, FAARC
Program Director, Respiratory Care Program
Gateway Community College
Phoenix, AZ

Shawna L. Strickland, PhD, RRT-NPS, FAARC
Associate Executive Director – Education
American Association for Respiratory Care
Irving, TX

Sarah M. Varekojis, PhD, RRT
Director of Clinical Education, Assistant Professor
The Ohio State University
Columbus, OH

American Respiratory Care Foundation

Every year the American Respiratory Care Foundation (ARCF) joins with sponsors from the health industry to award over $30,000 to respiratory therapists and physicians through its education recognition, fellowships, grants and awards programs.

# Award Programs

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

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

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


# NBRC Jimmy A. Young Memorial Lecture Establishes New Therapist Multiple-Choice Examination

## Content validation study — job analysis

In the November issue of "NBRC Insight" column in *AARC Times*, we discussed the NBRC's new Therapist Multiple-Choice (TMC) Examination that was summarized in the 2013 Jimmy A. Young Memorial Lecture at the AARC Summer Forum. In this issue, we dig into the details of methodology and content validation.

At the 2013 Summer Forum, NBRC President Kerry George, RRT, MEd, FAARC described the composition of the committee that directed the 2012 study of respiratory therapy jobs throughout the United States. George chaired the committee, and members included three representatives of the TMC Examination committee, plus four representatives of the Clinical Simulation Exam CSE committee for a total of eight members from within the NBRC. The AARC had a representative of its members and a representative of its Board of Medical Advisors on the committee. CoARC also was represented, rounding out an 11-person advisory committee for the NBRC Job Analysis Survey.

The entire NBRC Board of Trustees and the TMC advisory committee reviewed the list of task statements used in our 2007 Job Analysis Survey. Those who submitted input were asked to brainstorm about potential new competencies that had emerged since the last study. The advisory committee incorporated new tasks, removed some tasks, and reorganized the resulting list. Focusing on tasks that were removed, the advisory committee either saw redundancies or movement away from the mainstream of the critical elements of respiratory care practice. For example, initiating care for cardiopulmonary emergencies was an area that the committee determined was redundant.

Employers regularly require respiratory therapists to demonstrate competencies related to BCLS, ACLS, PALS, and NRP protocols based on their responsibilities and patient populations served. The committee removed tasks related to the procedures for verifying an order and documenting routine therapies because the committee determined these elements have become too basic to remain on the examination.

Following precedent, the NBRC applied again a task inventory survey method during this study. However, the survey was presented in an electronic format for the first time. Doing so permitted the advisory committee to include an opening item to screen out those who were not practicing. Another significant methodological change was choosing to force a candidate's response to each task. In other words, respondents would not be able to skip a task and respond to other tasks further down the list.

The largest subset of the survey sample was the population of more than 50,000 therapists who had achieved the CRT or RRT credential within the last year or had renewed active NBRC status. A counter-balancing subgroup of 5,000 therapists with *inactive* NBRC status was randomly selected from the population. Potential respondents in these groups were directly solicited to complete the survey. A snowball technique was also used, which meant recipients of the survey solicitation were encouraged to share information about the availability of the survey with others. State chapters of the AARC, 415 directors of education programs, and about 5,000 directors/managers of departments in hospitals received these solicitations. In sum, potential contacts numbered about 61,000 people.

## Job analysis survey results

During the Jimmy A. Young presentation, NBRC Associate Executive Director Robert C. Shaw, PhD, RRT, FAARC, reported results of the Job Analysis Survey. He noted about 4,000 people were lost as potential respondents when given the opportunity to opt out and because the notice never reached certain respondents as the result of an address that was no longer correct. About 6,500 people showed initial interest in taking the survey by entering a registration system. However, a subset of only 3,100 responded to a sufficient percentage of the tasks before the survey closed. While this was a considerably small

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## Table 1. Changes in exam content emphasis

| | Items on Examinations | |
|---|---|---|
| **Domain** | **CRT** | **TMC** |
| I. Patient Data | 26 | 55 |
| II. Equipment | 29 | 20 |
| III. Interventions | 85 | 65 |
| Totals | 140 | 140 |

subset of the approximately 57,000 who could have responded, this was the largest sample for this study by a factor of three in the NBRC's history of doing studies for CRT and RRT credentials. The advisory committee considered this a strong success that was attributable to using an electronic format.

The advisory committee found multiple pieces of evidence that bolstered confidence in using the results of the survey to guide them in identifying the tasks that could be justified as critical:

- The very large survey sample left little error in responses.
- More than 95% of respondents had indicated there were no significant gaps of content left by the task list.
- Nearly 60% of respondents identified themselves as "staff therapists" working on the front line of practice, while another 25% came from the population of department directors and supervisors.
- The largest cohorts within the sample had completed their education programs within the last five years, which was encouraging, since the CRT and RRT examinations are intended for this group.
- Nearly 80% of the sample indicated they worked in an acute care hospital.

### Assessments of task criticality

Survey respondents selected one of five options from a rating scale for each task. Summaries of one of those options (not performed) permitted assessment of the extent to which tasks were done by respiratory therapists. The advisory committee decided to establish an extent-in-practice threshold at 55%, such that tasks with fewer than 55% of respondents indicating the task was performed could not be considered critical, regardless of other task results.

Summaries involving the other four options from the rating scale facilitated evaluations of the importance of tasks to the practice of respiratory therapists. The advisory committee set a threshold at 2.50, so any tasks with importance values below this threshold could not be considered critical. In addition, the advisory committee established and applied thresholds associated with results from 11 other sets of subgroup analyses. For example, there were subgroups of respondents organized by geographic regions, types of hospitals, and whether a respondent had achieved the RRT credential, among others.

Any one of the 13 thresholds could have excluded a task. Out of 240 total tasks within the inventory, 232 survived. Among the eight excluded tasks were three related to the measurement of nitric oxide. However, there were other surviving tasks that could support examination items related to this therapy. A task describing arterial line insertion was excluded, as was a task that described a therapist recommending immune system pharmacology agents. Lastly, three excluded tasks related to the role of a respiratory therapist in assisting a physician; these tasks addressed ultrasound, endoscopy, and echocardiography.

Dr. Shaw said there should be caution in considering about how these results impact activities unrelated to examination content. For example, the NBRC is not asserting these excluded tasks should be outside the scope of practice of a respiratory therapist or should not be taught in respiratory therapy educational programs. The NBRC is simply stating that job study results did not justify assessing therapists about these topics in the name of credentialing their competencies. He concluded this part of the presentation by summa-

## Table 2. Changes in emphasis based on exam specifications

| | Items on Examinations | |
|---|---|---|
| **Level** | **CRT** | **TMC** |
| Recall | 35 | 31 |
| Application | 74 | 61 |
| Analysis | 31 | 48 |
| Totals | 140 | 140 |

rizing shifts in item content and complexity within the new TMC Examination, as compared to the CRT Examination. The total number of items will stay the same, so what follows is a description of shifts in emphasis.

Another redundancy the advisory committee rooted out was related to gathering patient information. Up to the present, items in domain **I. Patient Data** have been limited to the initial information that typically becomes available on admission. Other items describing data that became available further into a case after some therapy had been started were linked to domain **III. Interventions**. The advisory committee decided items linked to patient information should be organized under the same domain heading, no matter when they occurred in the course of caring for patients. So several items that used to be linked to tasks in the third domain will be linked to tasks in the first domain instead. Table 1 summarizes the changes in exam content emphasis.

Table 2 displays changes in emphasis according to the examination specifications that are organized by cognitive complexity. Compared to the CRT Examination, the TMC Examination will emphasize analysis-level items more.

## Important shift in item content and complexity

Dr. Shaw emphasized that it would be incorrect to infer that the TMC Examination is just the CRT Examination with two cut scores because the CRT and TMC Examinations contain the same number of items. Tables 1 and 2 signal important shifts of emphasis for content and complexity among items that are, and will be, selected for test forms. Additionally, remember that the advisory committee chose to remove long-standing tasks that were viewed as too rudimentary to take up space on the TMC Examination. In their places will be items about topics the advisory committee concluded are more central to the role of a respiratory therapist. Hence, the TMC Examination will be different in important ways, compared to the CRT Examination.

In addition to changes in content and complexity characteristics of the items on the TMC Examination, NBRC Associate Executive Director Lori M. Tinkler, MBA, described several administrative and operational changes to the system surrounding the program.

Effective immediately, therapists from Canada who have achieved the RRT credential may enter the NBRC credentialing system so they may become licensed to practice in a state. After the TMC Examination concludes for a candidate, his or her score report will appear different than the present report because no scaled score will be reported. The score report for the CSE will change as well. Where scores are summarized for each problem today, scores will be summarized across multiple problems by type (for example, adult COPD, adult trauma) starting in January 2015, when the NBRC implements the new Clinical Simulation Exam CSE. It will implement the TMC Examination at the same time.

## Contact us

The NBRC Board of Trustees and its committees are interested in your questions, comments, and concerns. You may contact the NBRC by email at nbrc-info@nbrc.org, by phone at (888) 341-4811, or visit the NBRC website at www.nbrc.org. ■

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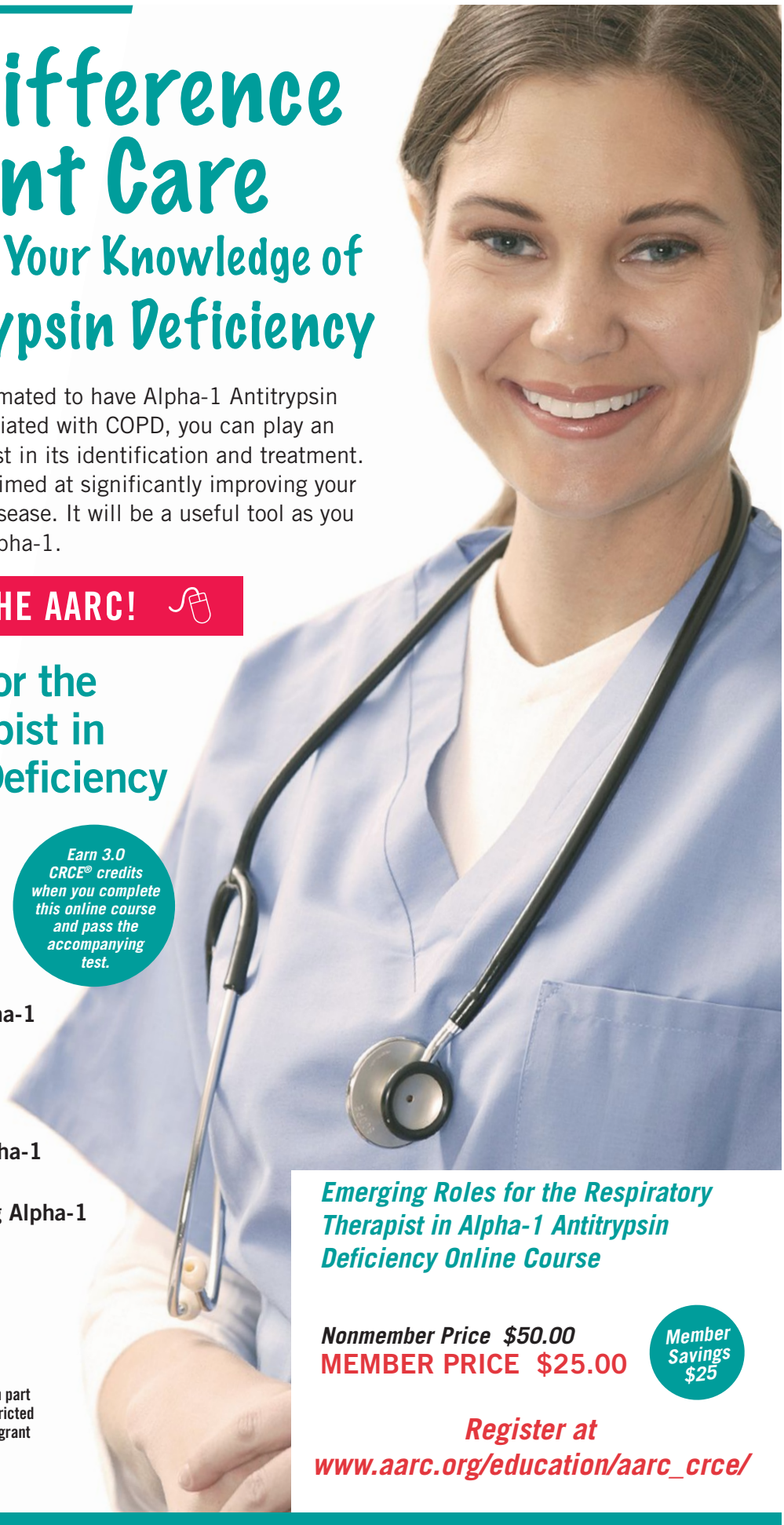

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# Preparing for State Legislatures Coming Back into Session

by Cheryl West, MHA

Last fall I wrote an *AARC Times* column focused on a few examples of 2013 state legislation that directly impacted the profession of respiratory therapy. And just like the tides that roll in, state legislatures are coming back into session and it's time to be prepared to respond to legislation… good or bad. This column is meant to provide some pointers on how to keep abreast of key issues.

## Hitting our mark

The majority of state legislatures have a set period of time when they are in session. Mostly this ranges from January until the end of May or June. Some have shorter sessions than that, and some legislatures (such as New York and California) basically never go out of session year round. A couple of states (Texas and Wyoming come to mind) come into session in one year to address only the state budget, no other issues, and wait for the following year to work on bills that deal with state programs. And at times, some states — having recessed for the year — pop up and go into an "emergency session," and there is no telling when that might end.

The respiratory society in your state is the recognized voice for your profession in your state. As just one small example of this, when a respiratory therapy vacancy occurs on the state Respiratory Care Licensure Board/Council/Committee, the Governor's Office (most often) will turn to the state's respiratory care society and request nominations to fill the respiratory therapy seat. While every citizen's voice most certainly counts, a unified and collective voice of many can be a powerful influence on the direction state legislators or policymakers will take on any given issue. The greater the number of RTs who are state society or AARC members — the greater the number of RTs who are willing to fan out across the state to spread the word or meet, email, or call their legislator on an issue — the greater will be the impact. There is, indeed, power in numbers. To make that collective voice of your state society stronger, consider volunteering some of your time to your state society. If you have a real interest in how the legislature (or for that matter, the regulatory agency side of the equation) works, societies are always looking for RTs who, armed with facts and background documentation, are ready to step up and to educate these policymakers through the society's legislative or government affairs committee.

Never underestimate the potential willingness of pulmonary patients or their family members/caretakers to let lawmakers know of their strong support of "their" RTs. Other individuals, perhaps your own family members or acquaintances, may want to help move an issue forward; and these "outside" supporters are key to any advocacy strategy. Their support can validate the importance of the RT issue. Your own social media networks, such as Facebook or Twitter, can inform or perhaps rally those outside the profession to the cause.

Keeping in the know these days is made vastly easier by tapping into the information your state government provides via their websites. A simple Google search (for example, "Iowa State Legislature") will bring the information and link right up, including how to find your own legislator. If you really are into the workings of your state legislature and want to know what (if any) legislation might be on deck that would impact the RT profession, tap into the email mailing lists for the health committees. Those are the ones that generally oversee the areas that can impact the profession. This might be a bit much for most of us who already have full

about the author…

Cheryl West, MHA, serves as director of government affairs for the AARC.

in-boxes; but, nevertheless, this avenue of information is available.

### Increasing concern

As noted in the previous column on state legislative issues, the number of state bills that either expand scopes of practice for other disciplines or question the necessity of state licensure for other professions seems to be increasing and of growing concern.

We urge you to always circle around to your state society Web page to check on any new "News" and, most certainly, read any emails sent either by your state society or the AARC. While your state society and the RTs in the leadership positions and those who are on the government or legislative committee often are able to address most issues (positive or negative), when you see an email calling for help, you should know something big is afoot and your help is indeed needed. The bottom line is that legislators will not know if a bill that includes references or changes to the respiratory therapy profession is good or bad, whether it needs to be revised or defeated or passed as is, unless they hear from both your state society and you the voter. ■

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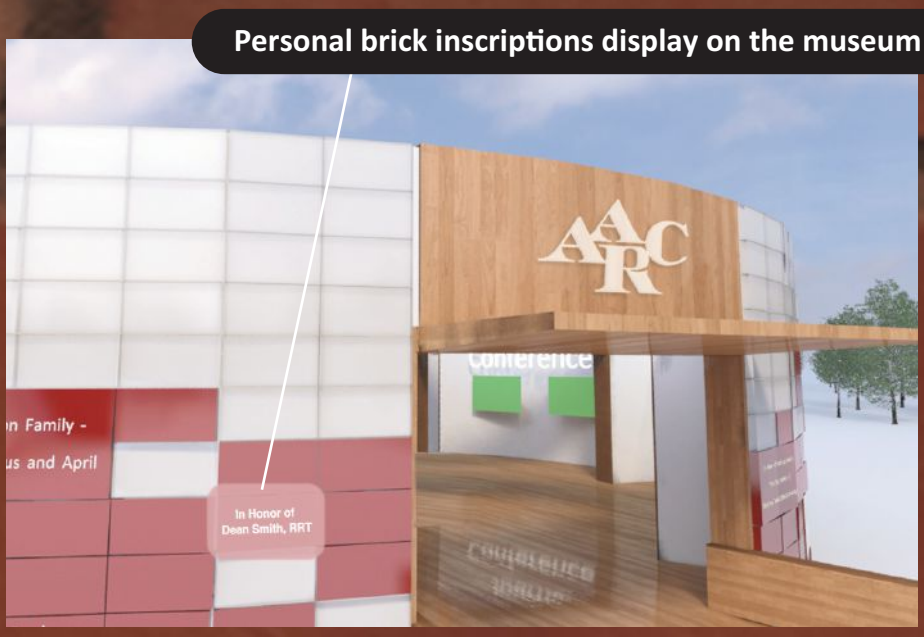


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# RC Currents

IN THE NEWS

## In Remembrance: 1983 AARC President Glen Gee

The AARC was saddened to learn of the death of Glen Gee, RRT, FAARC, a long-time leader in the Association who served as its president in 1983.

Many people will remember Gee best from his iconic photo with President Ronald Reagan and other AARC leaders in a 1982 edition of *AARC Times*. The photo commemorated President Reagan's signing of the proclamation declaring the first National Respiratory Care Week.

**Glen Gee**

Gee and his colleagues met the President in the Oval Office during Gee's president-elect year. But his leadership role in the AARC encompassed much more than simply the first National RC Week. He was instrumental in helping the Association move the nation toward licensure for respiratory therapists by supporting the addition of a $20,000 budget line item for state credentialing during his term as president. He also instituted the three-year sunset provision governing the review of policies and procedures in both the Board of Directors and House of Delegates.

"The younger generations of respiratory therapists have little idea of what Glen did for the profession," says Gee's long-time friend and colleague Richard Sheldon, MD, FAARC. "His influence was early and late, deep and extensive. His influence extended globally. From ventilator technology to computerized monitoring, his creative input and instinctive advice molded his profession like only really talented people can do."

Gee continued to support AARC activities after his presidency, and he was named a Life Member. He also received the Association's highest honor, the Jimmy A. Young Medal, exemplifying excellence in respiratory care.

Glen Gee most recently served as senior product manager at CareFusion in Yorba Linda, CA, but before segueing into respiratory care industry, he was director of respiratory care at Loma Linda University Medical Center in Loma Linda, CA, for 15 years, serving between 1969 and 1984. ■

## National Respiratory Care Week 2013

We hope you enjoyed National Respiratory Care Week! Learn more about how your colleagues celebrated last October by logging on to www.AARC.org.


**JFK Medical Center, Edison, NJ**

**Children's Hospital of Richmond at VCU, Richmond, VA**

## FDA To Complete Phase-out of Chlorofluorocarbon Inhalers

The U.S. Food and Drug Administration will complete its phase-out of all inhaler medical products containing chlorofluorocarbons (CFCs) by Dec. 31, 2013. This action is to comply with an international treaty to protect the ozone layer by phasing out the worldwide production of numerous substances, including CFCs, which government authorities note contribute to ozone depletion.

While the FDA has already phased out most inhaler products containing CFCs, two products currently remain on the market: Combivent Inhalation Aerosol and Maxair Autohaler. However, these products will no longer be available after the end of 2013. It is important for people with asthma or chronic obstructive pulmonary disease (COPD) who use these inhalers to talk with their health care professional about a prescription for an alternative treatment. ■

## Educators: Help Recognize Outstanding Students

The American Respiratory Care Foundation (ARCF) is accepting applications for its undergraduate and postgraduate Education Recognition Awards now through June 15 and is asking RC educators to help spread the word to their students. So check out the list of available awards and then encourage your best and brightest students to apply.

The ARCF offers awards to students who are currently enrolled in accredited respiratory care educational programs and to respiratory therapists who are pursuing an advanced degree. Awards include registration and airfare to attend AARC Congress 2014, to be held Dec. 9–12 in Las Vegas, NV.

To see all of the awards bestowed by the ARCF every year, go to the Foundation's Grants, Awards and Fellowships page at www.arcfoundation.org/awards/. For more information, contact April Lynch at lynch@aarc.org. ■

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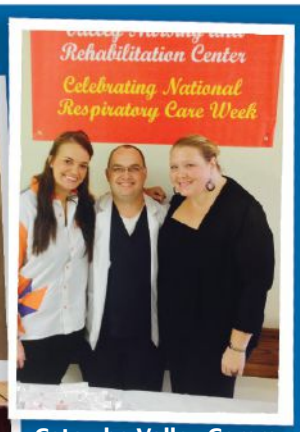



Catawba Valley Community College, Hickory, NC

# MSSU Students Head to the British Virgin Islands

Six students in the respiratory care program at Missouri Southern State University Consortium for Respiratory Care Education in Joplin, MO, got the chance to put their new skills to work helping asthma patients in the British Virgin Islands last spring.

"The students were able to touch the lives of 104 people with their presentations on asthma signs and symptoms, what triggers asthma episodes, and how to avoid such attacks," says Janice Dunaway, MS, RRT, director of clinical education.

**AARC members Alice Christian (left) and Amanda Dodd (right) enjoyed caring for children at the clinics.**

"They also demonstrated the proper technique for peak flow measurement and metered dose inhaler administration."

The AARC member prepared her students for the experience by making sure they were up to speed on the National Institutes of Health and Global Initiative on Asthma Guidelines. It all paid off for the patients who received their care — and that was especially true for one teenage girl who had no idea she had asthma until she and her mother heard one of the waiting room presentations.

**AARC member Whitney Shafer (far right) worked with her fellow students to educate patients on asthma signs and symptoms.**

**Cole Memorial Hospital, Coudersport, PA**



**Rhode Island Hospital/Hasbro Children's Hospital, Providence, RI**

**Read more about RC Week 2013 at www.AARC.org.**

**The trip to the British Virgin Islands was an experience students and instructor alike will not soon forget.**

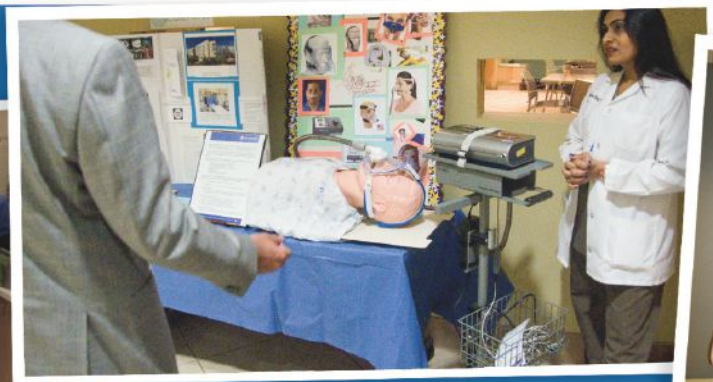
"From the student's presentation, her mother recognized the signs and symptoms of asthma in her daughter, who was visiting the clinic for an unrelated issue," explains Dunaway. The mother asked the clinic to evaluate her daughter for asthma, and one of the RT students obtained a history, physical, peak flow, and pulse oximetry, which revealed the child was having an asthma episode. "The student was able to recommend a bronchodilator, and testing afterward showed a reversal of symptoms." The girl was subsequently diagnosed with asthma and prescribed bronchodilator therapy. Arrangements were also made for a follow-up visit with a pediatrician.

In addition to treating patients at the two clinics, Dunaway and the students toured a local hospital where she was also able to meet with a range of health officials to promote the profession of respiratory care, which currently does not exist on the islands. Given the general lack of knowledge about state-of-the-art asthma care she noticed among the health professionals at the clinics and hospital, and the tendency of patients to treat asthma with plant-based remedies, she believes respiratory therapists could add significant value to the health care system there. She plans to continue to network with clinicians at one of the clinics in particular to improve asthma care.

"The trip opened my eyes to the possibilities and challenges of being in a different country and the promotion of my profession," says Dunaway. "It is my desire to continue to visit, establish a rapport with the Road Town Clinic, and establish a standard of care for its asthma patients." ■

**AARC member Janice Dunaway (left) plans to keep in touch with CherryAnn George-Smith, nurse manager of the Road Town Clinic, and the other health professionals she met in the British Virgin Islands.**

**UC San Diego Health System, San Diego, CA**



**El Camino Hospital, Mountain View, CA**

**Pecos Community Hospital, Fort Stockton, TX**

## Sleep & Wellness 2014

The AARC will collaborate with the American Sleep & Breathing Academy (ASBA) at a conference to assist both organizations in their mission to improve patient care through clinical and continuing education. The "Sleep & Wellness 2014: A Conference for Professionals" will be held in Scottsdale, AZ, on May 1–3. With its multidisciplinary approach to sleep medicine education, this conference will be the first of its kind. The event will be geared toward physicians, dentists, physician's assistants, nurse practitioners, respiratory therapists, and sleep technicians.

"Respiratory therapists have a 50-year history of providing cutting-edge evaluation, treatment, and education to patients with sleep-disordered breathing. The ability to collaborate with a multidisciplinary team to improve the care of patients with SDB is a key part of our mission," says AARC President George Gaebler, MSEd, RRT, FAARC.

Professionals can register for the conference at www.americansleepandbreathingacademy.com. ■

## "New Members" Column Now Online

The "New Members" column can now be accessed at www.AARC.org/new_members. Current AARC members are encouraged to check this site on the first of each month to view the names of individuals who have been approved as "Active Members" of the Association. Any current member may object to a new membership by filing a written objection with the AARC Executive Office at info@aarc.org within 30 days. ■


## Members, Send Us Your Human Interest Stories

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

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

## *Respiratory Care Education Annual* Call for Papers


The AARC will publish Volume 23 of the "Respiratory Care Education Annual" in the fall of 2014. This refereed journal is committed to providing a forum for research and theory in respiratory care education and is listed in the "Cumulative Index to Nursing and Allied Health Literature."

The AARC Education Section invites educators to submit papers for consideration. Preference will be given to papers that emphasize original research, applied research, or evaluation of an educational method. Other topics that may be considered include interpretive reviews of literature, educational case studies, and point-of-view essays. Submissions will be reviewed based on originality, significance and contribution, soundness of scholarship (design, instrumentation, data analysis), generalizability to the education community, and overall quality of the paper. Papers should be approximately 6–10 pages in length and **must** follow the guidelines in the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals," 5th edition (1997). These may be found at www.rcjournal.com/guidelines_for_authors/preparing_the_manuscript.cfm. Abstracts should not exceed 250 words. For more information, contact Dennis Wissing, PhD, RRT, FAARC, editor, at dwissi@lsuhsc.edu or (318) 573-9788. Electronic copies of completed manuscripts should be sent to Shawna Strickland at edu@aarc.org. Deadline is Feb. 15, 2014.■

## Call for Open Forum Abstracts for AARC Congress 2014

The AARC invites you to submit abstracts for the Open Forum at AARC Congress 2014. Considered by many to be the premier event at the AARC Congress, the Open Forum is your opportunity to gain recognition for your research in cardiorespiratory care by submitting an abstract for presentation at the Congress and having it published in Respiratory Care. New in 2014: three different ways you can present your poster at AARC. For more details, see http://rc.rcjournal.com/site/open_forum/2014_call_for_abstracts.xhtml/. The deadline to submit abstracts for the Open Forum is June 1. ■


AARC CONGRESS 2014

San Antonio Military Medical Center, Ft. Sam Houston, TX

Shawnee State University, Portsmouth, OH

## Enter the 2014 AARC Photo Contest

*AARC Times* is looking for creative members to enter the AARC Photo Contest by submitting photos depicting how RTs help patients improve their quality of life.

Finalists receive a free one-year AARC membership renewal and have their photo entered into our Photo-of-the-Year Contest with the chance of it being chosen and featured on the cover of *AARC Times*.

For information on how to enter, select the *AARC Times* icon on www.AARC.org and click on the "Photo-of-the-Year Contest" link. The deadline to submit your photo is Nov. 14, 2014. ■

## Monday, Monday

Lots of people are making New Year's resolutions right about now, but according to a new study from U.S. investigators, that's not when smokers are most likely to plan a quit attempt. Their analysis of Google search logs in six different languages found Monday is the biggest day of the week for Internet searches for information and advice on kicking the habit.

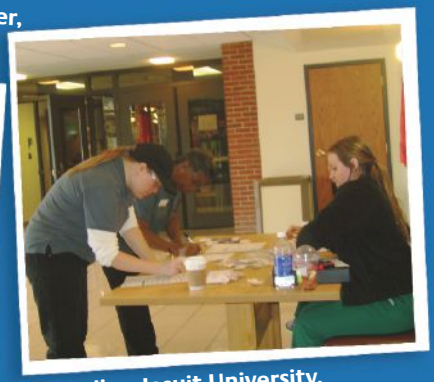
Monday query volumes in English, for example, were 11% greater than those seen on Wednesdays, 67% greater than those seen on Fridays, and 145% greater than those seen on Saturdays. In total for all six languages in the study (English, French, Chinese, Portuguese, Russian, and Spanish), Monday query volumes were 25% higher than the combined mean number of searches for Tuesday through Sunday.

Study co-author Morgan Johnson, from The Monday Campaigns, believes these findings may be useful to those who want to target smokers for quitting. "Whether it's scheduling staff hours or buying media time, you are better off reaching people when they're thinking about their smoking habit, and Monday seems to be an ideal time."

Lead author John W. Ayers, from San Diego State University, summed it up like this: "If you're a smoker, just remember, quit this Monday. Everyone else is doing it." The study appears in an October edition of *JAMA, Internal Medicine*. ■


Saint Anthony North Hospital, Westminster, CO

Advocate Christ Medical Center, Oak Lawn, IL



Wheeling Jesuit University, Wheeling, WV

## Transitions

**Helen Sorenson, MA, RRT, FAARC**, has received the Distinguished Alumni Award from Dana College in Blair, NE. Sorenson graduated from Dana with a bachelor's degree in biology in 1968. Her career in respiratory care has spanned three decades, during which time she has served as supervisor of respiratory care at Memorial Community Hospital in Missouri Valley, IA; director of clinical education at Metropolitan Community College in Omaha, NE; and an associate professor at the University of Texas Health Science Center in San Antonio, TX, where she still teaches on a part-time basis.

**Henry Oh, PhD, RRT**, has received the Master Teacher of Honor Award from Kappa Delta Pi, the International Honor Society in Education. Dr. Oh is associate professor and director of the RT program at San Juan College in Farmington, MN, and chair of the New Mexico Respiratory Care Licensure Board. He is also an executive board member of the National Lambda Beta Honor Society for Respiratory Care.

**Denise Adams, RRT-NPS**, lost her life in a medical helicopter crash in Tennessee last October. She died along with the nurse and pilot on board. The team was in route to pick up a child in liver failure when the accident occurred. Adams was an RT at Le Bonheur Children's Hospital in Memphis, where her colleagues remember her for her giving spirit and unwavering devotion to her patients.

You can submit news about AARC members by going to www.AARC.org/transitions. ■

## Parents Need Training in Inhaler Technique

Parents of young children with asthma could use more education on inhaler technique, New York researchers concluded in a recent issue of the *Journal of Asthma*. They used a 10-step checklist developed from national asthma guidelines to gauge inhaler technique in 169 caregivers of urban minority children between the ages of two and nine with persistent asthma.

Five of the steps were considered essential for adequate delivery of medication. Caregivers who carried out seven or more of the steps correctly were deemed to have good technique, while those who carried out six or fewer were deemed to have poor technique.

Only one of the caregivers carried out all 10 steps correctly, and less than 4% were able to complete all five of the essential steps. While more than 90% of the caregivers recalled receiving instruction on inhaler technique, only 54% remembered being asked to demonstrate their technique for a health care provider. "Our study results further support the fact that caregivers need regular demonstration and evaluation of the correct technique, which could lead to improved clinical outcomes as well as reduced hospitalizations and health care costs," concludes study author Marina Reznik, MD, MS, from Albert Einstein College of Medicine. ■


University of Chicago Medicine, Chicago, IL

Prince Sultan Military College of Health Sciences, Saudi Arabia

## Connecting the Dots Between Mechanical Ventilation and Delirium

Working with colleagues in Spain and Canada, researchers from the Perelman School of Medicine at the University of Pennsylvania found intriguing clues as to why so many ICU patients on mechanical ventilation have delirium.

The discoveries came after the group conducted a series of animal experiments to examine the effects of mechanical ventilation on the hippocampus. Results ultimately identified the specific molecular mechanism at play, which the authors believe may prove to be a target both for new drugs and new therapeutic uses of established drugs that can activate a molecular pathway mediating the adverse effects of ICU ventilation on brain function.

"Now that we have established the mouse model, we are mainly looking for therapeutic approaches aimed at avoiding the vagal activation caused by mechanical ventilation and therefore prevent the deleterious effects observed in the hippocampus," study author Guillermo M. Albaiceta, MD, PhD, from the University of Oviedo, was quoted as saying. The study was published in the *American Journal of Respiratory and Critical Care Medicine* in September. ■

## ▶ Strange But True…

**The sniff test:** Ducks are known carriers of avian influenza, but since the infection is typically asymptomatic, tracking the disease requires capture of the animals and collection of swab samples. New research from the Monell Chemical Senses Center and the USDA suggests the infection might be sniffed out instead. Their research shows a distinctive odor in the fecal matter of infected ducks.

**Longer shelf life:** Belgium physicians successfully preserved a set of donor lungs for 11 hours — a world record, according to the transplant team — using a machine that provides continual flushing and oxygen at room temperature. The technique was used in a case in which a man in respiratory failure also went into liver failure. Since lungs can only be transplanted into a person with a working liver, the liver transplant had to come first, making it necessary to keep the lungs going until it was their turn for transplantation. ■

## Statins Fall Short in VAP Study

Don't look to statin therapy to improve outcomes for ICU patients diagnosed with ventilator-associated pneumonia. That's the take-home message from French researchers who randomized 300 patients in 26 ICUs to receive simvastatin (60 mg) or placebo, started on the same day as antibiotic therapy and given until ICU discharge, death, or day 28, whichever occurred first.

The study was stopped at the first scheduled interim analysis when results showed day 28 mortality was not lower in the simvastatin group (21.2%) than in the placebo group (15.2%). Nor were there any differences in day 14, ICU, or hospital mortality rates, or duration of mechanical ventilation. The researchers published their findings in October *JAMA*. ■

Okefenokee Technical College, Waycross, GA


Southeastern Regional Medical Center, Lumberton, NC

## Honoring Military RTs

If you are an AARC member currently serving your country in the military, *AARC Times* would like to publish a story and photo about your service or deployment. Please contact *AARC Times* Editor Marsha Cathcart (cathcart@aarc.org) to provide information for an "RC Currents" story. The AARC honors those who serve, and we would like to share your story with your respiratory care colleagues here and abroad. ■


Weatherford College, Weatherford, TX

Good Samaritan Hospital, Vincennes, IN

**Thank you for your RC Week photos!**


# Classifieds

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**Department of Respiratory Therapy**
**Georgia State University**

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Questions may be directed to the search committee chair, Dr. Arzu Ari, at aari1@gsu.edu (Log #15-077).

Georgia State University is an Equal Opportunity/Affirmative Action university and accommodates individuals with disabilities. All applicants must comply with the Immigration Reform and Control Act. Women and minorities are strongly encouraged to apply.

**_AARC Times_ Classified Advertising Information & Requirements:**

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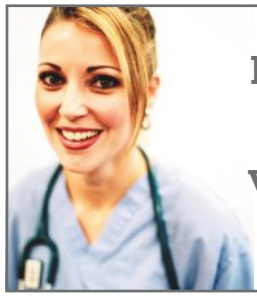

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## Your Membership Makes A Difference

## Membership Application

### 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.

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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.

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

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Phone No. ( _____ ) _____ Email Address _____

Your AARC dues includes membership in your state society. A portion of your money will be given to them.
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: _____

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

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

**For Student Member (Required)**

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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.(Optional)

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☐ 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**

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

**Credentials** ☐ MD ☐ DO ☐ RRT-NPS ☐ RRT-SDS ☐ RRT-ACCS ☐ RRT ☐ RPFT ☐ CRT-NPS ☐ CRT-SDS ☐ CRT-ACCS
☐ 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

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**Signature** _____ **Date** _____

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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 Congress.

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

**Thanks for Being Part of the Team**

**Revised July 2013**

— 2014 —

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**AARC & State Society Programs**

**May 1–3**

Scottsdale, AZ

AARC's and the American Sleep & Breathing Academy's Sleep & Wellness 2014: A Conference for Professionals

Contact: www.americansleepandbreathingacademy.com

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Submissions for the next available issue are due Jan. 17.

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

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