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Times

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The American Association for Respiratory Care has a Strategic Plan that includes its Mission and Vision Statements for 2015-2020.

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**Pulm HTN Treatment Modalities: Pulmonary Pharmacology,
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Summary and Conclusions

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<http://registercme.com/events/pulm-htn-4-rrts>

PROGRAM OVERVIEW

Pulmonary hypertension (Pulm HTN) can be characterized histopathologically by vasoconstriction, vascular proliferation, and remodeling and narrowing or thrombosis of small pulmonary arteries. If left untreated, these pathological changes result in a progressive rise in pulmonary artery pressure and pulmonary vascular resistance, which eventually leads to right ventricular failure and premature death. Pulm HTN is a condition that RRTs see and treat throughout their professional careers in patients with chronic lung disease. The primary purpose of this activity is to improve the knowledge and competence among RRTs and other health care providers regarding the appropriate management of Pulm HTN, specifically the evidence-based use of inhaled pulmonary vasodilators, including inhaled nitric oxide. Inhaled pulmonary vasodilators play an important role in treating Pulm HTN, but the administration of these agents should be managed by RRTs and other HCPs qualified by education and experience in their use. This symposium will address the pharmacology of inhaled pulmonary vasodilators and the appropriate use, efficacy, and safety of inhaled vasodilator therapy in the clinical setting.

TARGET AUDIENCE

This activity has been designed to meet the educational needs of Physicians and Registered Respiratory Therapists who treat patients with Pulm HTN.

LEARNING OBJECTIVES

After completing this activity, the participant should be better able to:

- Diagnose Pulm HTN based on the WHO classification system
- Define pathophysiologic mechanisms of Pulm HTN and the role of inhaled pulmonary vasodilators for the treatment of patients presenting with this condition
- Recommend optimal inhaled pulmonary vasodilator therapy based on the pharmacology, safety, and efficacy of individual agents for patients with Pulm HTN who are candidates for this intervention
- Implement inhaled delivery of pulmonary vasodilator therapy for Pulm HTN based on differences among specific agents
- Approach with appropriate caution the use of aerosolized pulmonary dilating agents not formulated or indicated for use by inhalation

REGISTRATION INFORMATION

There is no registration fee for this activity.

If you require special assistance, please contact Melissa Nocera at HealthmattersCME at 646-674-1820.

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CPG: ICU-Acquired Weakness

by Carl Hinkson, MSc, RRT-ACCS, NPS, FAARC

Patients admitted to the intensive care unit for acute respiratory failure, acute respiratory distress syndrome (ARDS), or other critical illnesses often face a myriad of challenges. Not only are these illnesses often life threatening, the treatments to support a patient through such a disease course often comes with their own set of consequences. Clinicians are now faced with new challenges as they begin to understand the consequences life-saving treatments have for patients who have survived a critical illness. One such challenge facing patients who have been admitted to critical care is ICU-acquired weakness (ICUAW). ICUAW is defined as a “syndrome of generalized limb weakness that develops while the patient is critically ill and for which there is no alternative explanation other than the critical illness itself.”¹ ICUAW is associated with prolonged mechanical ventilation, increased mortality, long-lasting weakness, and worse quality of life.² It is important for respiratory therapists to understand exactly what ICUAW is, which patients are at risk, and how the emerging clinical practice guidelines can inform RTs on how we can play a role in helping our patients.

ICUAW occurs more frequently than earlier thought. In patients who are mechanically ventilated for 7 days, the incidence of ICUAW is around 25%; for patients on mechanical ventilation for ≥ 10 days, the incidence may be as high as 60%-67%.³ Patients with ARDS can have weakness that persists after hospital discharge.² Several risk factors have been identified for ICUAW: age, sepsis, multi-organ failure, severe illness, duration of bed rest, and hyperglycemia. ICUAW is collectively made up of three distinct pathophysiologies: critical illness poly-

neuropathy (CIP), critical illness myopathy, and/or muscle atrophy.² In many patients with ICUAW, these syndromes may overlap. Also, post-intensive care syndrome (PICS) is an emerging new term to describe cognitive and physical impairments that occur as a result of a critical illness.⁴

The first description of polyneuropathy came from De Jonghe et al in 2002 where they described an ICU-Paresis.⁵ CIP, a key component of ICUAW, is associated with clinical signs that include flaccid, asymmetrical atrophy, weakness of the limbs, and variable loss of sensory to pain, heat, and vibration.⁶ The etiology for CIP is not entirely understood, but what is known is that substantial axonal degeneration or injury occurs. During a critical disease state such as sepsis, the membrane at the nerve is thought to become more permeable and toxic elements are able to intrude and damage the nerve. This damage has the effect of limiting the transmission of the nerve impulse across the axonal junction.²

Hyperglycemia also appears to play a role in CIP. Transport of glucose into nerves cells is primarily driven by blood glucose levels. Hyperglycemia often can result from the stress induced on the body during a critical illness. This has the potential to induce nerve injury similar to that seen with diabetic nerve damage. The immobility frequently induced by heavy sedation and bedrest leads to higher levels of glucose in the blood as the skeletal muscles are not consuming the glucose. Nerve cells are sensitive to higher levels of glucose and do not tolerate hyperglycemia as well as skeletal muscles do. Hyperglycemia at the axonal junction is theorized to have direct toxic effects contributing

about the author...



Carl Hinkson is the Assistant Manager of the Respiratory Care Department at Harborview Medical Center. He has 20 years experience in adult critical care.

to CIP. In a post-hoc analysis, Patel et al⁷ demonstrated that early mobility reduced ICUAW and promoted euglycemia.

Critical illness myopathy, another component of ICUAW, is defined as loss of limb and respiratory muscle strength, but retention of sensorium. It is characterized by sparing of the nerves, but loss of thick filaments, myosin fibers, and muscle necrosis.^{2,6} Direct stimulation from electrophysiological testing reveals that the nerve impulse is able to travel to the muscle, but is of a lower amplitude leading to a weaker contraction. Proposed theories of action include that the cytokines released during critical illness lead to an increase in muscle catabolism and wasting. This theory has been proposed as the direct toxic effects of corticosteroids and neuromuscular blockade but research has been mixed as to the role that neuromuscular blocking agents play. In fact, one randomized controlled trial showed an improvement in severity adjusted mortality with cisatracurium and found no differences in ICUAW between the study groups.⁸

Diagnosing ICUAW can be accomplished through physical examination using the Medical Research Council (MRC) exam, nerve conduction studies (NCS), or muscle/nerve biopsies. Each of these exams has limitations: MRC requires an awake and cooperative patient; NCS are confounded by peripheral edema and is moderately invasive. Muscle and nerve biopsies are definitive but invasive and should be reserved for when a definitive diagnosis is required.

To date, there is very little to offer patients with ICUAW in means of treatment. Most therapies focus on prevention. The most widely practiced prevention strategy involves early ICU mobility, in which patients participate in physical therapy even while on the ventilator. Some clinicians may have misgivings about this practice, but it has been shown that it can be done safely.² Activity by the patient has several theoretical benefits for those at risk for ICUAW. Physical activity helps to reduce the need for insulin and early physical therapy was associated with an 80% reduction in ICUAW.⁷ Meta-analysis of early mobilization suggests it as an effective preventative measure for ICUAW.⁹

The American Thoracic Society (ATS) recently published guidelines on the diagnosis of ICUAW, proposing three recommendations. The group called for more research to be done 1) in establishing the effectiveness of early mobilization as a treatment or preventative measure for ICUAW; 2) to determine the role for prior patient

disability and how it plays a role in ICUAW; and 3) to determine how a definitive diagnosis may play a role in caregiver and patient decision making.¹ Other groups, such as the American Physical Therapy Association, are actively working on the development of CPG for ICUAW and PICS.

RTs play an integral role with patients on mechanical ventilation. Because patients with ICUAW are at risk for recurrent respiratory failure and nosocomial pneumonia, respiratory therapists may also have a role in preventing ICUAW. The ATS guideline specifically cited respiratory therapists and their role in maintaining pulmonary hygiene in patients with ICUAW. When caring for these patients RTs should ask “What activity is the patient able to perform?” Respiratory therapists are key team members, well equipped to help identify patients at risk for ICUAW and to help problem solve and remove barriers for preventative measures such as early ICU mobility. Although some of these therapies may be time intensive, they may be beneficial at reducing time on the ventilator and in the ICU, as well as possibly reducing the incidence of ICUAW. ■

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RT Teams May Be at Risk for Burnout and Secondary PTSD

By B. Simone Caruthers, PhD

My father was a career military officer, and I have provided psychological services to military veterans. I understand and have lived with commitment to serve, and I recognize the impact of service in the face of trauma on individuals and on families. It was from a place of recognition and empathy that I decided to address the stress I have seen in the daily work demands of respiratory therapy staff. This article is the outgrowth of a leadership project conducted while I served as a resident chaplain in the Clinical Pastoral Education Program at Littleton Adventist Hospital in Littleton, CO.

It came to my attention as a resident chaplain in a level 2 trauma center that there was a need for spiritual and emotional support for our respiratory therapists. RT professionals from this department are vital and central contributors to our health care team. They are front and center at all the trauma-related deaths and at all deaths where the patient is receiving ventilation in the hospital and in the emergency department (ED).

RTs show up with skill, commitment, and a passion to support the patient. The respiratory therapy staff is present when someone is put on the ventilator and when they are taken off life support. They generally work with the patients who are very ill and many develop a supportive relationship with them. They often provide care in situations where high-magnitude stressors are present that can result in compassion fatigue and secondary post-traumatic stress disorder (PTSD) in caregivers.

When a patient dies, our chaplain service extends resources to the respiratory staff in the context of support to another department. Too often, however, the re-

spiratory therapy team members are called to be in another location and are not able to attend. Furthermore, it seems from my interviews with staff that it is generally unlikely that RTs' academic training provided them the resources and support to process their experiences and to support each other. I have found the support they provide to each other can be to replay or re-experience the event rather than to debrief it. One recreates the emotional trauma while the other helps to reframe it by gaining perspective.

Dr. Charles Figley, a traumatologist at Tulane University, describes compassion fatigue as the emotional residue or strain of exposure that results from working with those who have suffered from traumatic events.¹ I have seen that highly trained, committed respiratory therapists, as well as other emergency responders, will often move on to take care of another patient without taking time to process their emotions or the stress from a difficult situation. When that happens over a period of time, it is not unusual for the distress to come out physically in health issues or interpersonally in the quality of relationships. When individuals lack adequate resources to process their emotional experiences, they often shut down that part of their awareness and their aliveness. When

that happens, they are at risk for developing secondary PTSD and compassion fatigue. This is a tragedy for our caregivers.

After exploring what resources the respiratory therapy team had and what they would like, as well as what training they had been given to deal with death and stress, I looked at what coping style was working for them. I found that they were struggling. I asked their

about the author...



Simone Caruthers, PhD, is a health care chaplain in Denver, CO, with experience in the acute care hospital chaplaincy, private practice as a licensed psychologist, and 10 years' experience in pediatric nursing.

help to identify what support would be useful and prove valuable to the team members. The most frequent response I found through interviews and a survey was that the staff felt underappreciated and lost in the system. They felt they did not have the luxury of time to process what they experienced in the moment.

They expressed a need for an advocate and a resource for help with resiliency issues. Because a typical coping style of this team was to ignore or shut down their emotions so they could continue to function, they needed to develop some non-threatening ways to address their grief, stress, and distress after the event and to learn some new habits.

The following were the situations they agreed were especially problematic for them:

- A child under 18 dies.
- A patient over 18 months of age and under 3 years of age dies.
- We treat a child in severe respiratory distress in the ED who has to be transferred to another facility.
- We are involved in removing life support with someone we have been working with for some time and have bonded with the patient and their family.

- We have assisted in an extreme trauma in the ED that does not go well.

The stress/distress seemed to vary with how involved the staff member was in each case. It also depended on the situation, the emotional attachment at the time, and the severity of the situation.

What seemed key here was for the individuals, their managers, and the chaplain to realize the potential for distress and show concern for the team members involved.

Ways staff reported that they handled their grief and stress were:

- Pray and go on.
- Take comfort in their faith and religious beliefs about death and suffering.
- Talk with co-workers and share feelings.
- Talk with other staff in the department.
- Talk with their family.
- Eat, watch TV, laugh.
- Think about that person on their days off. Pray for them and their family.

Staff reported these coping strategies were effective about half the time and less so in the more difficult situations. The help they wanted was:

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- Acknowledgment of the stress of the job. It is useful for the individuals and the managers to be aware of potentially stressful situations and to identify it when it happens. Increase awareness of the issue.
- For management and leadership in the hospital to acknowledge the respiratory therapy team and acknowledge that RTs do make a difference. When food rewards are distributed to the units, remember our team.
- A debriefing of staff after every extreme trauma and infant/pediatric code.
- Just knowing support is around and that we have a resource person to debrief with is very helpful.
- Encouragement for the group to talk immediately after a tragedy helped.

I met with the respiratory therapy team and discussed the results of my findings. We discussed resiliency and I provided tools that have proven useful to people and especially caregivers experiencing trauma. I started to provide chaplain support and alerted our chaplain team to be mindful of that need. Since my original contact with the team, I have noticed that they continue to work together and to support each other. I also noticed the staff has responded well to just knowing someone cares, that their contribution is valued, and that they have a resource if they need it. Tools suggested were: ²

- Self-awareness of the potential for stress and good self care.
- Coloring sheets or doodle sheets that staff can use to color on during a debriefing meeting if they do not wish to talk. I found that this non-threatening tool was quite useful for the team to help process stress/distress.³
- Physical exercise.

- Resiliency writing, a tool described by Bryan Sexton, has been proven to be quite useful in promoting resiliency in trauma-prone professions.
- “Three good things” white board, a tool that supports a positive outlook to stay focused on gratitude for what is working and positive in the individual’s life.²
- Social support.

In conclusion, because of the type of work that respiratory therapists do on a daily basis, working with life-threatening trauma and the removal of life support, they are at risk for developing compassion fatigue or secondary PTSD.^{1,4} In addition to impacting the therapist’s personal life, it often results in staff burnout and unnecessary staff turnover.

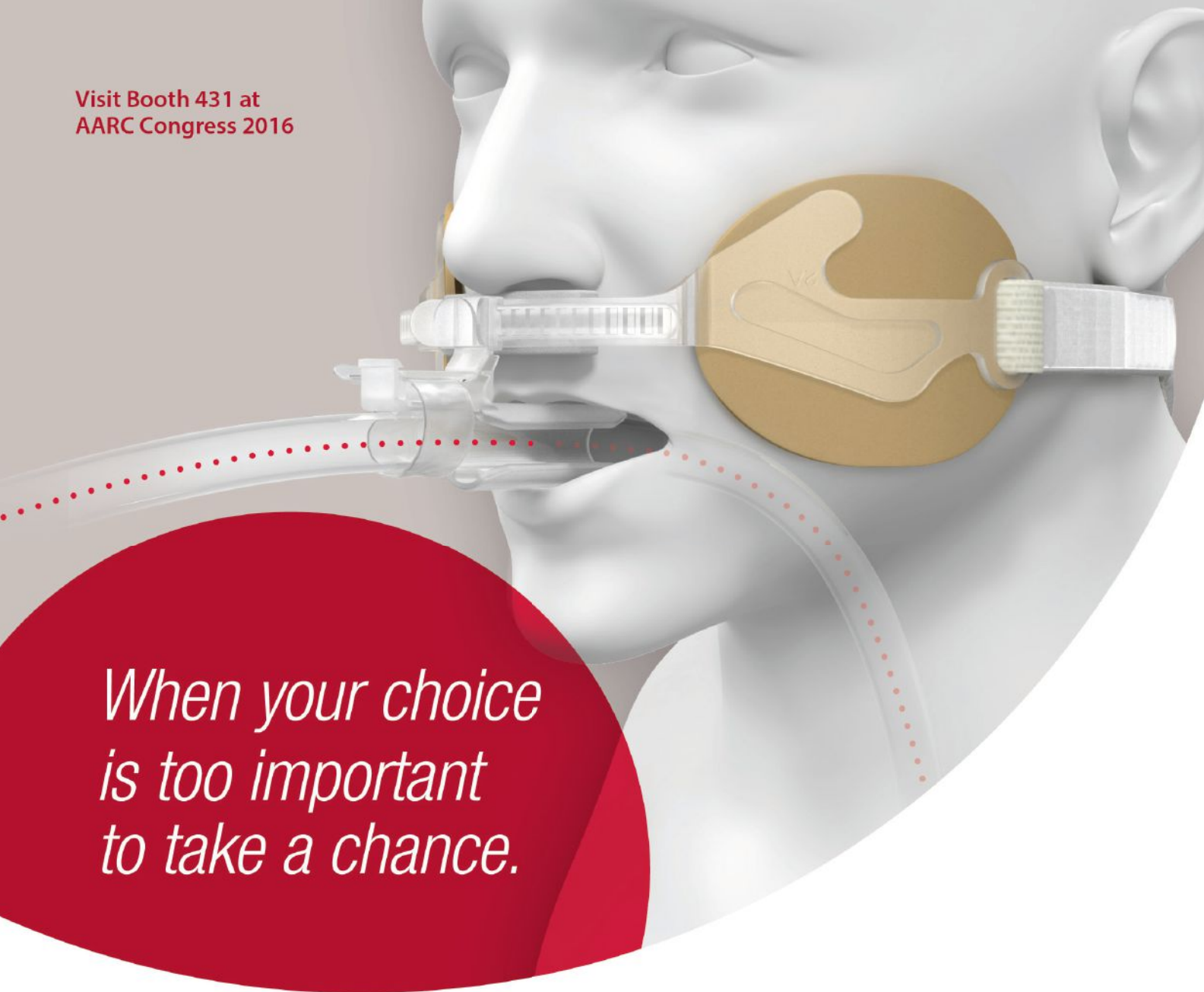
This article points out ways that respiratory therapists can recognize that they are at risk and they need to engage in self care and activities that support resilience. Therapists should reach out for an advocate and make use of support from their team members, their managers, and their hospitals. A hospital chaplain can also be a great resource for the team.

Respiratory therapists provide the support of breath to our patients. It is good and professional for therapists to ask for the same for themselves. ■

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AARC Is Keeping an Eye on the Medicare Telehealth Parity Act and Other Legislation Important to the Respiratory Therapist

by Cheryl West, MHA

If you've kept up with stories in *AARC Times* or read our web news stories on www.aarc.org, you know by now that the key Congressional legislative issue the AARC is advocating for is the passage of HR 2948, the Medicare Telehealth Parity Act (Parity Act). This bill provides the recognition of respiratory therapists under one of the Medicare benefits — telehealth. This recognition, under the telehealth benefit, is the first step in greater recognition of the profession of respiratory care within the full scope of Medicare benefits.

Among other things, the Parity Act would expand current Medicare telehealth coverage to permit RTs to provide telehealth services and add respiratory care to the list of covered services. It would also cover remote patient monitoring for patients with certain chronic conditions that include COPD. On our AARC website we've put an extensive list of frequently asked questions that explain what this bill does and why it is advantageous for the RT profession and our pulmonary patients.¹

Of course, there are a number of telehealth bills that have been introduced into Congress in the past year. Although AARC supports expansion of telehealth and remote patient monitoring services in general, none of these bills add respiratory therapists or the services they provide to bill language. And that is why we are supporting the Parity Act — as it does clearly recognize the role respiratory therapists play in delivering telehealth services.

There is one other area of AARC involvement to mention regarding our efforts on the Hill as it pertains to providing care to Medicare patients with chronic diseases with an emphasis on telehealth.

The powerful Senate Finance Committee (which has jurisdiction over Medicare law) has established a

bi-partisan Chronic Care Working Group (CCWG) to explore solutions to improve the health outcomes of Medicare beneficiaries living with chronic conditions. The CCWG sought public input last year on a number of issues, including telehealth, to which the AARC submitted comments. More recently, the CCWG developed a bipartisan policy options document based on the public's earlier input. AARC submitted comments that: 1) supported endorsement of the provisions of HR 2948; 2) strongly recommended the Independence at Home Demonstration Project be expanded to include Medicare beneficiaries in need of respiratory services; and 3) encouraged waivers to current telehealth restrictions for Medicare Advantage plans and alternative payment models that would permit respiratory therapists to provide telehealth services.

But the topic of this column isn't just about reminding readers of the Parity Act and its importance to RTs, it's also to let you know that AARC additionally supports, perhaps less intensively than the Parity Act efforts, but nevertheless, supports other Congressional legislation.

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about the author...



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

HR 3355/S 488 — Tech Bill To Amend Supervision of Cardiac/Pulmonary Rehabilitation

- Allows physicians assistants, nurse practitioners, and clinical nurse specialists to provide direct supervision.
- Eliminates Medicare (Centers for Medicare & Medicaid Services) interpretation that only physicians can supervise.
- Does not impact medical director function (one who provides oversight and responsibility for a program).

S. 2736, the Patient Access to Durable Medical Equipment (PADME) Act

- Extends the transition of the roll out of the DME Competitive Bid Program into rural and non-competitive areas until Sept. 30, 2017.
- An extension would allow time to assess new reimbursement rules that began in January 2016 and have had an impact on Medicare patients.

S.1065 — School Asthma Management Plan Act

- Through the U.S. Department of Education (DOE), the bill would provide \$100 million in funding to help schools and low-income families afford new inhalers.
- The bill requires schools to develop and implement asthma management plans.
- The DOE would provide additional funding for asthma research and improve collaboration among federal agencies for better asthma surveillance and data collection.

S. 1972 — Airline Access to Emergency Epinephrine Act of 2015

- This bipartisan bill requires airlines to clarify that epinephrine ampules included in emergency medical kits carried on aircraft are intended to be used for the treatment of anaphylaxis.
- Airlines would be required to carry no fewer than two packs of epinephrine auto-injectors.
- Air carriers are also required to provide crewmember training based on the advice of experts so that crewmembers know how to recognize an acute allergic reaction, and how to administer the auto-injectable epinephrine.

Reauthorization Funding for the Children's Health Insurance Program (CHIP)

- CHIP began in 1997 to finance health coverage for more than 8 million children in low-income families who do not qualify for Medicaid or cannot afford private coverage.
- Together, CHIP and Medicaid provide health insurance coverage to more than 40% of children in the United States, making both programs combined the largest insurer of U.S. children.
- The AARC went on record to urge Congress to fund CHIP through 2019.

HR 3119 Palliative Care and Hospice Education and Training Act

- Would require the Public Health Service to provide funding/grants to increase the number of secondary education faculty with expertise in palliative and hospice care.

- The Agency for Healthcare Research and Quality must provide for a national education and awareness campaign to inform patients, families, and health professionals about the benefits of palliative care.
- The National Institutes of Health must expand national research programs in palliative care.

While the AARC highlights key Washington, DC, Congressional issues, in this case our involvement in advocating for HR 2948 (the Parity Act), we also have a hand in and support other important legislation that can not only positively impact the profession of respiratory care but also enhance the care you provide to your pulmonary patients. ■

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Sedating the Ventilated Neonatal-Pediatric Patient

By Osayame Ekhaguere, MBBS, MPH; Kristen Smith, MSN, CRNP; Erin Tkach, MD; and Natalie Napolitano, MPH, RRT-NPS, FAARC

Mechanical ventilation is a common treatment for respiratory, cardiac, and neurologic failure in the pediatric and neonatal intensive care units (ICUs). Mechanical ventilation can be associated with pain and non-pain-related distress.^{1,2} Early recognition and treatment of pain and non-pain-related distress are critical in the management of pediatric and neonatal ICU patients supported by mechanical ventilation. Optimal ventilator strategies, with adjunctive pharmacological interventions when indicated, are the main stay of management. This article summarizes the common non-pharmacological and pharmacological interventions used to facilitate mechanical ventilation in children, as well as the grading scales used to monitor pain, non-pain-related distress and adequacy of sedation. We also emphasize the critical role of the respiratory therapist in helping to judge the effectiveness of the treatments applied.

Benefits and risks of sedation to facilitate mechanical ventilation

Pain is the most common memory patients have of their ICU stays,³ and pain can have a lasting effect on the developing brain.⁴ Non-pain-related distress such as agitation, fear, delirium, and anxiety can potentially disrupt synchrony with the ventilator, increase metabolic demand, and cause an unplanned extubation.² Adequate pharmacological interventions, in conjunction with optimized ventilator strategies, facilitate patient safety, minimize physical discomfort and pain, control anxiety, optimize oxygen delivery and utilization, minimize psychological trauma, and control behavior and movement.^{5,6} Nevertheless, these medications have adverse effects. Over-sedation will depress the respiratory drive, that may lead to longer ventilator time and ICU stay,⁷ while under-sedation can heighten pain and non-pain-related distress such as delirium and iatrogenic withdrawal syndrome.^{2,7}

Common medications used to facilitate mechanical ventilation

Medications used to facilitate mechanical ventilation can be broadly grouped into those that relieve pain, such as opioids, and those that cause sedation such as benzodiazepines. In specific circumstances, muscle relaxants are used; however, without adequate pain control and sedation, paralysis will heighten pain and distress. Commonly used medications, side effects and indications for specific agents are summarized in Table 1. A sound understanding of the underlying medical condition, the stability of the

patient, optimal ventilator strategy, the efficacy and safety of each medication, and the potential untoward long-term neurodevelopmental effects are essential in choosing specific agents for individual patients.

Adverse effects associated with pharmacologic management

While adequate analgesia and sedation may help facilitate mechanical ventilation when indicated, it may impair bedside neurological assessment and lead to depressed spontaneous ventilation. Inadequate analgesia and sedation will lead to pain, pain-induced distress, or under-sedation. Conversely, excessive use will lead to over-sedation, prolonged ICU stay, longer ventilation times, drug tolerance, and dependence.² It has also been associated with acquired muscular disorders and post-traumatic stress disorder.¹³

There is a growing awareness of non-pain-related distress such as delirium and iatrogenic withdrawal syndrome^{2,14} that may follow from the use of the medications described, and these should be considered in the face of inability to achieve comfort, particularly in chronically exposed patients. Delirium is a neurocognitive disorder due to a somatic illness or its treatment.¹⁵ Epidemiology and risk factors for pediatric delirium are

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Table 1: Summary of medications used to facilitate mechanically ventilation in neonatal-pediatric patients*

Class & Agent	Clinical Effect	Side Effects	Comments
OPIOIDS			
Morphine	Analgesia Sedation	Respiratory depression, hypotension, central nervous system (CNS) depression, urinary retention, constipation, and tolerance/dependence associated with prolonged use	A commonly used opioid. Can cause considerable hemodynamic instability.
Fentanyl	Analgesia Sedation at high dose	Same as above	One hundred times more potent compared to morphine. Can cause chest wall rigidity. Quick onset, short half-life. Less hemodynamic effect and less histamine release compared to morphine.
Hydromorphone	Analgesia Sedation at high dose	Same as above	Seven times more potent than Morphine. Used as an alternative when escalating morphine doses.
BENZODIAZEPINES			
Midazolam	Sedation	Respiratory depression, hypotension, CNS depression, neurotoxicity, myoclonic jerking	Associated with ICU delirium. Used as an adjunct to opioid.
Lorazepam	Sedation	Same as above	Longer half-life compared to midazolam. Used as an alternative to escalating midazolam doses.
BARBITURATES			
Pentobarbital	Sedative	Hypotension, CNS depression, neurotoxicity	Adjunct sedative in multimodal therapy.
α2 AGONIST			
Dexmedetomidine	Sedation Anxiolytic, analgesic, and sympatholytic	Bradycardia, sinus arrhythmias, heart block, nausea, rebound bradycardia	Used for short term sedation. Provides sedation for spontaneously breathing children, as it does not cause respiratory depression.
Clonidine	Sedation Analgesia	Rebound hypertension with abrupt cessation	Administered orally or via a transdermal patch. Used to transition the patient off of dexmedetomidine.
ANESTHETICS			
Ketamine	Sedation	Tachycardia, respiratory depression, bronchodilation, neurotoxicity	Adjunct sedative in multimodal therapy. Associated with ICU delirium.
Propofol	Sedation	Histamine release, respiratory depression, hypotension, bronchospasm, bradycardia, neurotoxicity	Dose-proportional sedative Anesthetic effects Not indicated for neonatal pediatric use
NEUROMUSCULAR BLOCKADE			
Vecuronium	Paralytic	Tachycardia and arrhythmias	Used in extreme cases when mechanically ventilated patient cannot tolerate movement without vital sign instability. Paralysis can reduce metabolic demand.

* See References 6 and 8-12.

poorly understood, due in part to the absence of widespread screening, under-recognition, and lack of evidence-based data.² Latrogenic withdrawal syndrome results from abrupt discontinuation or rapid weaning of these drugs in patients who are physically dependent.⁷

Additionally, there exist potential neurotoxic effects of commonly used analgesics, sedatives, and anesthetic agents such as ketamine on the developing brain.¹⁶ In animal studies, opioids were shown to reduce neuronal density and dendritic length, induce neuroapoptosis, re-

Table 2: Summary of commonly used pain and sedation scales*

Scale	Age Distribution of Interest	Scale Components
Pain (Pain Assessment in Neonates)	26–47 GW	Multidimensional
POPS (Post-Operative Pain Score for Infant)	1–7 months	Behavioral
BPS (Behavioral Pain Scale)	25–36 GW	Behavioral
Edin Scale**	25-36 GW	Behavioral
NIPS (Neonatal, Infant Pain Scale)	28–38 GW	Behavioral
PIPP (Premature Infant Pain Profile)	28–40 GW	Multidimensional
CRIES (Crying, Requires Oxygen Saturation, Increased Vital Signs, Expression, Sleeplessness)	32–56 GW	Multidimensional
FLACC (Face, legs, Activity, Cry, Consolability)	2 months–7 years	Behavioral
PAT (Pain Assessment Tool)	Preterm & Full-term Neonates	Multidimensional
SBS (State Behavioral Scale) **	6 weeks–6 years	Behavioral
N-PASS (Neonatal Pain, Agitation and Sedation Scale)	23–40 GW	Multidimensional
Vancouver Sedative Recovery Scale Infants & Children	6 months–6 years	Behavioral
COMFORT**	0-18 years	Multidimensional

*Adapted from Giordano et al.³⁰ **Intubation Scale. GW: Gestational Weeks
The Withdrawal Assessment Tool-1 (WAT-1) is an 11-item symptom assessment of opioid and benzodiazepine withdrawal.³¹

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duce brain growth and affect motor and learning ability.^{17,18} Benzodiazepines and barbiturates impair cell proliferation and impair neurogenesis in rat brains.¹⁸ A study comparing the long-term effect of morphine versus placebo found lower intelligence quotient at 5 years of age in children exposed to morphine when compared to placebo. This finding, however, was not significant after adjusting for confounders such as severity of illness.¹⁹ Nevertheless, clinicians should be cognizant of the potential deleterious short- and long-term effects of these medications.

Non-pharmacological methods and the role of the RT

Patient ventilator synchrony affects patient comfort. Synchrony is a complex relationship affected by the ventilator settings and the patient’s clinical state. Asynchrony associated with triggering, such as a missed trigger, auto triggering, or reverse triggering can be alleviated by manipulating the trigger sensitivity.^{20,21} Titration of appropriate settings of mode, trigger sensitivity, ramp, inspiratory time, positive end expiratory pressure, and tidal volumes as well as airway leak can greatly assist in patient comfort.^{20,21} Doing so will minimize the use of the medications described and all their ensuing side effects. Furthermore, assistance with positioning such as prone or side lying, to ensure safety of the airway during movement can aid the success of non-pharmaceutical methods.²¹

Behavioral interventions to support ventilated infants include: sucrose dips, non-nutritive sucking, music therapy, swaddling, prone positioning, olfactory and multi-sense stimulation, kangaroo care, maternal touch, facilitated tucking in, and massage. These strategies have been shown to reduce discomfort in the mechanically ventilated patient.^{1,22}

Methods to assess adequacy of sedation

Optimal sedation, defined as a state in which the patient is somnolent, responsive to the environment but untroubled by it with no excessive movements is the goal when administering sedative medications.²³ This balance is often a challenge in children and infants because of the different emotional and cognitive development stages of this particular patient population.² Additionally, the trigger, signs and symptoms of pain, agitation, and delirium are interrelated and difficult to separate.²⁴ The sedated and mechanically ventilated patient often demonstrates physiologic signs of pain and discomfort such as: tachycardia, tachypnea, hyperthermia, oxygen desaturation, and/or hypertension.⁹ However, such signs must be interpreted in the appropriate clinical context as other factors can cause physiologic changes that may be mistakenly interpreted as pain.

Pain and sedation scales (see Table 2) use behavioral signs (i.e., facial expression, wakefulness), physiological signs (i.e., heart rate, blood pressure), or a combination of these various parameters to reflect the degree of discomfort and level of sedation. Subjectivity limits their utility and most were validated for patients undergoing acute pain.

Validated scales specific to assessing adequacy of sedation in children include the COMFORT behavioral scale and SBS scoring system.² The state behavioral scale (SBS) tool is a sedation assessment instrument for infants and children on mechani-

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cal ventilation and allows the medical team to set a goal sedation level. It describes sedation–agitation in a continuum as measured by response to voice, a gentle touch, and noxious stimuli. The scale ranges from -3 (unresponsive) to +2 (agitated).²⁵ The COMFORT²⁶ scales assess distress, heart rate, mean arterial pressure, alertness, calmness, respiratory response, movement, tone and facial expression. Scores are reported as over-sedated, optimal sedation and under-sedation. No single instrument has been shown to be superior for use in this population, and it is advisable to select a scale that has been validated for each particular patient population.²

There is growing evidence that using a sedation protocol for mechanically ventilated patients may decrease morbidity associated with sedation, time on the ventilator and length of stay.²⁷ Also, protocols that incorporate interrupted sedation have been shown to decrease length of mechanical ventilation, amount of sedation received, length of stay, and cost of stay.²⁸ In the adult literature, linking sedation and ventilation weaning protocols results in better outcomes, reduce time on the ventilator and overall ICU stay.²⁹ Determining when and how sedation should be weaned is dependent on the patients clinical state, guided by the sedation protocol, ventilator weaning protocols used and goals of care.

Conclusion

Understanding the pharmacological and non-pharmacological methods to minimize pain and discomfort is important in caring for the mechanically ventilated pediatric patient. Because many of the assessments to determine inadequate sedation or delirium include respiratory depression, tachypnea or ventilator asynchrony, the RT is essential in providing assessments and recommendations to optimize ventilator settings and improve synchrony. A thorough knowledge of the ventilator and titration of settings to patient-specific needs both play critical roles in this management in order to provide the most optimal healing environment for critically ill pediatric patients. ■

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On the Value of Diversity

by Anthony L. DeWitt, JD, RRT, FAARC

This is a legal article about diversity, but it begins with a story about a tomato.

In law school, a contract law case focused on a stain on a commercial sign that had been caused by someone throwing a tomato at that sign. The case involved a dispute over who should have to clean the stain, based on the language of the contract.

When asked to give my opinion on what should have been done, I suggested that the plaintiff should have hooked up a hose and rinsed off the sign, thereby avoiding having to pay a lawyer and accomplishing his goal of a clean sign for less than \$1.00 in water. For the record, that was not the correct answer *under contract law*, but I am still convinced it was the correct answer because it was the practical solution. Much of the law is no more than common sense.

As an attorney, I am guided by ethical rules that require that I refrain from both discriminatory practices as well as from making comments that derogate any racial, religious, or ethnic group. Professionals just do not do this. Even if this were not the case, in a society that is a melting pot of various religions, races, and genders, I would always look for ways to be inclusive rather than exclusive. That is how I was raised as a military brat. By 18, I had more experience with diversity than most folks.

Recently, I had an experience with a client who convinced me that many people do not appreciate the value of diversity in our society. While I cannot reveal the details of the interaction, I can say that it involved an ugly comment on both race and religion. It came from someone who had spent their entire life within 45 minutes of their hometown and who had never once traveled outside the United States.

Like attorneys, therapists are guided by the AARC's ethical guidelines. The AARC guidelines state that therapists must:

- Provide care without discrimination on any basis, with respect for the rights and dignity of all individuals.

For therapists in certain rural health care organizations, however, "diversity" is not something they see.

In many smaller rural communities, the mix of patients is not particularly diverse, and neither is the workforce. This is not purposeful discrimination, it's just the way those areas were settled. According to the Census Bureau, Maine, Vermont, and New Hampshire all have mostly white populations — in fact, at least 96% of the population of each state is white. Treating a patient from a diverse culture or background in one of these states may present many challenges simply because it is an uncommon experience. These challenges are mostly based on ignorance of cultural norms and are bridged, if at all, through effective communication.

For the past 40 years or so, there has been an increase in the number of immigrants in the country, and a look at what immigrants have done and how they have assimilated into our society is instructive. An immigrant in a rural community may stand out in large part because she may not look

like 96% of the people around her.

Shortly after the Vietnam War, thousands of Vietnamese people migrated to the United States, many with no more than the clothes they could carry and a belief in the freedom America promised. Whether it is a fault in our DNA or a survival instinct, when immigrants come to this country, they tend to migrate to places that are a) climatologically most like where they came from;

about the author...



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and b) are populated with people who look, think, and talk like they do. Every immigrant group coming to this country has sought refuge with people like them. This is not a bad thing because it allowed for quicker assimilation.

Following Vietnam, many of the refugees moved to the southern United States. Southern California, the Gulf Coast, and the southern states near the coast were hot and humid and have very little winter weather. In general, these locales tend to have larger Vietnamese populations simply because the climate is similar to that of Vietnam.

Quickly assimilating, these Vietnamese refugees often became service-oriented workers. They worked in low-wage jobs and at hard manual labor to help put their next generation through college. They brought cultural values of hard work and reverence for the family unit with them, and instilled these values in their children. As a result, their next generation produced thousands of professionals, including many respiratory therapists and health care workers.

Over time, these same professionals began to integrate their food and culture into our culture. Herein lies just one example the value of diversity and assimilation, because when you embrace diversity, you broaden your horizons and understand the world a little better. Understanding develops and that pushes out fear and fosters friendship.

Having grown up all over the United States and having graduated from high school in the Philippines, I had experienced a great deal of diversity by the time I was 18. After several years in the military experiencing other cultures like Korea, Japan, and Taiwan, it is fair to say I had consumed a fair amount of what could be called foreign food.

Or... had I?

Isn't American food that which we eat in America? Are we doing our country and our fellow citizens a disservice when we classify noodles as "American" and lo mein as "oriental?" Perhaps the migration of Vietnamese immigrants serves as a lesson in diversity. At least, it has for me.

Phở (pronounced "Fah") is a traditional noodle soup made in Vietnam. There is Phở Ga (chicken-noodle) and Phở Tôm (shrimp-noodle) and endless variations on these dishes. Yet, with the Vietnam War ending in 1975, I had never heard of phở until last year when I read a book in which a character frequently dined on the dish. I wondered what made the dish so special

that the author thought to litter his book with frequent references to it. Curiosity impelled experimentation.

Two years ago, my wife and I moved to Auburn, Alabama. In getting to know my new hometown, I found a restaurant called "Phở Lee." And yet, until I read Brett Battles book, I had no idea what phở was.¹ It made me feel foolish.

I convinced my wife to try phở with me. I had Phở Ga, she had Phở Tôm. It took only one bowl for us to become Phở-natics. Along the way we discovered other Vietnamese and Thai dishes that I cannot begin to pronounce, but that revealed to me how much we miss when we keep to ourselves and experience only that which we've had before.

Along the way, I've befriended Hai Pham, a wonderful gentleman who is part owner in the restaurant and who is a friend of mine on Facebook. He doesn't just serve food; he helps me understand how it's eaten in his culture, and why it is special. Here is a fellow who has struggled with discrimination all his life, and yet, he is one of the most open and caring people I know.

Every interaction we have with someone who doesn't look like us, and who doesn't speak the same language as us, is an opportunity to build bridges instead of walls. Health care professionals are innately compassionate and love to help others. Therapists often go the extra mile with patients who do not speak the same language by demonstrating or pantomiming things for them and by employing that most wonderful of door-openers: the smile. If you live in a rural community and you've never had interactions with someone from another culture, or whose skin color or religious beliefs are different from yours, you may be tempted to focus on those differences. But under the skin, their lungs work the same way yours do. They seek the same things for their families that you seek for yours. The ways in which you are similar are far greater than the ways in which you are different.

Sometimes the giving of legal advice is really the giving of practical advice. Diversity in the law and in society is good for the country, and it's good for you, too. And, if you haven't already done so, try a bowl of phở. Experience diversity, and pass it on. ■

Notes

1. See, for example, <https://en.wikipedia.org/wiki/Pho>.



Promote Respiratory Health and EDUCATE PATIENTS

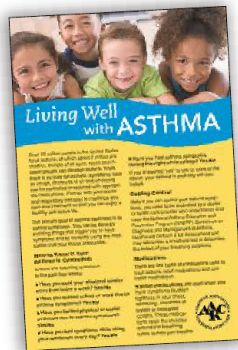
Great for RC Week Handouts!

New respiratory handouts to share with patients, at health fairs or presentations

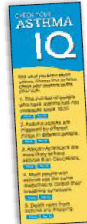
AARC's new series of Educational Health Tip Sheets and Test Your IQ Bookmarks, are perfect for distributing to patients, at health fairs or presentations. Designed with the respiratory therapist in mind, and for patients who want to learn more about their lung health.



ALLERGIES
Tip sheet: BR0007N



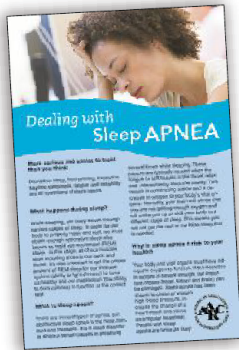
ASTHMA
Tip sheet: BR0005N
Bookmark IQ Card: PE0007



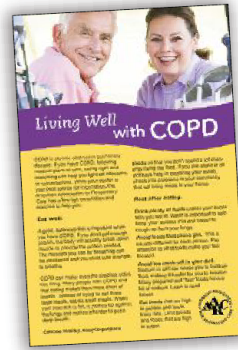
SMOKING AVOIDANCE
Tip sheet: BR0014N



SMOKING CESSATION
Tip sheet: BR0009N
Bookmark IQ Card: PE0009



SLEEP APNEA
Tip sheet: BR0010N
Bookmark IQ Card: PE0008



COPD
Tip sheet: BR0004N
Bookmark IQ Card: PE0006



SECONDHAND SMOKE
Tip sheet: BR0008N
Bookmark IQ Card: PE0010



PEDIATRIC LUNG HEALTH
Tip sheet: BR0006N

Comes in sets of 50

IQ Cards:
MEMBER PRICE: \$7.50
Nonmember Price: \$11.50

Tip Sheets:
MEMBER PRICE: \$10.50
Nonmember Price: \$14.50

Visit c.aarc.org/go/healthtips

San Antonio

INSIDER



Art, music, and shopping through
the eyes of a local

by Mary Hart, MS, RRT, FAARC



The AARC will present Congress 2016 in beautiful San Antonio, TX, Oct. 15–18. San Antonio is a one-of-a-kind city offering a wealth of unique venues to explore. If you love music or art, there's plenty of fun to be had visiting some of the local venues.

Bohannin's on Houston Street offers local live jazz and great food and is located across from the Majestic Theater, which features live performances nightly. The San Antonio Museum of Art also offers live music on certain nights, featuring local musicians and amazing artwork.

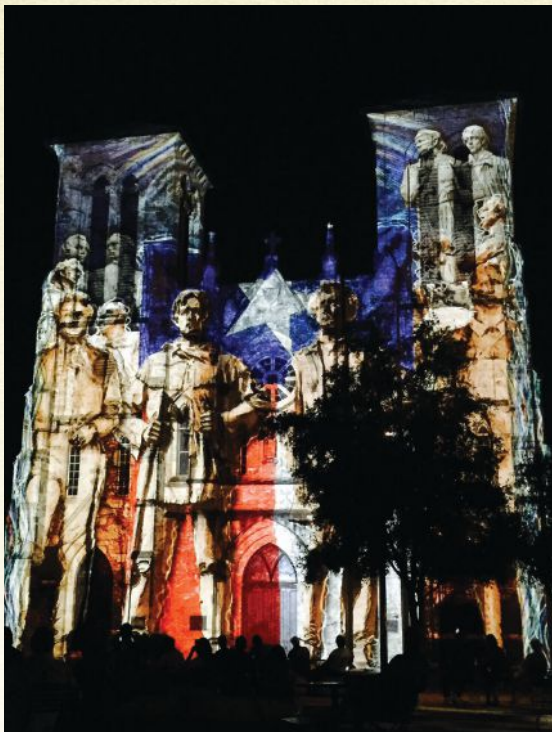
Another wonderful art museum not too far from the downtown area is the McNay Museum featuring wonderful modern art pieces. Opened in 1954, it was the first museum in Texas featuring modern art. Plan a visit and check out the sculptures located in the gardens.

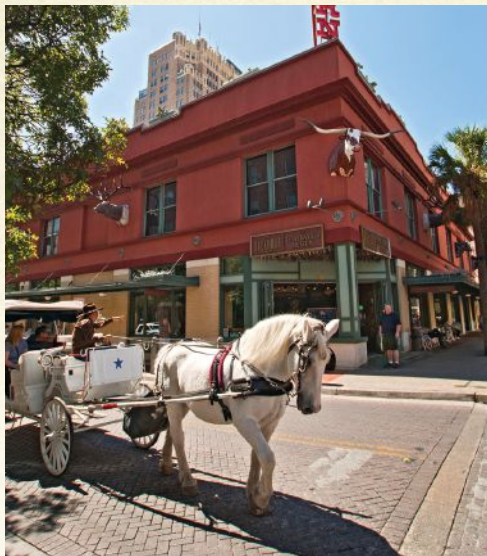
Street art is rampant in the Alamo City as well. Throughout San Antonio you will find local art

work displayed on buildings — and even a light show each night projected on downtown buildings, including the Alamo!

If shopping is your thing, you'll find plenty of unique shops to explore:

- The largest Mexican market north of the Rio Grande, **Market Square** is a colorful civic center with a friendly and humble appeal. Family-owned cafes greet visitors each morning with the aromas of fresh *pan dulce* (sweet bread) and cinnamon-infused hot chocolate, while working artists bring the plaza to life and merchants offer local and imported jewelry, Talavera ceramics, art, and more.
- **La Villita** — which is Spanish for “the little village” — was originally established by Spanish soldiers stationed at the Alamo. Today it's a historic arts village where shops, cafes, and galleries are housed in beautifully restored residences.





- On the southern tip of downtown, **Southtown** is a trendy arts community flourishing with individuality. This rare neighborhood is comprised of historic houses, converted warehouses, artists' lofts, shops, galleries, and restaurants.
- The energetic **Pearl Brewery** complex on the north end of the River Walk is brimming with shops where you can pick up anything from Latin kitchenware and ingredients at Melissa Guerra Tienda de Cocina, to a pair of vintage cowboy boots at Leighelena, to an airy Guayabera shirt or shirtdress from Dos Carolinas.
- About 15 minutes from the River Walk, **Alamo Heights** is one of San Antonio's oldest and most esteemed neighborhoods. Along its streets lie unique boutiques and specialty shops in the style of years past but featuring the latest fashion-forward styles. Must-see shops include Lee Lee Loves Shoes, Penny Lane, and the whimsically enchanting Anniegogglyn.
- Not far away, **Artisan's Alley** is a maze of locally owned specialty shops designed with remnants from turn-of-the-century buildings. Winding boardwalks and meandering pathways lead you from store to store. Dine at Bin 555, a local restaurant by San Antonio Chef Jason Dady or shop at stores specializing in everything from designer attire to upscale gardening.
- Neighboring **Olmos Park** and **Monte Vista** offer a variety of shops as well, including Meadow, an upscale fashion boutique; Otra Vez, a trendy consignment shop; and the home base shop for Kathleen Sommers designs.

Come enjoy all the wonderful experiences San Antonio has to offer when you attend the largest respiratory care meeting of the world in San Antonio, Oct. 15–18. ■



About the Author

Mary Hart, MS, RRT, FAARC, is an assistant professor and director of clinical education in the respiratory care program at the University of Texas Health Science Center at San Antonio. A long-time member of the Texas Society for Respiratory Care, she lives in the heart of the River Walk area.



AARC Congress Pre-Course Sessions

Maximize Your Congress Experience

Sessions offer in-depth exploration of topics not available during Congress 2016

Attend One or More Pre-Course Sessions: Friday, October 14
AARC Congress 2016: Sat-Tues, October 15-18

1

**Arterial Fundamentals:
Ultrasound Guided Arterial
Catheter Insertion**
Time: 8:00am – 12:00pm

A hands-on course that teaches proper insertion, prevention, recognition and management of insertion-related complications with arterial catheters.

COURSE OBJECTIVES:

1. Perform ultrasound scanning to identify anatomical structures, verify vessel health and identify appropriate insertion area.
2. Demonstrate the use of ultrasound for arterial catheter insertion.
3. Review and practice aseptic technique including hand hygiene, gowning, gloving, establishing a sterile field, draping, proper dressing and securement.

\$50 registration fee which will be reimbursed after the course is completed.



Sponsored by
Teleflex

4 hours CRCE

2

**Preparing for a
Pandemic:
The Strategic National
Stockpile – Mechanical
Ventilation Workshop**
Time: 8:00am – 12:00pm

Find out how to prepare for pandemic events and how to provide mechanical ventilation to all persons in need.

COURSE OBJECTIVES:

1. Discuss the issues that would be encountered regarding pandemic events and the need for mechanical ventilation.
2. Describe capabilities of the three SNS ventilators.
3. Identify how the SNS ventilators are allocated and utilized during a pandemic event.
4. Identify how the SNS ventilators are stored and maintained.

Course is free.



3.25 hours CRCE

3

**Lung Protection,
VILI, & Alveolar
Protection:
The Good & the Bad**
Time: 12:30pm – 4:30pm

This course will cover current ventilator induced lung injury (VILI) mechanisms in the micro-environment - the alveoli and alveolar ducts.

COURSE OBJECTIVES:

1. Learn which mechanical breath mechanisms cause ventilator induced lung injury (VILI).
2. Review how to adjust parameters that comprise the mechanical breath to minimize VILI.
3. Learn how to manipulate APRV ventilator settings to maximize alveolar protection from VILI.

Course is free. Lunch is included.



Sponsored by
Dräger

4 hours CRCE

REGISTER TODAY

<http://c.aarc.org/go/precourereg>

Course capacities are limited. Pre-Registration is required. Deadline: Friday, Sept. 23 or when courses are full.
Pre-Courses #1 and #2 run concurrently – you may register for only one of the morning courses.

5 More Reasons Why You Don't Want To Miss AARC Congress 2016

Speakers highlight key symposia at
the annual meeting

Respiratory professionals from all over the world will converge on San Antonio, TX, this October for the [biggest and best respiratory care annual meeting](#) in the profession. In this edition of our Congress preview series, [five more speakers](#) provide an overview of their [upcoming sessions](#) and what you'll take home from them when you attend.



1 Student Symposium for Young Professionals

Bill Galvin, MEd, RRT, FAARC

There should be little doubt that respiratory care students are the lifeblood of the profession. Many students will make the trek to the Congress to participate in the Student Sputum Bowl, wander through the exhibit hall, attend an extensive array of lectures, or view abstracts and hear presentations in the OPEN FORUMS. This first experience at their profession's largest congress and exhibition can be daunting, overwhelming, and even a bit intimidating. Fortunately, the AARC Program Committee will once again be offering a number of sessions to address their unique needs and interests. Among them will be a student-focused symposium.

The symposium will consist of five free-standing lectures highlighting the themes of professionalism, the job search process, and success on the National Board for Respiratory Care (NBRC) credentialing examinations. The first session, entitled, "What It Means To Be a Professional," will be provided by Crystal Dunlevy, EdD, RRT, an experienced and talented educator from The Ohio State University in Columbus, OH. Dunlevy will begin with an overview of the respiratory care profession, including its history, evolution, role, and value. She will emphasize the characteristics and behaviors of a professional and the critical importance of being involved and engaged in the profession and maintaining professional membership. Dunlevy is a spirited and engaging lecturer and you will be informed and entertained by her delivery.

The second lecture, entitled "Strategic Marketing: Getting That Dream Job," will be presented by Cheryl Hoerr, MBA, RRT, CPFT, FAARC, a manager from Rolla, MO, who has first-hand experience in helping new graduates make the transition to their first respiratory care position. She will explain the value of marketing and how you can use key marketing principles to position yourself for your dream job. She'll also discuss trends in the respiratory profession and how to gather detailed information about the institution you would like to work for. Hoerr will conclude by outlining techniques to conduct an effective job search and offer a brief overview of the cover letter, resume, and prep for that all-important interview.

Back by popular demand, Dana Evans, MHA, RRT-NPS, a manager from Chesterfield, MO, will once again present a session entitled, "How to Lose a Job Before You Are Hired." Evans did an excellent job last year and also provided a valuable session to students in the form of a webinar that was viewed nationally earlier this year. She will discuss common mistakes and pitfalls for job seekers, including those that may cost you the position before you are hired. Sessions 2 and 3 are "must attends" for new graduates making their transition from student to practitioner.

The final two sessions will shift gears and address the highly popular and critical topic of successful performance in the NBRC credentialing process. I have been presenting on this topic for the past 10 years and have also addressed the issue of test taking during the AARC's Asthma Educator Course, Critical Care Course, Registry Prep Course, and just recently, the Neonatal/Pediatric Specialty Examination Course.

In this symposium, I'll first speak on "Acquiring Your Credential: Success on the Therapist Multiple-Choice Exam." This presentation will cover factors that make for success in the examination process, preparatory issues and what you will experience onsite, and test-taking strategies and techniques. Immediately following, I'll give a lecture entitled, "Acquiring Your Credential: Success on the Clinical Simulation Exam." This presentation will cover such issues as exam content and structure and unique strategies for progressing through a branching-logic type of exam. It will also highlight recent changes implemented in January 2015.

I think you can see that this student-focused symposium was developed with the student/recent graduate in mind. If you are new to the profession, we hope you will carve out some time to join us.

Bill Galvin is an assistant professor in the Frances M. Maguire School of Nursing and Health Professions and program director of the respiratory care program at Gwyneth Mercy University in Gwyneth Valley, PA.

2 Open Your Eyes to Your Blind Spots

Crystal Dunlevy, EdD, RRT

Most people will agree that discrimination exists everywhere, but we'd like to think that when it comes to health care, everyone is treated equally. That's not true. Disparities in health care are real, due in part to implicit bias — that unconscious, subliminal, “I think a thing about (insert any group here)” type of bias that on some level affects us all. Every government institution that has anything to do with health care has a department or some type of programming to reduce disparities and includes some discussion about implicit bias. Ethnic minorities and women traditionally have had their health outcomes suffer, at least in part, due to implicit bias. Take the case of J. Marion Sims. He has been called the “Father of Gynecology” for his revolutionary approach to treating the diseases of women in the 1800s, and he was the first physician in the United States to have a statue erected in his honor. But despite those accomplishments, he routinely furthered his research by operating on his slaves without anesthesia because he believed they could not perceive pain like whites. We are quick and right to condemn him today, but a study published late last year in *JAMA* reported that black children with acute appendicitis were less likely than white kids to get painkillers in the emergency room. Is this the progress we've made in nearly 200 years?

In a mere 35 minutes, I plan to increase your awareness of implicit bias. I'll present a CliffsNotes® version of what the evidence says about how bias impacts health outcomes. Though it's a necessary first step, it's not enough to be aware. To that end, we'll begin a discussion on how to change behavior to eliminate or minimize unconscious bias. Our patients deserve it.

Crystal Dunlevy is a clinical associate professor in the respiratory care program at The Ohio State University in Columbus, OH.

3 Stop Focusing on Volume and Cost

Cheryl Hoerr, MBA, RRT, FAARC

The phrase “health care reform” tends to send a shudder down the spine of most health care managers. While health care reform started out with the goal of eliminating waste from a very complicated and expensive industry, the term has broadened to include efforts at improving both the quality and safety of the care that is provided to consumers of health care services. Hospital administrators are feeling their way through the new environment with varying degrees of enthusiasm. While some are early adopters of new quality indicators, many are still taking a wait-and-see approach.

This leaves respiratory care managers in the somewhat difficult position of walking the tightrope between the traditional volume-driven model of respiratory care and the new quality-driven model that is evolving through health care transformation. The legacy of fee-for-service means that many respiratory departments are held to a productivity standard that is volume-driven rather than outcome-focused. Additionally, as a result of the significant financial pressures facing hospitals, many CFOs continue to push cost reduction in the respiratory therapy department through reductions in staffing and supplies instead of encouraging exploration of unique opportunities to improve quality and patient safety.

There is no doubt that the way we provide health care is changing. And while the direction of change is clear, the actual movement toward that change is still somewhat hesitant. New models for delivering respiratory care will require significant investments in personnel, tools, and training and will place demands on limited capital and existing personnel. By the end of this presentation, respiratory leaders will have more confidence in their ability to determine which changes will best benefit their organizations and how best to implement those new programs to ensure optimum patient outcomes.

Cheryl Hoerr is director of respiratory services, the sleep center, and neurology services at Phelps County Regional Medical Center in Rolla, MO.

4 If You Can Measure It, You Can Change It: Quality Metrics in Medical Transport

Alex Brendel, MBA, RRT-NPS, and Tabatha Dragonberry, MEd, RRT-NPS, AE-C, ACCS, CPFT, C-NPT

In a world of cost cutting, spreadsheets, and number crunching there have been questions as to whether or not respiratory therapists add enough value to transport teams to justify their cost. Transport teams across the country have varied team configurations, both with and without respiratory therapists. To evaluate the impact of respiratory therapists on transport, we need to establish metrics to measure quality.

In this talk, we will define the metrics necessary to hopefully prove that respiratory therapists deliver added value during transport. We'll also discuss the results of a survey on metric selection that can be used to evaluate our value on transport. We hope attendees will walk away with the knowledge they need to use metrics to establish quality reporting and work together as a transport community to assist each other in this process.

Alex Brendel is team leader of the neonatal/pediatric critical care transport team at the Carilion Clinic in Roanoke, VA, and co-owner of Roanoke CPR, LLC. Tabatha Dragonberry is an assistant professor at Nova Southeastern University in Palm Beach Gardens, FL.

5 Who's Liable?

Anthony DeWitt, JD, RRT, FAARC, and Laura Hartman, BS, RRT-NPS

Over the past decade, medical negligence lawsuits have increased in number and cost for hospitals and providers alike. Over \$3 billion was spent in payouts last year alone.

Respiratory therapists are not immune to litigation, and proper policies and protocols can help defend against lawsuits. Even routine administration of therapies and medications has the potential to begin lawsuits when adverse events occur. Therapists at every level, from staff to supervisor to department manager to director, can be affected by a lawsuit, and this presentation is intended to draw attention to areas of weakness. Featuring a respiratory therapist and lawyer, the symposium will highlight common areas of concern and suggest ways to improve policy development and documentation.

As the scope of practice for the respiratory therapist moves from task-driven care to disease management, education policies and documentation are increasing in importance. Ideas on how to approach patient education from the perspective of the therapist and department will be addressed. Recommendations on how to approach adverse events will be explored as well to help prevent diligent therapists from losing their licenses and employment. Policies and protocols are in place to protect patients and provide safe care, and thinking from a defensive mindset can help the therapist from ever being involved in a lawsuit. ■

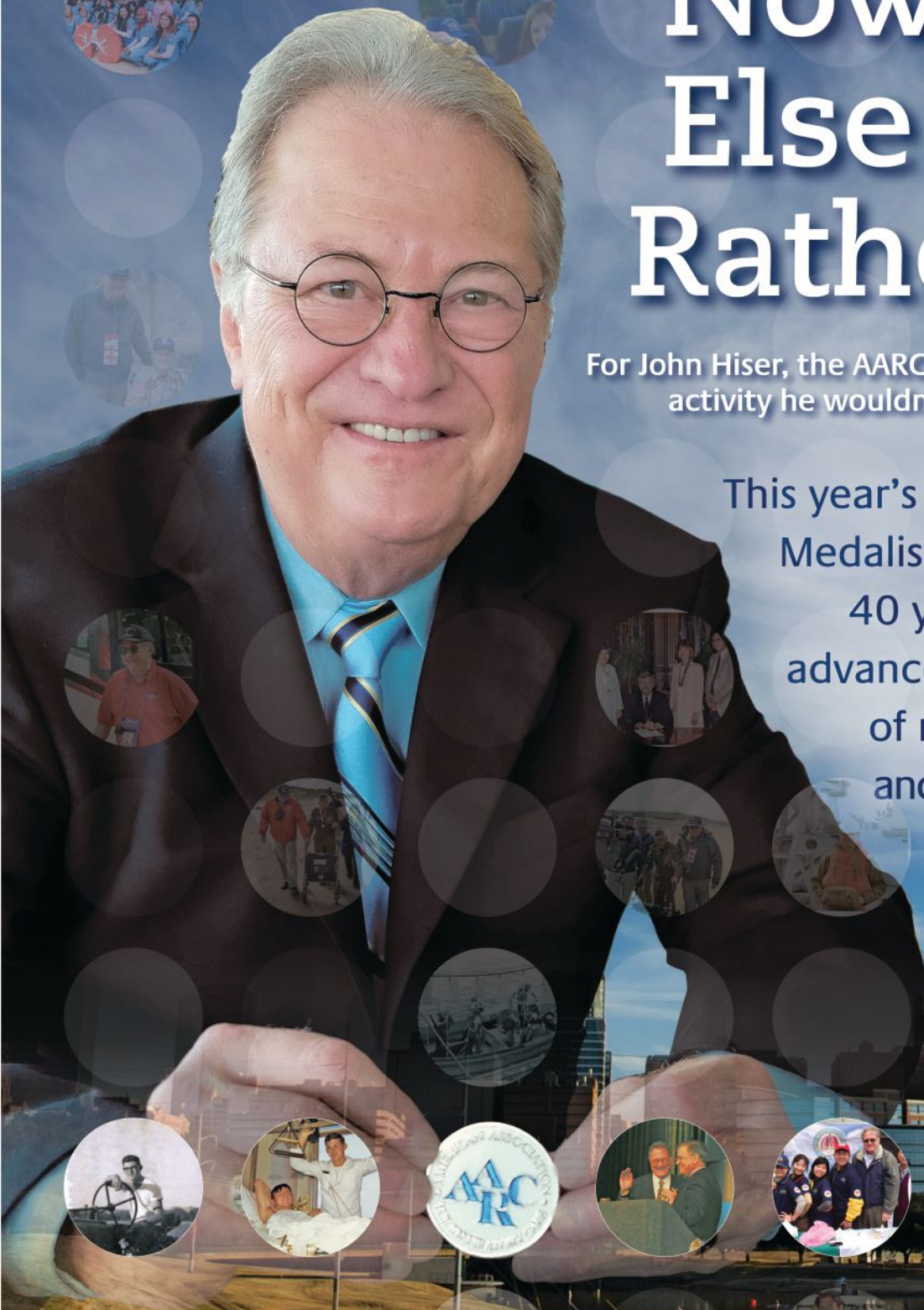
Anthony DeWitt is a partner at Bartimus, Frickleton, Robertson & Goza, PC in Kansas City, MO, and former respiratory therapy director. Laura Hartman is a respiratory therapist at Lakewood Ranch Medical Center in Bradenton, FL.

Nowhere Else He'd Rather Be

For John Hiser, the AARC represents a favorite activity he wouldn't trade for the world

This year's Jimmy A. Young Medalist has spent over 40 years working to advance the profession of respiratory care, and he's loved every minute of it.

by Debbie Bunch



1965



Whiskey Flats, Texas

1969



Naval Air Station Hospital, Jacksonville, FL, with wounded Warrior Frank Martin United States Marine Corps

1971



Rearming and refueling – Gulf of Tonkin off the coast of Vietnam

Read through John Hiser’s résumé and you’ll find a wealth of professional service and a long list of accomplishments. As is true with every winner of the AARC’s Jimmy A. Young Medal, he’s given thousands of hours of his time to the Association over his long career in respiratory care.

But a short line near the end of the document really sums up how he feels about the AARC. Under the heading “Hobbies,” before you see “hunting,” “fishing,” “boating,” “reading,” and “sports,” you’ll find “AARC.” That’s right: for this therapist, active involvement in the Association is more than just something he’s done because he wants to support his profession and further his own career. It is truly one of the loves of his life.

It started with the Navy

Like many RTs in his generation, John Hiser, MEd, RRT, CPFT, FAARC, didn’t grow up thinking he wanted to be an RT. He didn’t even know the profession existed. The son of loving parents who raised their two sons on the north side of Fort Worth, TX, near the world famous Stockyards before moving out into the country when Hiser was 15, he recalls a life that revolved around family, church, friends, and activities like hunting, fishing, horseback riding, rodeos, and football. Throughout high school, he worked a variety

of jobs from dishwasher to store clerk to ranch hand to truck driver.

“I was lucky to have a very warm and loving family who tried their best to teach me right from wrong and instill in me the right kind of values,” says Hiser. “I never once doubted that Henry and Mildred Hiser, my parents, and Danny, my older brother, loved me. One reason I never doubted it is because they told me they loved me almost every day.”

After high school he tried college for a couple of semesters, majoring in business, but quickly decided it just wasn’t for him. Serving his country sounded like a much better option and he joined the Navy. His journey toward respiratory care began when he reported to the processing center and a recruiter suggested he might like to be a Navy corpsman.

“I didn’t have a clue as to what that was,” says Hiser, and the recruiter was hardly a fountain of information, saying little more than a Navy corpsman worked in Navy hospitals. But he did tell the young man that if he opted for that choice, the recruiter could guarantee him a corps school and the rank of E3 — three steps up from the bottom of the hierarchy for enlisted personnel — right out of boot camp. That was enough to sell Hiser on the opportunity. He signed on the dotted line and was soon off to school. Next stop:

1971



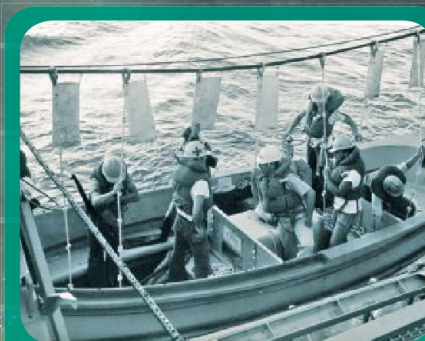
Sickbay – USS Ouellet DE – 1077

1972



USO trip going down river to Pagsanjan Falls, Laguna, Philippines

1972



Lowering the motor whale boat for water rescue of two downed Navy pilots, Gulf of Tonkin

the Naval Air Station Hospital in Jacksonville, FL, and a formal introduction to the profession.

“I had been working on an orthopedic ward for a few months when Lieutenant Commander Katie Barte, the lead nurse for the hospital, came up to me one day and asked me what I thought about becoming an inhalation therapist,” he recalls now. “I asked her if they were the ones that put the tubes down people’s throats.” She said they were indeed, and he said he didn’t think he could do that. But the next day he was receiving an in-service on how to deliver an IPPB treatment. “The senior corpsman told me to place all the controls on 15, 15, and 15, give the treatment for 15 minutes, and then soak the set up for 15 minutes and don’t forget to rinse it.” Despite his initial misgivings, before he knew it he was an inhalation therapist.

“As you see, I didn’t really pick health care or inhalation therapy,” he says. “Someone else did it for me 46 years ago and I am extremely happy that they did because it worked out real well for me.”

Aunt Geneva saves the day

Those early days in the Navy hospital offered a wide range of experiences that would bode well for the rest of Hiser’s career. “There were four of us in the department. We served as anesthesiologist assistants, pulmonary function technicians, and inhalation therapists. We also

staffed the recovery room along with one CRNA,” he recalls. He and his fellow therapists checked and cleaned anesthesia machines, started IVs, gave treatments (most of them IPPB), and intubated and extubated patients. The first patient he ever ventilated was placed on a modified Bird Mark 7.

That was his life for six or seven months. Then his orders came in for a destroyer escort bound for a West Pacific tour that included Vietnam. The war was in full swing at that point and he spent his time patrolling up and down the coast of Vietnam shelling targets and picking up downed pilots. Although he didn’t do any respiratory therapy during the tour, he and the chief corpsman on board were responsible for taking care of the health of 250 servicemen. During the two years he spent on the ship, he also visited such ports of call as Pearl Harbor, Midway, Guam, The Philippines, Japan, and Hong Kong.

When he got out of the service, the workforce commission advised him that his military experience qualified him to be an orderly. Hiser took that with a big grain of salt. “I felt like I was a little better trained than an orderly,” he says. After looking at various job possibilities with little success, his Aunt Geneva saved the day. A secretary at Tarrant County Junior College (TCJC), she told him that since he had been an inhalation therapist in the

1985



Texas Governor, Mark White signs Texas licensure into law. Rep. Nancy McDonald, Gov. Mark White, Mimi Casey Bartel, John Hiser

2004



AARC Congress – New Orleans, Louisiana. Ray Masferrer eases my apprehensions by telling the crowd “I’m going to swear him in — in Spanish.”

2013



Normandy, France with Sergeant Excorting veteran Robert Bearden at Normandy, France

Navy, he ought to check out a brand new program at the college called “respiratory therapy.”

“She was pretty sure they were the same thing, and I took her advice,” says Hiser. “So once again someone else guided me in the right direction.”

Standout education

Hiser graduated from the TCJC program in 1975, and other than the year he spent working on the clinical side of respiratory care right after graduation, he’s been at the college ever since. About a year after he graduated from TCJC, Program Director Sue Holmes, asked him if he would be interested in teaching. She thought he’d be good at the job, and he thought he might be, too.

They were both right. Over the past 40 years, Hiser has helped to prepare hundreds of new therapists for the profession and throughout it all, he’s enjoyed making sure his students are learning what they need to know to function as safe, effective RTs. He’s furthered his own education as well, earning first a bachelor’s degree in respiratory therapy from the University of Texas Health Science Center Dallas and then his master’s in education from Texas A&M University Commerce.

Now program director at the school — which today is known as Tarrant County College (TCC) — he says

he enjoys going to work about 99% of the time and has no immediate plans to leave that behind. “My friends have begun to ask me when I plan to retire,” he says. “I always tell them that I’ll quit when I quit enjoying it. So far that hasn’t happened, so I’ll stick around a little while longer.”

TCC RT medical director, Woody Kageler, MD, MBA, says his friend and colleague has been a standout educator, winning the school’s Chancellor’s Exemplary Teaching Award as well as several other recognition awards along the way. “Under John’s leadership TCC has developed an outstanding educational program for respiratory care students,” says Dr. Kageler. “John has always put his students first while still taking on roles of service and leadership to promote the profession at the local, state, national, and international levels. He is the ideal role model for young respiratory care practitioners and it is my privilege to work with him and to call him my friend.”

First in Texas

An AARC member since 1974, Hiser has indeed been a key player not only in the national organization, where he served as president in 2005, but also on the state level, where he played an instrumental role in acquiring state licensure for RTs during his term as president of the Texas Society for Respiratory Care

2014



Escorting WWII veteran Robert Blatnik, Sergeant Major, on Omaha Beach



2014



Respiratory Therapy Week in Taiwan at China Medical University (CMU), Taichung, Taiwan

(TSRC) in the mid-1980s. In fact, when the legislation was signed into law, he became the very first RT in Texas to earn his license to practice.

“His leadership, dedication, and untiring work ethic assured our successful bid to become licensed in Texas,” emphasizes Tommy Rust, MEd, RRT, FAARC, lead program director of respiratory therapy at Concorde Career College in Dallas, TX. “Over the years as one of the senior statesmen of the TSRC, his counsel has been invaluable to multiple TSRC boards and the membership.”

Hiser says what most stands out in his mind during the mission to gain state licensure was the hundreds of TSRC members who came together to make it happen. “We had meetings all over the state where we spent hours and hours convincing everyone about the advantages of licensure and what we would have to do to get it,” he says. “We also made several trips to Austin to meet with legislators and testify at committee hearings.”

He fully admits the whole process was new to him — and fairly intimidating as well. “I would have never thought that I would be meeting with and testifying to lawmakers and be representing our profession in that way. Thankfully, we were successful.”

Getting the legislation over the top took lots of hard work and effort — and a little creative thinking too, recalls Hiser. Upon the suggestion of TSRC lobbyist Billy Clayton, who had served time as speaker of the Texas House of

Representatives, Texas members reserved a section of the Broken Spoke nightclub in Austin and invited not only TSRC members to come, but key legislators as well. “The strategy was to have a relaxed atmosphere where we could get to know the legislators and also put in a few good words about our legislation in between dances,” says Hiser. “Personally I think it literally helped to ‘swing’ the deal in our favor.”

A great mentor

Hiser says he initially joined his professional organizations on the advice of his instructors at TCJC — Tommy Rust among them — and it was also Rust who encouraged him to take an active role by running for an elected director position in the North Texas region. That didn’t turn out the way he’d hoped — he was beaten by Ray Masferrer, RRT, FAARC, who was already well known in the state — but it did open the door to some lifelong mentors who Hiser says have helped to direct his involvement ever since.

“Both Tommy and Ray, and a little later Sam Giordano, Patrick Dunne, and Jerome Sullivan, all helped to mentor me and steer me in the right direction when it came to learning how to help achieve the goals of our profession,” says the educator. After that service culminated in 2005 with his election to the AARC presidency, it is easy to think that Hiser would have started thinking about

2014

2014

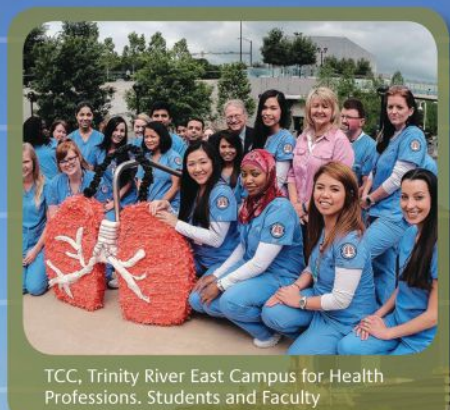
2016



Taichung Taiwan



CMU RT students and instructors Chia-Chen Chu and Chin-Jung Liu



TCC, Trinity River East Campus for Health Professions, Students and Faculty

scaling back, but nothing could be farther from the truth. Instead of resting on his laurels after his term as president, he went on mentor many other members into leadership positions.

“There are few words that can encompass and explain John’s dedication and leadership skills,” says Mike Runge, BS, RRT, FAARC, North Dakota clinical manager for Dakota Lions Sight & Health in Bismarck and a president of the AARC himself in 2006. “He has been a mentor for many of the presidents of the AARC, as he was for me during my president’s term. He taught me so much and took me in as a little brother, and for all he has done for the AARC as well as myself, I am eternally grateful!”

Going global

Perhaps Hiser’s biggest contributions post-presidency, however, have been in the international arena. He took the lead in AARC international affairs in 2007, when he was appointed chair of the Association’s International Committee, a position he has held ever since. “The international goals of the AARC include such things as helping countries achieve professional status and licensure, establishing schools, promoting exchange programs, medical mission trips, translating publications to other languages, and

recruiting International Affiliates and Governors for the International Council for Respiratory Care (ICRC).”

Working closely with the ICRC and the American Respiratory Care Foundation (ARCF), Hiser has made sure the AARC remains on point. “I think that one of our biggest achievements since updating those goals a few years ago is that we have achieved every one of them at least once, and many have been achieved several times each year.”

He is especially proud of the ongoing International Fellowship Program, which has been in operation since 1990. “Thanks to the generosity of several sponsors, the AARC/ARCF have hosted 160 fellows from 65 countries. That has been a wonderful experience for our profession and every time I think about it I can’t believe how lucky I have been to be a small part of it.” The personal friendships he’s made along the way have been priceless as well. “Working with my good friends Chia-Chen Chu and his wife Chin-Jung Liu we have been able to bring 20 Taiwanese RT students to visit our program in Fort Worth for a three week visit over the last seven years,” he says. “In addition to gaining and sharing knowledge, the students and faculty from both institutions have not only learned to appreciate other cultures, but have also made some friendships that will last for a lifetime.”

2016



Using our new breathing simulator – RT students Roxie, Thi and Alisa with RT faculty Don Holt

2016



Intubation practice with RT students Natalie, Mwajuma and Shaina

One lucky guy

When John Hiser got the phone call informing him that he would be receiving the AARC's highest honor at this year's Congress in San Antonio, he says he was speechless — literally. "I couldn't say anything for what seemed like a very long time," says the educator. "I guess I was in shock."

When he recovered enough to reply, it was to express his gratitude to the AARC Presidents' Council for recognizing him with the award, and when the call was over, all he could do was think about how very lucky he's been throughout his long career in the profession, and indeed, his whole life. "I've been lucky to have such a warm and loving family, to have so many friends and mentors, to have Tarrant County College faculty, both past and present, who supported me along the way. Lucky to have a medical director like Woody Kageler who has been my mentor and my friend for over 35 years, and lucky to have been able to work at a place like Tarrant County College that allowed me to become involved," says Hiser.

When he thinks of all the people he wants to thank, though, one stands out from the crowd. "I think about how lucky I am to have my beautiful French-Canadian wife Lucie, who has encouraged and supported me for the last 42 years. I could not have served the AARC without her help." ■



Jimmy A. Young Medal

Every year the AARC bestows the Jimmy A. Young Medal on a member of the profession who has exceeded all expectations for meritorious service to the AARC and advancement of the respiratory care profession. The award was created in 1976 to honor the memory of Jimmy A. Young, MEd, RRT, an exemplary member of the profession and AARC leader who died suddenly at the age of 40.

Among his many accomplishments were serving as director of the first "inhalation therapy" department at Massachusetts General Hospital in Boston, co-authoring one of the first textbooks on respiratory care, "Principles and Practice of Inhalation Therapy," and serving as the 22nd president of the AARC. ■

— 2016 —

Since 1947, the AARC has been leading the effort to advance the science and practices of the respiratory care profession while promoting the highest quality of care for our patients. Collaborating with the respiratory communities at-large, we have successfully advocated at the federal, state and local level for patients, their families, the community, the profession and the respiratory therapist.

The AARC'S CORPORATE PARTNERS

The collaborative efforts between the respiratory care profession and manufacturers in pursuing unique and innovative ways to improve both the quality and outcomes of our patients makes us natural partners in today's ever changing healthcare continuum.

As health care finances become more strained and patient care becomes increasingly more complex, the mutual challenges become greater for the profession and its industry partners. The inherent synergies of the corporate partner concept are to provide an effective and efficient way to address those needs utilizing our combined skills and resources.



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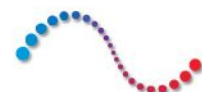
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WWII vets offer a final salute at the WWII Memorial



Veteran Harry Thompson, John Hiser, and Roy Hill with Tudy Giordano on an honor flight



How This Year's Jimmy A. Young Medalist Caught "Honor Flight-itis"

As a Navy vet, John Hiser has always been a big supporter of the men and women who wear the uniform. In 2010, he took that support to the next level when a good friend of his and fellow AARC member, Melaine "Tudy" Giordano, MSc, RN, CPFT, asked him if he would be interested in accompanying 40 World War II veterans to visit their memorials in Washington, DC.

"I immediately said yes," says this year's winner of the AARC's Jimmy A. Young Medal. Like many in his generation, he had a father and uncles served in WWII, while his mom worked as a "Rosie the Riveter" — the nickname given to women who stepped in to fill crucial roles left vacant when men enlisted — back home.

"None of them were able to see the memorial that was built in their honor," says Hiser. "I said yes to honor them and also to honor those men and women that were still around and hadn't had the chance to visit their memorials."

That initial trip and several trips that followed led Giordano to recommend Hiser as a medical team member for an upcoming trip sponsored by the Daughters of WWII to take vets back to Normandy for the 69th anniversary of D-Day in 2013. One more trip to

Normandy and two to Iwo Jima followed, giving Hiser even more opportunities to honor American heroes.

Giordano, who serves as president of the board for Honor Flight DFW, says Hiser's respiratory care skills are invaluable on these trips and the relationships he forges with these aging vets are priceless. "You should see the old warriors' eyes light up when they see John wearing his USN corpsman cap on the flights, and it's not long before they are all calling him 'Doc,'" she says. "A corpsman is a very respected member of the armed services — they are known for their steadfastness and duty to give it their all for those in their care. John is just that on the Honor Flights and the veterans are confident that if a medical event happens, 'Doc' will take good care of them, because corpsmen always do!"

Hiser says he gets as much or more out of these trips as the vets do and admits he's become hooked on the experience. "I call it 'Honor Flight-itis' and tell people I caught it from Tudy," he says with a smile. "Once you see how happy you have made these men and women who have given so much to this country, you can't come back without feeling good and wanting to do it again." ■

RESPIRATORY THERAPISTS REAL LIFE HEROES

CELEBRATE RC WEEK

**OCTOBER
23-29**

Prepare to celebrate **Respiratory Care Week**, a special time to increase awareness of the profession and to recognize RT heroes through fun & educational events in your facility and community.



VISIT c.aarc.org/go/rcwk2016
for OFFICIAL RC WEEK PRODUCTS





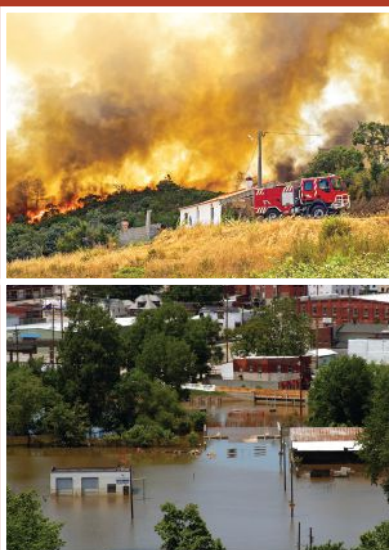
RC Currents

AARC Activates Disaster Relief Fund

AARC members affected by recent wildfires in California and flooding in West Virginia may now be eligible for assistance through the AARC's Disaster Relief Fund.

Members living in federally declared disaster areas in these parts of the country may apply for a grant of up to \$500, either online at https://secure.aarc.org/disaster_fund/application.html or by using the downloadable application at <http://c.aarc.org/headlines/11/04/application.pdf>. The AARC executive office will review the applications and then send them to the president of the state society for verification and a recommendation of action.

Since 1992, the AARC Disaster Relief Fund has been used to assist members following hurricanes in Florida and Hawaii, earthquakes and fires



in California, flooding in the Midwestern states, tornadoes in numerous areas of the country, and in the aftermath of Hurricane Katrina. The Disaster Fund is open for six months from the date of the disaster.

The fund is all about AARC members helping members.

If you would like to contribute to the AARC's Disaster Relief Fund, you can donate by sending a check made payable to the AARC at 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063. Put "Disaster Fund" in the memo section of the check. You can donate online at <http://appserver.aarc.org/WEB/Online/Donate/Online/Donate/DonateHome.aspx> or call the AARC's Customer Service

Department at (972) 243-2272 and tell them you want to make a donation with a credit card. ■

Transitions

Important events in the lives of AARC members



Contribute to Our "Transitions" Column

The AARC "Transitions" column is devoted to sharing news about the passing of AARC members.

You can submit news about your colleagues' recent passing by going to <http://c.AARC.org/transitions>. Please provide any information about the member's recent obituary so that we can share it with the membership and pay tribute. ■

New Members

Welcome to the AARC!



Check Out the AARC New Members List Online

The "New Members" column can be accessed at http://c.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. ■

▶ STUDENT CORNER

Find a Mentor

Michele Pedicone, MSc, RRT-NPS

*The mind is not a vessel to be filled,
but a fire to be kindled.*

— Plato



Navigating one's way through the labyrinth of a new career can be daunting. A mentor can act as a guide in your newly chosen and hard-earned field. Mentors can empower you to see your future and offer the encouragement you need to ensure that future is obtained. A mentor can help shape your career.

Your mentor is important, so choose him or her carefully. Be prepared to look outside your comfort zone as you search for a role model who is interested in your career and who you can look up to. A logical place to start is with the instructors who helped to shape the therapist that you've become. Clinical preceptors provide a wealth of knowledge and patience as well.

Your state society is another place to turn. This group is generally comprised of therapists from all the RT sub-specialties. Here you will find managers, educators, researchers... basically all the folks who

are shaping the profession and moving it forward. Get involved while you are still a student! Attend your state meeting and contact your state society leaders to find out how you can volunteer. Be visible and engage in community education events. As you network with local respiratory professionals, mentors will become more readily available. A potential mentor may even find you.

How can you ensure the mentor you find is the right mentor for you? Look for someone who is actively engaged in the job that you want to have. Do you want to be a NICU therapist? Align yourself with therapists on your NICU rotation and ask questions. Find out what drives them to be passionate about their patient population.

Remember, a mentor is not there to make you happy; he or she is there to guide you with the best of his or her knowledge, to help you develop capabilities, and to support you with intuitive feedback as you work it out for yourself. Be willing to learn from mistakes, both yours and your mentor's. ■

A mentor empowers a person to see a possible future and believes it can be obtained.

— Shawn Hitchcock

Michele Pedicone is a respiratory care instructor at Seattle Central College and clinical instructor in the NICU at the University of Washington Medical Center in Seattle, WA.



RT Student Members: Send Us Your Stories

AARC Times is always looking for good stories from AARC student members that relate special experiences and give the RT student perspective on the respiratory care profession they have chosen as a career.

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

As Seen on AARConnect

Have you looked at what your colleagues are talking about on the AARConnect discussion lists? You might find an interesting tidbit you can use in your area of respiratory care or maybe answer a question someone has asked. Here is an example of a dialogue we found on AARConnect while preparing this edition of the magazine.

AARConnect...

Do your RTs stay with ventilator patients when they are transported to MRI, the cath lab, or other special procedures? Currently we do (physician preference) but due to staffing restraints we are looking at changing our policy; we would transport the patient on the ventilator, stabilize for the procedure, and inform the nurse to call us if needed.

Barbara Montgomery, RRT
Chambersburg Hospital
Chambersburg, PA

We stay with all vented patients wherever they need to go for however long they are there. It does create a staffing issue at times and we sometimes miss other therapy because of it, but we had a few near misses by leaving a patient and the patient got moved and extubated because they were not paying attention to the airway. We have also had ventilation issues depending on the patient position for different procedures. It became easier and safer for us to just stay with them than get a frantic call when something happened.

Jan Cosby, BS, RRT
South Bend, IN

I'm going to mimic Janice's comment. We stay as well 95% of the time — more so because of ventilation issues. Usually the extubations tend to happen while transferring and we are usually there. But if the cath lab is going to have them for four hours, you're right — it takes thought on everyone else's part to step up and help their co-worker to get their patient load done. We have found it is safer for the patient even though there is an ICU nurse with them. On long cases, occasionally this therapist will still respond to code blues and rapid responses if the patient is stable enough and the case seems like it is not going to end soon. Our lead therapist is usually aware and adjusting to this need.

Holly Tull, RRT, AE-C
Yakima Valley Memorial Hospital
Yakima, WA

We stay with every patient. There are often vent rate adjustments that need to be made due to an increased level of patient sedation as a test proceeds, and no matter how good the MRI and nursing staff are about tube security with a moving table and various other interventions, we feel we need to be right there. Staying also means a therapist is there to optimally manage the airway during the transfer of the patient back to the bed or gurney they were transported on.

Robert Yost, RRT-NPS
East Tennessee Children's Hospital
Knoxville, TN

Although it may pose a burden on the rest of the staff, erring on the side of the patient is our main concern. We stay with the patient for all of those things and sometimes we will stay with patients on bipap. We find that usually those patients are anxious and now they are even more so. We don't stay with the bipap patients all the time — that is on a case-by-case basis.

Pam Lindemann, BA, RRT
Riverside Medical Center
Kankakee, IL

We stay with our ventilator patients during their procedures. The only exception to this may be if a patient is having a heart cath or is on dialysis. For both of these areas, if the patient is on stable settings, we will leave them for their procedure. In both areas the patients have nurses and physicians available and we are just a phone call away. We cannot leave a ventilator in the radiology area without an RT.

Amy Owens, BS, RRT-NPS
East Alabama Medical Center
Opelika AL

p73 Gene May Hold Key To Controlling Chronic Respiratory Conditions



Could better control of chronic respiratory conditions lie with one gene? According to Stony Brook University researchers, the answer may be yes. Working in a mouse model, they found the p73 gene is the master regulator of a cell type that is responsible for constantly cleaning the airways from inhaled pollutants, pathogens, and dust. When p73 is absent, these cells no longer work and chronic airway infections develop that can cause irreversible COPD and emphysema and might also promote asthma.

“We found that p73 sits at the top of a hierarchy and directly turns on more than 50 other key genes that control the architecture and movement of cilia,” study author Ute M. Moll, MD, was quoted as saying. “This breakthrough in our understanding of p73’s essential role in multiciliogenesis helps to greatly increase our knowledge of this process, which is so central to respiratory health.”

The study appeared in a recent edition of *Genes & Development*. ■



Patients Take Center Stage at AARC Congress 2016

As respiratory therapists, our patients are our top priority, and they’ll also be front and center at AARC Congress 2016 in San Antonio, TX, next month as the Association hosts its second annual Respiratory Patient Advocacy Summit on the Friday before the meeting begins on Saturday, Oct. 15th.

The event is open to RTs attending the meeting and chronic lung disease patients and their caregivers who want to network with leading therapists in a two-way discussion about the issues that are most important to people and families living with these serious conditions.

The program will feature a moderated roundtable on clinical outreach for the respiratory patient led by an array of experts in the field –

- Brooke Yeager, MS, RRT, program coordinator for inpatient and emergency telehealth services at the Medical University of South Carolina in Charleston, will delve into telehealth and its implications for people with cystic fibrosis and COPD.
- Krystal Craddock, RRT-NPS, a COPD case manager at UC Davis Medical Center in Sacramento, CA, will get everyone excited about COPD case management and how it can help patients and families stay healthy and out of the hospital.
- Bill Clark, director of community outreach at the COPD Foundation, will address community support for people living with lung disease, with a special

emphasis on the Foundation’s COPD360 Social online community.

- Trina Limberg, BS, RRT, FAARC, director of the preventative pulmonary and rehabilitation department at UC San Diego Health System in San Diego, CA, will talk about pulmonary rehabilitation and the role it can play in giving chronic lung disease patients a new lease on life.

Attendees will also hear inspirational presentations from Kimberly and Mark Mangus, father-daughter RRTs who will share their journey with Kimberly’s cystic fibrosis, including not one but two double lung transplants, and Asthma & Allergy Network President and CEO Tonya Winders, MBA, who will relate her personal experiences as the mother of four children with asthma and how they led her to a life in asthma advocacy.

Lunch and refreshments will be served and attendees will also be entertained by Billy Dawson, a multitalented country and western singer who will be there as the special guest of the COPD Foundation. Platinum sponsors for the Respiratory Patient Advocacy Summit are Boehringer Ingelheim and Sunovion.

If you’d like to attend this summit – or know a patient or caregiver who would – go online to <http://www.aarc.org/join-the-respiratory-patient-advocacy-summit-at-aarc-congress/> and register by Sept. 30! ■

COPD: Care Problems Abound



A new report commissioned by *The Lancet Respiratory Medicine* has outlined these significant problems in the care of people with COPD:

- COPD affects more individuals with low socioeconomic status, and patient access to education, medications, and non-medication interventions needs to improve. Also, there is a lack of sufficient training in COPD for medical providers, particularly primary care providers.
- High out-of-pocket costs for patients result in patients having increased overall health care costs and reduced adherence. Patients may face co-payments of \$75 or more per drug, and may decide to alter the way they take their medication, such as not taking full dosages, skipping a day, etc., to save costs.
- While developing drugs for the disease, drug makers and the pharmaceutical industry will need to consider cost-effectiveness for health care payers and patients. More funding for research and new drugs that would slow or halt disease progression are needed for COPD compared to other diseases with high mortality rates.
- Data on COPD self-management programs such as oxygen therapy are scarce, which means insurance

coverage for these programs is too. It's important to work toward improved methods of gathering data on these programs. In addition, telemedicine and palliative care have the potential to reduce clinic visits for patients, but more research is needed.

- Although penalties for readmissions of patients with COPD have been implemented, it's not clear if readmissions among the patient group can be prevented. Coordination of care among clinicians and institutions remains a challenge, but changes in reimbursement structures might help to put a greater focus on care coordination, especially if reimbursement was linked to provider performance and outcomes.

- There have been very few cost-effectiveness analyses of non-medication interventions, but some evidence suggests some of these interventions could be cost-effective options. Quality measures for COPD need to be developed to promote evidence-based, high-quality care. Poor standards of care are evident when only one in three hospital admissions offered patients with COPD the standard recommended treatments. The quality of care for COPD is lagging compared to other complex chronic diseases and will require a multidisciplinary effort to improve.

- Health systems need to be able to detect at-risk patients at every entry point into their systems and embrace innovation. Patients and their caregivers should be engaged in their care plan. Truly integrated care for the patient will allow patients to transition smoothly and seamlessly through their treatment journey.

The report was presented at the American Thoracic Society International Conference last spring and published in the journal in May. ■

Discrimination Alone Doesn't Explain Lower Vaccination Rates

Discrimination may play a role in the lower influenza vaccination rates seen in minorities with chronic conditions, but it doesn't completely explain those lower rates. That's the take home message from U.S. researchers who analyzed survey responses from more than 8,000 white, black, and Hispanic Americans with chronic diseases.

About 7% of respondents perceived health care discrimination based on the question: "Do you think there was ever a time when you would have gotten better medical care if you had belonged to a different race or ethnic group?" Only 32% of subjects who perceived discrimination received the influenza vaccine, compared to 60% of those without perceived discrimination. But when the results were adjusted for other factors figuring into health care services, discrimination was no longer a significant factor.

In the adjusted analysis, these three factors were associated with a higher probability of vaccination: having a college degree, not being a current smoker, and having greater trust in the information provided by one's doctor. The study was published in a recent edition of *Medical Care*. ■



Reduced Nicotine Content Cigarettes May Not Reduce Harm

Reduced nicotine content (RNC) cigarettes — which differ from traditional “light” cigarettes in that they contain varying levels of nicotine and are constructed differently — may not do much to actually reduce harm from smoking, report University of Pennsylvania researchers publishing in *Drug and Alcohol Dependence*.

They randomized 158 non-treatment-seeking smokers to smoke either three levels of progressively decreasing RNC cigarettes during three 10-day periods or their own brand of cigarettes over the same time period. Results showed that when participants smoked the moderate nicotine level cigarettes, they consumed more cigarettes each day but puffed less intensely than when smoking their own brand, or compared to the control group. But daily cigarette consumption decreased and puffing intensity increased for the lowest nicotine cigarette.

Complicating the findings further were results showing that measures of smoke exposure significantly decreased for the lowest nicotine cigarette compared to the control group, while some toxicant exposures were increased and others were decreased with the intermediate nicotine level cigarettes. ■



Lung Cancer Screening Saves Lives



Respiratory therapists are increasingly being asked to play a role in lung cancer screening programs. Now new research out of the United Kingdom suggests this screening is leading to earlier and more effective treatment for people with the disease. Findings from the UK lung cancer screening trial show patients with a high risk of developing lung cancer can be identified with early-stage disease and have up to a 73% chance of surviving for five years or more.

The randomized controlled trial compared lung cancer screening versus usual care in 4,055 individuals who were identified for the study by a population-based questionnaire aimed at identifying high-risk individuals. Low-dose computed tomography was used to screen the participants. The study was published in *Health Technology Assessment*. ■



Survey Results Show Support for Raising Legal Age To Buy Tobacco

California and Hawaii have raised the minimum legal age to purchase tobacco products to 21 and a new study from researchers at the University of North Carolina at Chapel Hill and East Carolina University suggest the rest of the country would be up for the change as well.

The investigators surveyed 4,880 adults aged 18 or older to learn their views on raising the minimum age of tobacco sales to 19, 20, or 21. The telephone survey was offered in both English and Spanish and conducted on land-line and cell phones. A majority of the respondents in all regions of the country supported raising the minimum age, with levels of support ranging from 59.6% in a seven-state Midwestern region that included Iowa and Kansas to 73.1% in a four-state region of the South that included Texas and Louisiana. The study appeared in a recent edition of the *American Journal of Preventive Medicine*. ■

Strange But True...



It's about time: Dr. Henry Heimlich invented his famous Heimlich Maneuver back in 1974, but he never got the chance to put it into operation himself until this past spring when a woman dining next to him in his senior living facility started choking on a piece of hamburger. The 96-year-old wasted no time executing the maneuver, saving the 87-year-old woman's life.



Wear this: North Carolina investigators are getting ready to test an integrated, wearable system that monitors a user's environment, heart rate, and other physical attributes with the goal of predicting and preventing asthma attacks. The system incorporates a host of novel sensing devices that are incorporated into a wristband and a patch that adheres to the chest. A non-wearable, customized, self-powered spirometer, which collects more accurate information on lung function and feeds it into the system, completes the system.



That's gross! A new study out of Henry Ford Hospital has found that showing clinicians magnified images of bacteria found on common items in the health care environment, such as a mouse pad, work station, or even a person's hand, swayed workers in four patient care units to do a better job of cleaning their hands. Compliance rates improved on average by nearly 24% after the "yuck factor" was revealed. ■

E-cigarette Marketing Lures Kids To Give Them a Try



Teens who are exposed to e-cigarette marketing are more likely to try them, find University of Texas Health Science Center at Houston researchers who analyzed data from the 2014 National Youth Tobacco Survey. Of the 22,007 middle and high school students who were surveyed, 20% had ever tried e-cigs and 9% were current users.

Students who had ever tried e-cigarettes were 16% more likely to have encountered an e-cig marketing message in print, retail settings, internet, television, or movies compared to non-users. Current users were 22% percent more likely to have encountered one marketing message compared to non-users, and with each additional exposure to another channel of e-cig marketing their odds of using e-cigs grew exponentially. Half of the students reported seeing e-cigarette marketing messages in retail settings, making it the most common setting, followed by messages on the internet at 40%.

The study appeared in a recent edition of the *Journal of Adolescent Health*. ■

Guiding you to an even smarter search

AARC has officially launched the most connected resource for Respiratory Care Practitioners. The new Marketplace is even easier to use, with new features that take the user experience to a whole new level.



Fluidity across all devices

No more scrolling, no more zooming – the Marketplace will react to your screen size, from your desktop to your tablet to your mobile phone.

Search with purpose

With its newest search technology, visitors will find results with increased relevancy at an unbelievable speed. Find what you're looking for – the first time around.

Fully-loaded listings

Enhanced company profile pages give users access to more information, including additional product/company photos, maps, certifications, key contacts and social media links.

The new AARC Respiratory Care Marketplace for RCPs helps you work smarter, not harder. **The future of product sourcing is here today!**



Industry Watch

AAFA announces availability of new resources

The Asthma and Allergy Foundation (AAFA) has unveiled new resources created in collaboration with America's Health Insurance Plans' Coalition for Medicare Choices (CMC). The effort was driven by collaboration between the AAFA and CMC's Medicare Advantage Care Coordination (MAACC) Task Force to highlight areas where care coordination challenges continue to exist for seniors with respiratory conditions.

The work focused specifically on seniors with asthma and allergies and the difficulties they face when navigating between multiple providers and acquiring comprehensive care plans to ensure they stay healthy. "Coordination and integration of services and exchange of information among primary care providers and specialists is essential to assure quality of care," AAFA representative Meryl Bloomrosen, MBI, MBA, was quoted as saying. "AAFA is delighted to contribute to MAACC efforts to help patients manage their chronic conditions and get the best care."

Theravance completes enrollment in COPD drug study

Theravance Biopharma, Inc., has completed enrollment in each of the three ongoing clinical trials comprising the company's Phase 3 program for revefenacin, an investigational long-acting muscarinic antagonist (LAMA) in development for the treatment of COPD. The revefenacin Phase 3 program, which includes two replicate efficacy studies and a single 12-month safety study, is designed to support the registration of the product in the United States.

"Based on its competitive advantages, including once-daily dosing and compatibility with any standard jet nebulizer, we believe that, if approved, revefenacin has the potential to benefit a significant number of COPD patients who require once-daily LAMA treatment but for whom handheld inhaler devices are not suitable," Brett Haumann, MD, CMO at Theravance Biopharma, was quoted as saying.

Kadmon begins study on IPF drug

The first patient has been dosed in a Phase 2

clinical trial of KD025, the company's rho-associated coiled-coil kinase-2 inhibitor for the treatment of idiopathic pulmonary fibrosis (IPF), according to Kadmon Corporation, LLC. The randomized, open-label, 24-week study is examining the safety, tolerability, and activity of KD025 in patients with IPF in the United States who have received or been offered pirfenidone and/or nintedanib. Patients will be randomized into two cohorts: one cohort of 24 patients treated with KD025 at 400 mg QD and another cohort of 12 patients treated with the standard of care.

Expanded label approval for Alpha-1 drug

According to Shire plc and Kamada Ltd., the U.S. Food and Drug Administration (FDA) has approved an expanded label for the human alpha-1 proteinase inhibitor known as GLASSIA, making it the first treatment for adult patients with emphysema due to severe alpha-1 antitrypsin deficiency that can be self-infused at home after appropriate training.

"Patients with alpha-1

antitrypsin deficiency are managing a challenging disorder that may require regular regimented care," Blaine Forshage, head of the U.S. Immunology Franchise for Shire, was quoted as saying. "For these patients, our company strives to find ways to provide them with more choices and flexibility in their treatment regimen."

GSK, Innoviva plan to file NDA for Closed Triple

GlaxoSmithKline plc (GSK) and Innoviva, Inc. have accelerated the timeline for filing a New Drug Application (NDA) in the United States for the Closed Triple, a combination of fluticasone furoate, umeclidinium, and vilanterol for the treatment of patients with COPD. Following discussions with the FDA, the companies believe they will file by the end of the year rather than in the first half of 2018, as previously expected. The companies also continue to expect a European Union regulatory submission of the Closed Triple combination therapy by the end of 2016.

Geneia's remote patient monitoring study shows good results

A year-long remote patient monitoring pilot from Geneia LLC yielded an annual savings of \$8,375 per monitored patient, resulted in a net 45% reduction in acute hospital admissions, slowed disease progression, and achieved a patient satisfaction rate of 96%. The @Home pilot study compared the experience of Capital BlueCross members diagnosed with heart failure who enrolled and actively participated in the @Home remote monitoring program to a control group of non-monitored members with statistically similar pre-program risk scores.

The study evaluated clinical, utilization, and cost outcomes, along with patient experience. According to Geneia CMO Dr. Jennifer Chambers, the @Home program offers tremendous potential to impact the cost of health care and improve outcomes for patients struggling with chronic disease.

Bristol-Myers Squibb partners with MD Anderson Cancer Center

Bristol-Myers Squibb Company and The University of Texas MD Anderson Cancer Center have entered into a new clinical research collaboration to evaluate

innovative strategies for the potential use of Bristol-Myers Squibb's immuno-oncology agents Opdivo (nivolumab) and Yervoy (ipilimumab) to treat early and advanced stage lung cancer patients.

The collaboration will help support multiple Phase 1 and 2 clinical trials testing Opdivo as monotherapy, in combination with Yervoy, or in regimens with other agents, radiation, or surgery in a range of clinical settings. These studies will also incorporate extensive translational work, including exploration of novel biomarkers to better differentiate responders from non-responders in lung cancer as well as preclinical studies of next-generation immunotherapeutic agents that may be used to expand the benefits to larger numbers of patients.

Activ8rives adds functionality to health monitoring solution

Activ8rives has added the SmartOne Peak Flow and FEV₁ Wireless Meter to its health monitoring solution for people with pulmonary disease. The Activ8rives SmartOne[®] Peak Flow and FEV₁ Meter extends the range of the company's Bluetooth Smart devices, allowing individuals to monitor their lung function from home and send their data using the

Activ8rives Health Monitoring and Food Diary App for iOS and Android to the new Activ8rives 3.0 online health care solution.

Arch Biopartners can use AB569 to treat CF patients in the EU

According to Arch Biopartners Inc., the European Commission has designated the company's AB569 as an orphan medicinal product for the treatment of patients with cystic fibrosis (CF) in the European Union. The orphan medicinal product designation is for the two active ingredients of AB569. It had been developed to treat antibiotic-resistant bacterial infections.

Breathtec BioMedical teams up with Technion

Breathtec BioMedical, Inc., has issued one million common shares of the company to Technion Research and Development Foundation Ltd., an Israeli private company and wholly owned subsidiary of the Technion-Israel Institute of Technology.

Professor Hossam Haick of Technion has also entered into an agreement with the company to provide 12 months of consulting services. Best known for developing the NA-Nose technology to detect disease by mechanically "smelling" elements in the breath of potential sufferers, Haick was recently featured in *GOOD*

Magazine, an international publication that recognizes researchers for the benefits of their work on humanity.

Studying gender differences in lung cancer

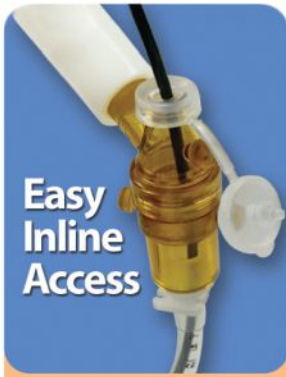
Rutgers Cancer Institute of New Jersey radiation oncologist Sharad Goyal, MD, is embarking on new research supported by an inaugural \$400,000 LUNG FORCE Research Innovation Project: Lung Cancer in Women Award from the American Lung Association. The work will explore whether radiation exposure from interventional cardiovascular procedures leads to an increased risk of lung cancer in women as compared to men.

"If our work is able to show a potential difference between men and women in response to these types of tests, patients will have an opportunity to better understand the benefits and alternatives to medical imaging of the heart and will be better informed of their risk of developing lung cancer," Dr. Goyal said. ■

Brief submissions and photos for this column may be sent to AARC Times Editor Marsha Cathcart at cathcart@aacr.org.

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Calendar of Events

AARC & State Society Programs

August 10-11

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50th Annual Summer Conference "New Professional Horizons"

Contact: cfatta@cnm.edu, (505) 410-9779

September 6-9

W. Columbia, South Carolina

SCSRC Annual Conference

Contact: treasurer@scsrc.org, (803) 936-7511

September 15-16

Daniels, West Virginia

Annual Fall Health Care Conference

Contact: Cynthia.keely@gmail.com; www.wvsrc.org

September 22-23

Muncie, Indiana

Respiratory Therapist: Secret Agents of Healthcare

Contact: marytodd25@yahoo.com, (812) 779-6842

Submissions for the next available issue are due August 18.

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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Following in the Footsteps of Giants

Alan Roth, MS, MBA, RRT-NPS, FAARC

Health care has changed greatly over the last 40 years, and the profession of respiratory care has changed with it. Modalities and therapies unheard of previously have helped patients enjoy a fuller life. I am proud to have been a part of this transformation in our profession. Whether as a leader who promoted change and innovation, or a person who extended the boundaries of the profession, I did my best to follow in the footsteps of the giants of respiratory care.

A unique program

When I entered the Bellevue Respiratory Program in New York City in the 1970s, it was a unique, hospital-based program that required a bachelor's degree and experience in health care or science as a minimum requirement. We sat and learned in the same amphitheater where surgeons watched operations in the 1850s. We followed the same rotations as first year interns and were expected to do research on our care. Aside from classes, we were required to do 2,000 hours of clinical work. We were told we were not preparing for how respiratory care was today, but for how it would be in the future, and the role we would play in it as well-educated practitioners and future leaders.

To gain respect among the physicians and staff, we needed to do and act in a particular way. This included 1) wearing a shirt and tie with a crisp, clean lab coat; 2) being well-read in current research from professional organizations on trauma, critical care, and neonatal care; 3) learning from colleagues by attending daily rounds and weekly grand rounds; and finally, 4) finding a mentor to guide

us in our transition from new graduate to knowledgeable practitioner.

My faculty at Bellevue believed in tough love and demanded more from us than we thought we could do. Whether it was teaching overseas, explaining to a foreign president what a "respiratory therapist" was, or leading by example, this tough love molded me for the rest of my career.

about the author...



Alan Roth, MBA, RRT-NPS, FAARC, is president and board member of the Respiratory Care Board of California. He previously served as director of clinical operations at the Mt. Sinai Medical Center department of anesthesiology in New York, NY.

Beyond borders

For over 15 years, I spent time as part of an international open heart team that would go to countries like Guatemala, the Dominican Republic, China, Russia, or Cambodia and train staff to open up their own heart center. I must admit, my first mission was really an afterthought for the team (I was to be a logistics person), because nursing felt they already knew everything about respiratory care and did not use respiratory staff in their NICUs or PCICUs except to resupply and remove dirty equipment.

That, of course, changed on the first day of surgery when a crisis occurred and the team learned the value of having a respiratory therapist on board. In fact, the whole incident was captured on camera by an NYC broadcast station. When I finally finished my work with this international group, the team included nine therapists and we were integrated into the surgical care team

on an equal footing with nurses.

The ultimate test of my skills and strengths, however, came after the earthquake in Haiti when I served as part of the Federal Disaster Medical Assistance Team, CA-6. Of the four initial Tier 1 teams sent to Haiti, I was the only RT. I was told many times that they had never



Roth recently visited the Space Needle in Seattle.

met a therapist like me or seen my skill set. I told them that many therapists could do what I was doing but were never able to utilize the skill set they were trained in or had acquired over time. My doctoral studies and dissertation in complex humanitarian emergencies came into play, too.

We've come a long way

We have come a long way since the days when moving oxygen cylinders was our primary job. RTs still need to fight negative stereotypes from the past (and a few in the present, too, like the RT who goes into a room to treat a patient with a pack of cigarettes in his breast pocket), as there is a long institutional memory in many places. There are even those in our profession who tell students that they made a mistake and should have picked nursing as their major, as our profession is dying.

As a person who was in leadership my whole career, I firmly believe we need to rid ourselves of the last vestiges of this thinking and focus on our expanding opportunities and growing the scope of our practice. In California and Ohio, the RRT is now the minimum credential for licensing, and in California we are part of a six-year pilot

to offer a BS degree at the community college level. Two schools will begin offering bachelor's degrees in respiratory therapy this year.

As an advocate of the profession, I have been fulfilled by my work not only in respiratory care, but in opening opportunities for our profession in our sister professional groups like the American College of Chest Physicians, the Society of Critical Care Medicine, and the American Thoracic Society. Respiratory care has been very rewarding to me and I am proud of the various honors I have received for my work, especially the AARC's Fellow of the American Association for Respiratory Care, which I received in 2000. ■

Alan Roth is president of the Respiratory Care Board of California.



For Alan Roth, retirement means more trips to New York City to watch his beloved Yankees play in Yankee Stadium.

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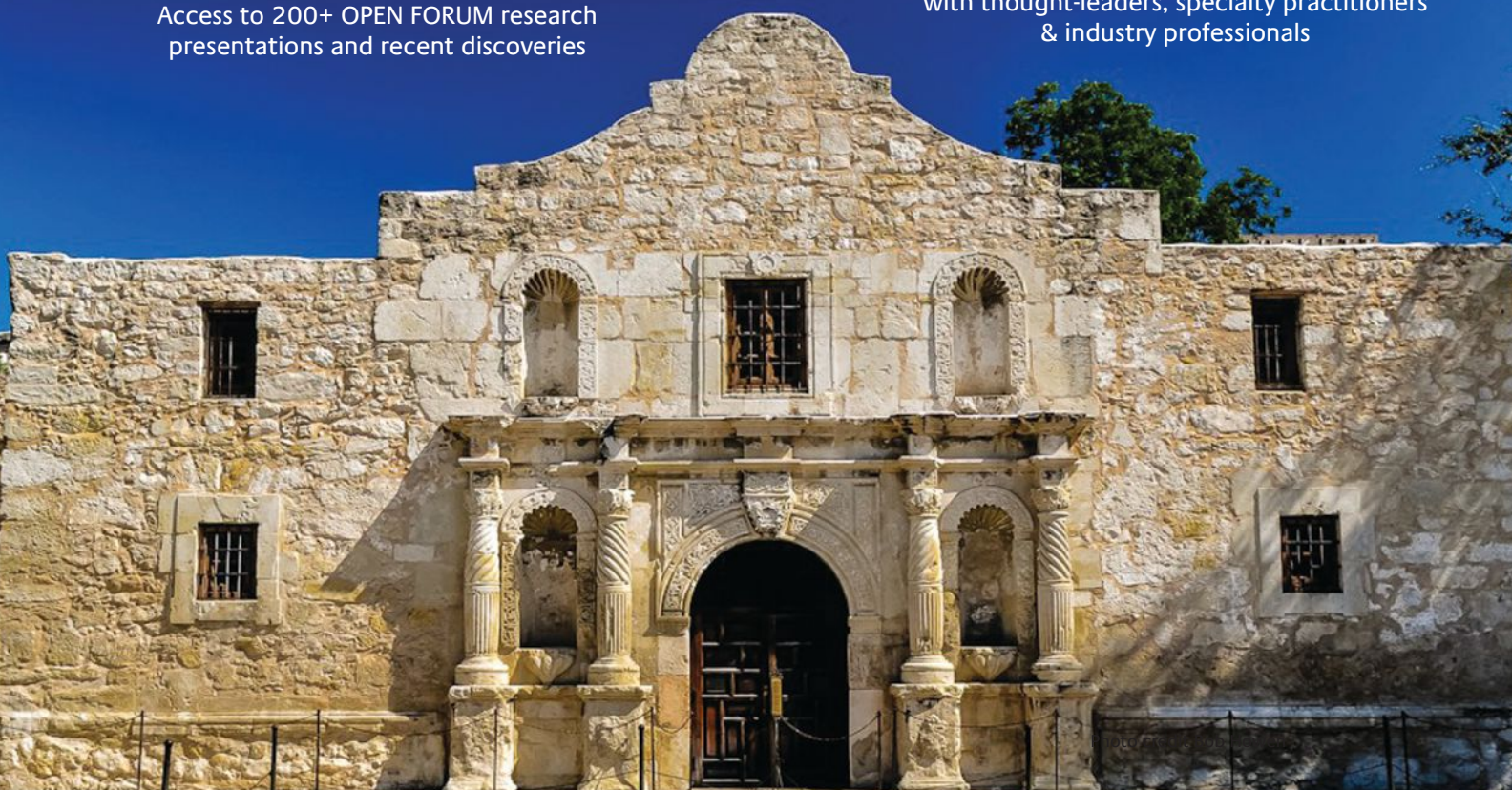
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