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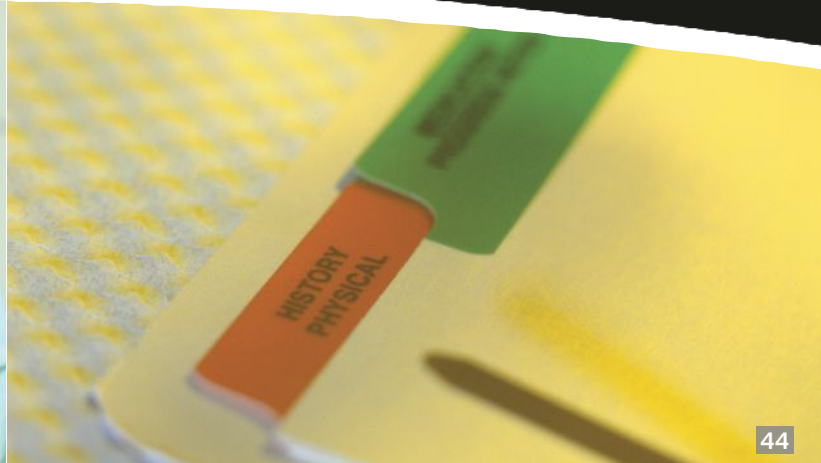
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AARC Strategic Plan

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

AARC Strategic Objectives

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

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

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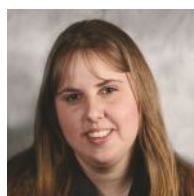
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It's Never Too Late To Stop Smoking

by Scott Cerreta, BS, RRT

There are two things I have learned over the years regarding advising patients on tobacco cessation. First is the abbreviated AAR (Ask, Advise, Refer) skill derived from the five A's (Ask, Advise, Assess, Assist, Arrange) method.¹ Second, never underestimate even your most resistant patients.

I have met a fair share of resistant people in my time, none closer to me than my own father when he was 63. I have tried motivational interviewing, suggestions for use of nicotine replacement therapy, referrals to cessation programs, and all the support I could offer over the years, to no avail. My father would mumble out a familiar phrase, "I quit for three years and it was the most miserable three years of my life," followed by, "I would rather die happily as a smoker than go through that feeling again." As we know, things change and we should be ready with the right attitude to support those changes.

When it comes to tobacco cessation, learn how to perform a brief tobacco intervention by utilizing the 5A's or AAR method, and connect patients who wish to talk to a professional about the benefits of quitting smoking to a Tobacco Treatment Specialist (TTS) located at the State Smokers' Quit Line. Refer your patients to 1-800-Quit Now.

"Scare and scold" tactics are not the best approach, but giving your patients the facts will allow them to make an informed decision. Here are several principles that will help your patients understand how smoking — and quitting — will affect them. Learn these principles and use them in talking with patients.

Impact of smoking on the susceptible cigarette smoker

Sustained smoking abstinence is one of just a few interventions that has been proven to prolong life for those living with COPD. Tobacco cessation is the only intervention that actually slows disease progression by reducing the rate of lost lung function for the susceptible tobacco smoker. Unfortunately, individuals with COPD cannot normalize their lung function after quitting, but most patients will improve their FEV₁ (forced expiratory volume in first second) within the first year of tobacco abstinence.² The most important point is that for "susceptible smokers" with COPD, sustained smoking abstinence significantly slows the rapid loss of lung function as seen in Figure 1.³

Average smokers (non-susceptible daily heavy smokers who do not seem to lose lung function at the same rate as susceptible smokers) do not develop COPD as determined by FEV₁ values. However, they generally have lower FEV₁ values than non-smokers of the same age (see Figure 1). Furthermore, we must not forget that smoking cigarettes is linked to all four leading causes of death in the United States: heart disease, cancer, COPD and stroke.⁴

Susceptible smokers develop a decline in FEV₁ at a very early age, and this trend may become apparent as early as ages 35–45 years.⁵ This group is just beginning to develop symptoms of

COPD that are often overlooked and poorly recognized by patients and health care professionals. Examples of early symptoms include mild dyspnea with heavy work or exercise and/or a chronic cough, which is often dismissed by patients as a "normal smoker's cough." Of note, there

about the author...



Scott Cerreta, BS, RRT, is the director of education for the COPD Foundation in Miami, FL.

is no such thing as a “normal smoker’s cough.” Patients from ages 35–45 years will receive the most benefit from smoking cessation and may avoid development of COPD if caught early enough. However, it is never too late to quit. Benefits of sustained abstinence are seen even after quitting smoking in a patient’s 60s or beyond.^{6–8}

More noticeable breathing impairment usually appears with FEV₁ values around 50% predicted at age 55 or so.⁵ This is often when people seek medical attention for their symptoms. Evidence also reveals that poor, or even sub-optimal care, of COPD often leads to multiple exacerbations and a rapid decline in lung function progression in the last few years of one’s life.⁵ This instability of COPD is indicated by the red line in Figure 1. The graph illustrates that frequent exacerbations cause a dip in lung function that is not fully recovered even after the exacerbation is over.

Health care professionals should learn how to use some version of the Fletcher-Peto curve in their discussions with patients about quitting tobacco use. The lungs

and lung damage can be very abstract for patients, but showing them a graph gets their attention. Immediately, they wonder, “Which line is me?”

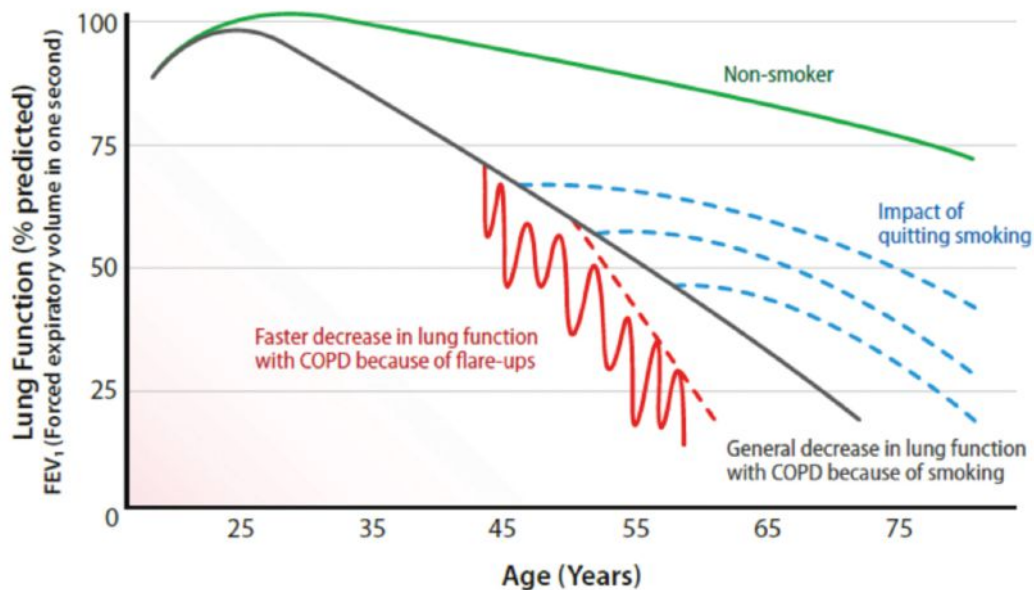
This is borne out through findings from Bednarek et al that smoking cessation rates are higher among smokers with airways obstruction than those without obstruction when using smoking cessation advice and spirometry results.⁹ Confrontation with declining serial spirometry results has also proven effective in smoking cessation success.¹⁰

Top three reasons for quitting

1. Improved Health and Quality of Life

Regardless of their age when people decide to quit smoking, they will gain some health benefits. Patients have reported to be more active, rested, and in better control of their lives after quitting smoking.⁵ Blood pressure and heart rate quickly return to normal. The risk for a heart attack for those who are prone to heart attacks

Figure 1. How Your Lung Function Changes as You Age



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Table 1. Dollars Saved by Pack-per-Day Smokers Who Quit

After	Saved
1 Day	\$7.50 — worthy of a smile
1 Week	\$52.50 — a nice dinner
1 Month	\$225.00 — a nice dinner for the whole family
1 Year	\$2,737.50 — a family vacation
10 Years	\$27,375.00 — a 2013 Chevy Camaro
20 Years	\$54,750.00 — a Mercedes Benz Roadster



appear to be the same as in a non-smoker five years after quitting. Those who suffer from lung disease will go through a lung remodeling phase in the first year after quitting smoking. While lung function will not return to normal based on age, height, and ethnicity, one will regain some lung function by stopping the daily inhalation of tobacco smoke. The lungs will perform better, slow down the production of excess sputum, and ultimately slow the rapid progression of lung function loss. As seen in Figure 1, this can occur at any age. In fact, smoking cessation after a cancer diagnosis has medical advantages including improved treatment effectiveness for other conditions and a reduction of side effects to the treatment.¹¹

2. Save Money

Cigarettes are expensive. Many people smoke to relieve the symptoms of stress and depression in spite of the significant expense. What they do not know is that it actually costs less to buy a prescription-strength anti-depressant than it does to smoke tobacco. Based on an average of \$7.50 per pack, a person who smokes one pack per day will save more money than you may think when they quit, as shown in Table 1.

The estimated smoking-attributable cost for medical care in the United States exceeds \$75 billion annually.¹² Today, more than ever, we are searching for opportunities to lower health care costs and decrease hospital readmissions. Smoking cessation programs specifically dedicated to COPD patients are more costly compared to general public programs due to comorbid condition consideration and barriers to failure, but

they are associated with improved life expectancy and result in reduced health care costs.¹³

3. Become a Role Model

It is now believed that the susceptibility of cigarette smokers runs in families, based on a 2011 CHEST article.¹⁴ While there is much more we need to discover regarding the genetic factors linked to the susceptibility of tobacco use, we should start by setting the example in our own families. Patients should be encouraged to share their story and their illness with their children and grandchildren. Their family's odds of developing a smoking-related lung disease are higher than others with no family history.¹⁴ If patients require oxygen, encourage them to embrace it. Have them use it to their advantage when persuading loved ones to make better choices for their health.

Any age, any time, any reason, you best be prepared

Older adults with chronic disease of any kind are twice as likely to succeed at smoking cessation compared to younger adults despite the fact that physicians are less likely to recommend smoking cessation for older patients compared to younger patients.³

Last year, my father, like many of your patients, quit smoking as a result of a hospitalization in which he was unable to go outside and “smoke his brains out.” The hospital he has frequented in the past for treatment of his heart disease is now a tobacco-free campus. Furthermore, he underwent a spinal fusion and was not ambulatory, completely hindering his ability to escape outdoors for a smoky treat. Following surgery, I

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convinced the nursing staff to place a nicotine patch on my dad, but the doctor ripped the patch off during rounds the following morning. With anger and a raging tone, he scolded my dad, saying, “You can no longer have nicotine... ever!” The doctor claimed that nicotine will “undo all the hard work that I put into your surgery” by negatively impacting the healing process. Enough said. My dad has not touched a cigarette in 16 months! While I do not condone the often used “scare and scold” tactic, there is no denying that in this case it worked. I supported my father during these times by pointing him to resources to curb his cravings for nicotine, dealing with a small weight gain, and finding new hobbies to occupy his mind during this transition.

Even though more people quit smoking using the cold-turkey method than any other method, the odds for success are not as good as other evidence-based approaches. In fact, the average person makes eight quit attempts before succeeding in lifelong abstinence.¹⁵ The point to remember is that smokers — in the face of change they cannot control, such as illness and advancing age — often do change their minds regarding their tobacco use. As a respiratory therapist, you have the power to save a life by:

- being ready at all times to look for an opening in the conversation to discuss smoking cessation,
- counseling your patients to make positive changes, and
- supporting those quit attempts with the facts you have learned in this article.

Even if your suggestions to quit are rebuffed nine out of ten times, be ready to support your patient of any age when she/he says: “Yes, this time, I am ready to quit.” ■

DISCLAIMER

The author is a COPD Foundation representative for patient perspective on the advisory board for Boehringer Ingelheim and Combivent® Respimat®.

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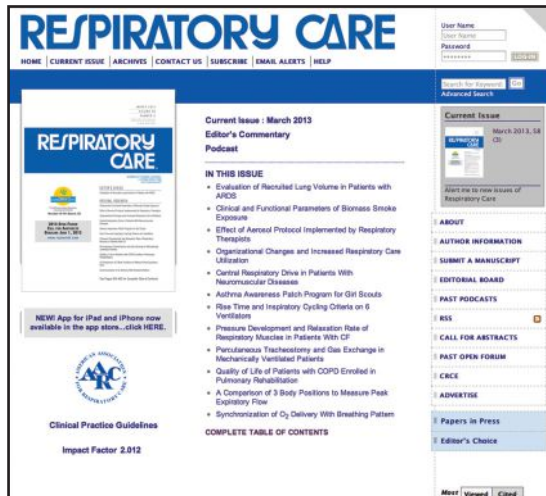
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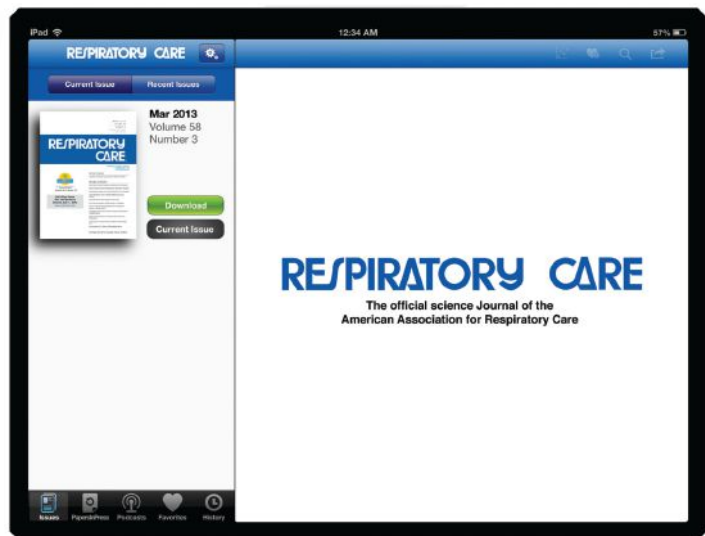
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Alarm Management: A New National Patient Safety Goal?

by Garner Faulkner II, BSRC, RRT

The Joint Commission established its National Patient Safety Goals (NPSGs) program in 2002 to help accredited organizations address specific areas of concern in regard to patient safety. The first set of NPSGs was made effective Jan. 1, 2003, and included Goal 6: "Improve the effectiveness of clinical alarm systems."¹

So let us fast-forward 10 years and ask, "Why is there still a focus on alarms and their safety?" To answer this question, all one has to do is step into any ICU. You will be met with a symphony of beeps, bells, and rings. It is often difficult to discern which alarm is a priority and which is not. When these alarms blend together, an alarm meant to alert someone to a life-threatening situation can be overlooked. Ventilator alarms that go unnoticed for an extended period of time can result in permanent harm or even death.²

A new proposed NPSG

In order to address ongoing problems with alarms, The Joint Commission recently evaluated alarm management through a field review as a potential NPSG for both the Critical Access Hospital and Hospital Accreditation Programs. As of this writing in early spring, no firm decisions have been made; but if approved, the NPSG could go into effect as early as 2014.

The proposed NPSG focuses on improving the safety of clinical alarm systems. Although there is general agreement that alarm management is an important safety topic, a universal solution has yet to be identified. The commission invited stakeholder feedback and created an online survey to gain more information on the topic. The survey included 15 questions aimed at ascertaining whether there is a current problem with alarms and, if so, what possible guidelines should entail.³

Houston, we have a problem

Particularly in the hospital setting, alarms are intended to alert caregivers of potential patient problems.³ Clinical alarms in the ICU setting are meant to immediately alert caregivers to either a change in the patient's condition or a malfunction of the equipment. The value of these alarms, especially on life support devices, is extremely important to patient safety. However, in the ICU there are false or nuisance alarms that, when frequent, can compromise safety and quality of patient care.⁴ Compromises in safety often occur secondary to something that is referred to as "alarm fatigue." Alarm fatigue occurs when the number of monitors and various other alarms overwhelm clinicians, leading to alarms being disabled, silenced, or often ignored.⁵

In 2011, the Healthcare Technology Foundation (HTF) conducted a national clinical alarm re-survey of health care providers (the first survey took place in 2005–2006) to determine perceptions of alarms, improvements made, and priorities for future action. Of the 3,454 completed surveys, 2,071 were from respiratory therapists, showing their high interest in the topic.⁶

Several questions on the survey were geared toward nuisance alarms. Seventy-six percent of the respondents felt nuisance alarms occur frequently. When asked if they felt nuisance alarms disrupted patient care, 71% agreed. Lastly, 78% of the respondents felt nuisance alarms reduced caregiver trust in alarms, causing them to inappropriately turn them off.⁶

Which one is it?

With all of the various noises that go on in the ICU setting, often one of the most difficult things is differentiating between what is a priority and what is not. Most clinical devices have alarm capabilities that generate au-

about the author...



Garner Faulkner II, BSRC, RRT, is manager of respiratory care services at UC San Diego Health System in San Diego, CA.

dible, acoustic alarms. Alarms from different devices/manufacturers may sound very similar for different alarm instances, or the same alarm instances may be annunciated in different ways.⁴

The 2011 National Clinical Alarm Survey results from the HTF showed that >90% of the respondents agreed that alarm sounds/visual displays should both differentiate the priority of the alarm and be distinct based on parameter or device.⁶ All caregivers, including RTs, must understand the importance of quickly differentiating between an emergent/possible life-threatening alarm and an alarm that may be set off secondary to improper alarm ranges — in other words, a nuisance alarm.

The European Committee for Standardization established a standardized classification system to assist health care providers with alarm signals. This classification is broken down into three different priority categories:⁷

- High: urgent/potential life-threatening situation; requires immediate attention
- Medium: dangerous situation; quick response needed
- Low: alert situation; providers' attention needed.

This approach can help to delineate between immediate alerts and those that are not as immediate, thus aiding in getting the appropriate response.

Remember, we are not alone

Not only are false alarms a concern for the respiratory therapist, they are also a concern for the nursing staff. Often the RT may be assigned to several patients in different areas. Therefore, the nurse needs to know when an alarm needs further follow-up since he or she may be the initial respondent before the RT can respond and further assess the situation.

Given their constant exposure to false alarms, nurses are equally at risk for becoming desensitized to the alarms that are meant to protect patients.⁵ For example, often cardiac monitor algorithms are set for high sensitivity at the expense of specificity.⁵ This approach potentially adds excess noise, which means the nurse must differentiate between it and possible alarming ventilators. Teaching nurses these important points helps expand the role of the RT and solidifies our role as experts in the area of ventilator alarm management.

All for one

As defined in many textbooks, one possible solution to better alarm management is having one universal ap-

Why is there still a focus on alarms and their safety? To answer this question, all one has to do is step into any ICU. You will be met with a

symphony of beeps, bells, and rings. It is often difficult to discern which alarm is a priority and which is not.



proach on how to set/manage clinical alarms, but it may not be the best solution. This “all for one” approach may reduce safety for some alarm values while increasing nuisance alarms in other situations.⁸ Many institutions that approach alarm management in this manner have set parameters such as peak inspiratory pressure +/- 10 cm H₂O or +/- 25% for minute ventilation and tidal volume.⁸

A custom fit

Secondary to the wide variability in each patient situation and to avoid the number of false alarms, the easiest/best approach may be to individualize alarm settings based on the patient's condition.⁹ A patient who is paralyzed/sedated should have different ranges than a patient who is on a spontaneous breathing trial. This custom-fit approach relies on staff education and institution-wide application/acceptance to ensure success. Monitoring this best practice through performance improvement or quality initiatives will give the organization feedback on the success of the program and define any ongoing weaknesses that need to be addressed.

A study published in 2010 showed how one unit-based performance improvement project on alarm management resulted in a 43% reduction in unnecessary alarms. The reduction was achieved through unit-wide education on modifying alarm parameters from defaults to those based on individualized alarm parameters based on patient condition.⁵

Other solutions

A summary of the 2011 National Clinical Alarm Survey performed by the HTF revealed that there was agreement that alarm improvements need to be stepped up in health care institutions. Several suggestions/recommendations were made, including:⁶

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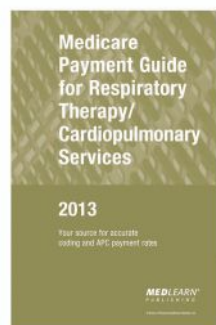
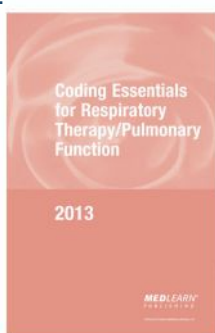
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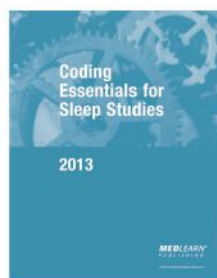


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- Utilizing smart alarms (multiple parameters, rate of changes, and signal quality are automatically assessed in their entirety)
- Utilization of central alarm management
- A systems approach involving all stakeholders.

One example of smart/central alarms was discussed by Evans et al.² In this study a system to monitor critical ventilator events through an existing hospital network was developed. The program was designed to distinguish between the severities of various alarms. Once an event is identified, their system takes control of every computer in the ICU, generating an enhanced audio/visual alert indicating a critical ventilator event and identifying the room. As a result, critical events at this facility are now very difficult to ignore until resolved. In fact, after the implementation of the new system, there were no verified reports of false negative alerts. With the improvement in false alarms came a high clinician acceptance to the approach as well.²

Time to change

Alarm management is a patient safety concern that will require health care professionals to create change in current practices, even if alarm management does not become a formal NPSG. Creation of policies/procedures focused on individualized alarm management, as well as broad directional education for all of those who respond to alarms, may greatly decrease false alarms and increase response to pertinent ones.^{9,10} Minimally, this can be done by instituting a culture within a health care system that emphasizes the importance of changing default alarm settings and customizing them for each patient's unique condition.⁹ ■

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A Salute to our 2013 Corporate Partners

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

The combined efforts between the respiratory care profession and manufacturers in seeking ways to improve the quality and outcomes of our patients make us natural partners in today's healthcare continuum.

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



Helping CPAP Patients Better Manage Their Condition

by Karla Smith, BS, RRT, RPSGT

Being diagnosed with obstructive sleep apnea (OSA) can be devastating. Just imagine being told that you have a condition that is not really curable and that you will have to wear a continuous positive airway pressure (CPAP) mask while sleeping for the rest of your life. Imagine the questions that patients must have: How will I deal with this? How much is this going to cost? How often do I have to see a physician? Am I going to have to go through that test again?

Obstructive sleep apnea is a chronic disease and should be managed as such. Respiratory therapists are part of the multidisciplinary team that can help OSA patients understand their disease and help guide them through the process of treatment, follow-up, and maintenance. It is important for RTs not only to understand the process of diagnosis and immediate treatment but also to understand how to help patients manage their condition and their equipment.

Replenishing PAP supplies

Since positive airway pressure (PAP) is recognized as the preferred mode of treatment for OSA,¹ it is vitally important that the equipment be explained thoroughly. The patient must understand the importance of the device as well as the maintenance of the unit.

CPAP supplies should be replaced regularly to assure the parts are in working order and the unit works properly. Most users' manuals do not give specific timeframes for how long the supplies or unit should last, but the Centers for Medicare and Medicaid Services (CMS) has a published reimbursement schedule for CPAP supplies and CPAP units, as shown in Table 1.²

Remember, these are CMS recommendations. Other insurance providers may have similar recommendations,

and yet others may cover certain CPAP supplies each year without being specific to which items are covered or how many items a patient can receive. For example, an insurance provider may allow replacement of CPAP supplies on an "as needed" basis. This could mean that a mask may be replaced more often with proper documentation, such as the mask is no longer comfortable, it begins to show signs of wear, or the patient experiences more mask leak than normal. It really is vital that the patient understands the specifics of their insurance policy to assure proper coverage of replacement items.

Patient follow-up

According to the American Academy of Sleep Medicine (AASM) accreditation guidelines, the patient who has been diagnosed with OSA and prescribed PAP should be followed routinely. They should receive some sort of contact within 12 weeks of therapy initiation.³ This first encounter after therapy initiation is used to assess treatment effectiveness. Some topics that could be covered during the follow-up appointment include review of the download of the PAP device to monitor compliance and therapy effectiveness, or ongoing education regarding importance of compliance with the treatment plan.

It is a good idea to follow OSA patients regularly for the first year. These patient encounters, usually involving a phone call, are to assure that the patient is doing well with therapy and to encourage regular follow-up with a sleep specialist. This follow-up phone call could also be a great opportunity for the RT to discuss the importance of ongoing compliance with the treatment plan as well as to discuss the health risks associated with OSA that is im-

about the author...



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Obstructive sleep apnea is a complex condition with many different aspects of treatment and maintenance. Patients with this diagnosis should expect close follow-up by their respiratory therapists.

Table 1. CMS Reimbursement Schedule for CPAP Supplies and Units

Item	Replacement Schedule
Full face mask	1 per 3 months
Full face cushion	1 per month
Nasal cushion	2 per month
Replacement nasal pillow	2 per month
Nasal mask	1 per 3 months
Headgear	1 per 6 months
Chinstrap	1 per 6 months
Tubing	1 per 3 months
Filter, disposable	2 per month
Filter, non-disposable	1 per 6 months
Humidifier chamber replacement	1 per 6 months

Centers for Medicare & Medicaid Services. PAP devices for the treatment of OSA. L11528, L11518, L171, revision effective date Oct. 1, 2011.

properly treated. This may also be a good time to assure the patient is performing regular maintenance on their PAP device, ensuring the interface is in good working condition.

After initial PAP set-up, patients should expect to meet with the sleep specialist after about 30 days. If the follow-up goes well and the patients are tolerating the PAP therapy and report decreased symptoms, they should expect a follow-up after one year. Of course, if patients experience an increase in symptoms (i.e., return of excessive daytime sleepiness, snoring, or morning headaches), it is important to make an earlier appointment. The re-emergence of symptoms may signal that the CPAP device may not be delivering adequate pressure and that the patient's treatment plan should be evaluated. A repeat sleep study with PAP titration may be required at this time.

Persistent or recurring symptoms, weight loss or substantial weight gain with return of symptoms, or return of symptoms despite a good initial response to treatment should be the only reasons for a repeat sleep study. Routine or yearly sleep studies are not indicated in the ongoing maintenance of OSA in a patient with resolved symptoms utilizing CPAP treatment.¹

Weight control

Research shows that weight reduction improves a patient's apnea-hypopnea index.⁴ So, we can further assist

our OSA patients by helping them understand that a combination of weight loss and weight management along with their PAP therapy can help them manage their OSA successfully. Patients should be encouraged to visit with a dietician to discuss healthy eating habits. They should also be encouraged to follow an exercise program that is right for them.

Obstructive sleep apnea is a complex condition with many different aspects of treatment and maintenance. Patients with this diagnosis should expect close follow-up by their respiratory therapists. It is important to note that if you are privileged enough to care for patients with this diagnosis, you will become not only an expert in the diagnosis and treatment, but you will become a confidant and cheerleader. ■

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The Duty To Rescue

by Anthony L. DeWitt, JD, RRT, FAARC

It was a clear summer's day at the lake. People were stopping by the concession stand to pick up soda and snow cones, and they frequently rented boats from the man who provided them. He dutifully told them to put on life jackets, and of course, there were always a few who did not.

One of the men who took out a boat stood up, went overboard into the water, and immediately started thrashing in the water and calling for help. The man who operated the boat concession sat down on a folding chair, pulled out a fresh cigar, lit it, and watched as the man struggled for a minute and then slipped under the water.

When the man's relatives sued, they based their claim for the wrongful death of the man who drowned on the fact that the boat concession operator simply sat by and did nothing while their loved one drowned. They were rightly outraged by his conduct. Surely a person has some duty to his fellow man to come to the aid of someone in distress!

But the law holds otherwise

The law says that there is simply no common law duty to rescue another person in peril absent some special relationship between the parties. For example, an innkeeper has a duty to make sure its locks work and its premises are safe for the protection of his guests, and hospitals have a duty to protect newborns and the elderly from abuse and neglect. These statutory duties provide a framework to hold people accountable when their job requires that they "do something" instead of sitting by when people are in peril. But no therapist

outside the confines of his hospital job has a legal duty to go to the aid of someone in peril. Most of us, of course, feel a moral obligation to do so.

Recently in California, a woman choked on food while she was a resident at a custodial care center. The 911 tape was played on the evening news for all to hear. The 911 call is chilling. The 911 operator asks the caller to render CPR to the dying resident, and the caller calmly replies that this is forbidden by company policy. Despite the strident pleas of the 911 operator that rescue personnel would reach the woman too late to be effective, the health care worker involved did nothing to preclude the emergency. The patient died as a result.

The 911 tape made big news. But often the news tends to emphasize some details and omit others altogether. A full investigation may yet prove that the clinician acted properly, but the 911 tape will doubtless cause the facility operator a great deal of reputational harm.

Heroics: yes or no

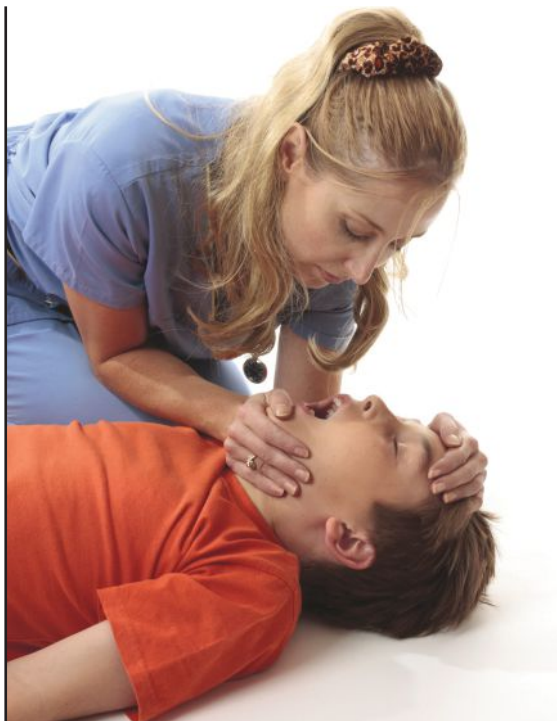
The 911 tape raises the question of whether it is ever lawful for a facility providing a form of patient care (even if that care is limited to simple tasks like cleaning and bathing) to essentially fail to take measures to treat a life-threatening condition that *could* be treated. The answer is yes, if the facility is following the patient's expressed wishes, and in most other cases, the answer is a qualified no.

Suppose Mrs. Smith has terminal lung cancer. The physician has given her six months to live. She is living

about the author...



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No therapist outside the confines of his hospital job has a legal duty to go to the aid of someone in peril. Most of us, of course, feel a moral obligation to do so.

in a hospice center and has requested “no heroics.” But her cancer is under treatment, and she still has quite a bit of time left. She is ambulatory and visits with friends and family. She is not tethered to an IV or an oxygen concentrator. She is in good spirits.

When she signed her “no heroics” declaration, she meant for it to apply at the end of life. If she chokes on a piece of pizza on her second day at the hospice center, should anti-choking techniques be performed in spite of her “no heroics” mandate?

While that seems like an easy question because of the way I framed the issues, it really is not. Patients have a right to self-determination. Whatever the patient might have understood about her disease state, her directions deserve respect. The decision to perform heroic measures, including Heimlich and CPR, clearly go against her wishes as she has them written. But at the same time, a facility might reasonably be held to be negligent if it did not act quickly and decisively in such a situation. Nothing mandates that a health care worker put their common sense in their wall locker when they come into work. Every situation is unique, and the use of judgment at appropriate times is the hallmark of a true professional.

In the Missouri Supreme Court decision that the Supreme Court of the United States affirmed in the famous Cruzan case, Judge Edward D. Robertson, Jr., announced the rule in Missouri. Since end-of-life decisions cannot be taken back once made, in Missouri, we “err on the side of life.” If heroics do not work or result in a patient with a profoundly diminished quality of life, those heroics can be withdrawn later. But after the heart has ceased to beat and the brain cells have died, there is little that can be done. In that regard, it is always wiser to initiate CPR and risk doing too much than be judged later to have squandered an opportunity.

Err on the side of life

In the situation where a clinician is later criticized for ignoring the patient’s expressed wishes, the defense is that the clinician erred on the side of life. He did what he needed to do to protect every last chance for a good quality of life for the patient. And it is far easier for a lawyer to defend a case where the clinician did everything right and according to protocol, than to defend a situation like the one captured on the 911 tape. ■

Where the Profession Should Be Today and Tomorrow

by Thomas J. Kallstrom, MBA, RRT, FAARC

As health care professionals we know that there is no limit to the number of opinions of where the respiratory care profession should be today and in the future. There is much uncertainty as to what the provision of health care will look like and who could best provide it in the future.

As you are probably aware, the AARC sought to clarify what the respiratory therapist of the future will be responsible for in light of the needs of patients, what the competencies of the future respiratory therapist should be, and what education must be provided in order to prepare the future workforce. This effort is known as Respiratory Care 2015 and Beyond. I urge you to read the proceedings of all three conferences and the current and future next steps as directed by the AARC Board of Directors. The conference proceedings can be viewed in *RESPIRATORY CARE* journal and a more current update is on our home page at www.aarc.org/.

Ingrained in these proceedings is the notion that there is indeed an expanded role for the respiratory therapist beyond what we are doing today.

At the same time, we know that change is a difficult concept to embrace and our inclination sometimes is to resist it. There are three certainties that we face in the coming years:

- the impact of the Affordable Care Act (ACA),
- an aging workforce of baby boomers who will be retirement age and who will require health care services, and
- an expected significant increase in chronic disease, specifically chronic lung disease.

The first wave of the ACA will be felt in our nation's hospitals and beyond the hospitals' walls in less than a year. By law, in 2014 patients will be mandated to carry health insurance, and Medicaid expansion will occur.

The perspective of our colleagues

It might be a healthy exercise to see how some of our physician colleagues view the current and future trends in health care and what they are doing to prepare for it. Recently, a survey of over 13,000 physicians was completed by The Physicians Foundation, which sought to delve into the perceptions of physicians and their outlook for the future. The report can be viewed at www.physiciansfoundation.org/focus-areas/a-survey-of-americas-physicians-practice-patterns-and-perspectives/.

One of the considerable discoveries of this survey was that physicians have a rather unenthusiastic view of the future of health care. In fact, they place their pessimism at the doorstep of the emerging ACA health care legislation.

Looking closer at the ACA, half of the physicians who took the survey related that they believe its impact on their practice to be a negative one, with primary care physicians voicing the least amount of concern. Interestingly, one-third of the physicians indicated that if they had it to do over, they would have not chosen medicine; and 84% feel that the medical profession is on the decline.

These are sobering perspectives from our physician colleagues. Looking closer at the projected physician workforce, there continues to be a decrease in the anticipated workforce over the next 15 years while at the same time

about the author...



Thomas J. Kallstrom, MBA, RRT, FAARC, is executive director and chief executive officer of the AARC.

The first wave of the Affordable Care Act will be felt in our nation's hospitals and beyond the hospitals' walls in less than a year.

an increase in personnel will be necessary to meet the demand.¹ There is an expectation that the United States will require nearly 52,000 additional primary care physicians by 2025. Population growth will be the largest driver, accounting for 33,000 additional physicians, while 10,000 additional physicians will be needed to accommodate population aging.

Plans to fill the void

In 2014, the ACA will result in an additional 34 million people who will require health care and likely require an expanded number of health care providers and a smarter way to work with patients to make them better self-managers. Other disciplines are already in line and touting their vision for how to manage this. Pharmacists are one such discipline that could play a part.² Nurses, or more specifically nurse practitioners, are another group that expects that they can step in to meet the demand.³ The AARC also understands this and is working with the respiratory therapy community with the result being an extended role that will allow respiratory therapists to fill the void.

Preparing to do this, the AARC continues our charge to get Congress to pass a Medicare Part B payment for respiratory therapists who would provide chronic lung disease management in the outpatient physician's office. The diseases that are included in this bill include asthma, COPD, pulmonary hypertension, cystic fibrosis, and pulmonary fibrosis. By providing much-needed self-management education, we will be in a better position to be disease managers outside of the acute care hospital.

The respiratory therapist can act as a chronic lung disease educator in the hospital, as well. We are already hearing success stories of positioning respiratory therapists as disease managers in the hospital and others that are being created, which we will share with you in coming articles. An emphasis on COPD disease management seems to be gaining ground in many of these programs. We are currently in a beta test phase of a self-management tool, which is a COPD education flipchart that will provide a means to teach hospitalized patients the self-management skills they need. Once the beta testing has been completed, you will hear more about how this tool can be used in your own hospital.

Protocols needed

Now is the time to develop or use existing protocols with an outcome of seeing patients maintain their chronic lung disease and not return to the hospital — especially within a 30-day window. In fiscal year 2015 it is forecasted that there may be penalties for these returns for COPD patients. Today the same penalties exist for pneumonia readmissions. Protocols have long been established as a powerful tool to ensure appropriate care is provided in an expeditious and efficacious manner.

At the end of the day, it is important to know that respiratory therapists can and will play an essential part of our future. The AARC will continue to work to ensure that our role will be part of the future of health care. We need to work together to make it happen. ■

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Mechanical Ventilation from the Patient's Perspective: A Review of the Literature

by Ilona K. Cappell, RRT

Mechanical ventilation, the ventilator, and the work associated with them are commonly encountered by respiratory therapists assigned to the ICU. Through constant repetition, the tasks and responsibilities associated with the ventilator-patient assessment can inadvertently become routine and the clinician may not give much thought to the person at the receiving end. At some point, however, we must consider that we are caring for an individual with a dire illness. As RTs, we are uniquely qualified to alleviate many discomforts the patient experiences related to artificial airways and mechanical ventilation.

Identifying which parts of the experience patients find most uncomfortable or stressful is essential to reducing the occurrence of these experiences and associated stress.¹ The literature reveals two specific experiences as causes for extreme stress to patients: experiences with the endotracheal tube (ETT) itself and communication, which is greatly impaired by mechanical ventilation.

Problems with the ETT

The physical discomforts associated with the ETT are described by most patients as “more uncomfortable than painful,” while others report that “the strapping used to secure the endotracheal tube was more painful than the tube.”² Patients state that trouble speaking, being thirsty, and difficulty with swallowing are moderately to extremely bothersome.¹ Thirst is one of the most frequent problems reported by patients.¹⁻³ While it is clear to respiratory therapists why an intubated patient is not allowed to drink fluids, it may not be so clear to the patient: “The frustration was as a result of not being informed

why water was not permissible while they were on the ventilator.”²

Being intubated may cause chronic dry mouth, which can lead to the colonization of the oral cavity by detrimental microbes. After comparing patients’ oral cavities pre and post oral care, it was shown that toothbrushes were effective in improving oral health.”⁴ Administering small ice chips and providing artificial saliva substitutes can alleviate dry mouth and thirst sensation.²

Relieving patient discomfort due to the ETT can be achieved by being diligent when assessing the patient. The clinician should ask the following questions:⁵

about the author...



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- Is the ETT causing pressure points to the lips and the oral cavity?
- Is the tape or securing device clear of contact with hair, or is breakdown of skin noticeable?
- Is the patient biting the tube or trying to move it, and if so, why?

Endotracheal suctioning is a therapeutic modality most intubated patients have to endure. It is essential to remove secretions to prevent complications like ventilator-associated pneumonia. Patient experiences vary greatly in this area. Generally, suctioning is reported as an unpleasant experience. Very few patients describe it as helpful, and for most patients it is comparable to “a terrible experience linked to feelings of suffocation.”² According to one

patient: “I felt as if they were pulling my lungs out with the suction catheter.”²

Jordan et al reported that improvements to suctioning techniques can be achieved by better explaining the procedure to the patient (obtunded or not).² The RT should



Patients on mechanical ventilation, besides being seriously ill, are also subjected to additional physical and emotional stress, which is exacerbated by “unfamiliar surroundings of the intensive care environment and the limitations caused by the process of ventilation.”

ensure that proper pre-oxygenation and hyperinflation protocols are followed. Utilizing modalities like chest physiotherapy congruent with the suctioning procedure may also increase effectiveness and decrease time spent suctioning.²

Facilitating communication

One of the biggest issues patients and health care providers face is the effect of artificial airways and mechanical ventilation on communication. The intubated patient is unable to verbally communicate.² In some patients the inability to talk produced emotions ranging from fear and anxiety to agony and even panic.^{2,4,6} The inability to communicate properly is a recurrent theme in the literature, noted as a source of extreme stress and concern to the patient,^{1,2,4,6} and thus deserves special attention and consideration.

Communication between caregivers and patients during mechanical ventilation is described in the literature as “short in duration,”⁶ mainly oriented toward tasks and procedures, and “factual” in nature.^{4,6,7} As essential as communication is in daily life, it is easy to see how lack of communication would have a detrimental effect on a critically ill patient. Consequently, nonverbal communication is often the last and only resort for intubated patients. However, gestures are often impeded by restraints; and written communication is only possible if the patient is given the opportunity to do so by providing them with utensils. Modalities like writing boards, electronic communication boards, and pain rating scale templates

can be used to simplify communication for intubated patients.

Unless sedated, many patients with artificial airways are able to “communicate by using facial expressions or hand motions.”⁵ RTs must be willing to pay attention to these indicators. However, patients frequently mention that caregivers seemed “too busy” to spend adequate time trying to understand them, leaving them feeling helpless and frustrated.² “Although patients’ bodily needs were being met, inadequate attention was being given to their psychological and spiritual needs.”²

Caregiver attitude makes the difference

Patients on mechanical ventilation, besides being seriously ill, are also subjected to additional physical and emotional stress, which is exacerbated by “unfamiliar surroundings of the intensive care environment and the limitations caused by the process of ventilation.”²

Becoming aware of these areas of concern and implementing changes in the way we approach these patients is the first step to reducing stressful experiences. Making the patient as comfortable as possible should be the goal of the clinical care staff and can sometimes be achieved through very simple methods like “providing better and more frequent explanations to the patients of what they may experience in the ICU.”¹

As health care providers we must be aware of the “level of frustration” caused by mechanical ventilation. In addition to informing the patient about procedures being performed, asking for permission is important.⁶

From the patient's perspective, more explanation about the ventilator and what to expect is needed and will be appreciated.⁶ Patients also request "guidance about concrete coping strategies while... receiving mechanical ventilation."⁷ Some of these strategies could range from using music to the patient's liking, to creating a more relaxing environment and familiarity, to meditation or relaxation techniques, to simply allowing a family member at the bedside. In any case, these strategies would have to be tailored to the patient's needs, abilities, and tolerance.

A surprising finding is that for any type of communication to be beneficial and effective, the biggest factor is not which modality was used to bridge the gap, but the individual caregivers' attributes and attitudes.⁶ Helpful clinician interventions were: "asking questions (allowing simple yes or no gestures on the part of the patient), providing reassurance, having a kind or patient demeanor, and reading what patients write as they write it."⁶ Quite the opposite effect is achieved by caretakers who are "mechanical, non-personal, inconsistent, inattentive, and absent." These personality traits discouraged patients from even attempting to communicate.¹

Change is in our hands

An intubated patient is unable to speak; indeed, most of these patients are so critically ill that they will either be under heavy sedation or otherwise incapable of communication. As caregivers we rely on our expertise about ventilator graphics and numbers to guide adjustments; but if the patient is alert and able to "speak" to us, we should take the time to "listen." Communication is essential to quality care.⁴ With an intubated patient, that means including body language, facial expressions, and eye contact. Communication with mechanically ventilated patients needs to be approached with kindness, empathy, and most importantly, patience.

The experience of being mechanically ventilated is not a pleasant one under the best of circumstances. When severe illness or disease is combined with indifferent caregivers, the patient's stresses are multiplied and intensified. Research into the subject is limited at this point; but in recent years awareness has increased, as have the number of related studies. With the current trend toward a more holistic approach to patient care, considerations are being given to the patient's perspective. Ultimately, implementation of change is in the health practitioner's hands. ■

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The National Ventilator Survey — Three Years Later

by Richard Branson, MSc, RRT, FAARC

Threats of pandemic flu and terrorism as well as recent natural disasters including super storms, tsunamis, and earthquakes have raised awareness of mass casualty care to even the lay public. These problems have become a focus of public health planning and a challenge to health care systems and hospitals. Appropriately, the federal government has played a leading role in preparation and planning. In 2007, the U.S. Department of Homeland Security's National Planning Guidelines were published with the goal of coordinating and prioritizing emergency preparedness efforts at all response levels. Contained within the guidelines are 15 National Planning Scenarios, and at least two-thirds of these may cause catastrophic levels of acute respiratory failure.¹ These factors have led a number of groups, including the AARC, to develop guidance documents regarding the use, purchase, and triage of mechanical ventilators.²⁻⁶

During the decade following the atrocities of Sept. 11, 2001, a number of states, as well as the U.S. Strategic National Stockpile, purchased ventilators in preparation for a mass casualty respiratory failure (MCRF) event. These purchases seem prudent; and while there are many logistical issues related to the stockpiling, maintenance, and distribution of devices, this represents an important strategic national asset.^{7,8}

Across the last decade I have had the opportunity to work with a number of investigators and planners regarding preparation for MCRF, particularly with respect to the use of mechanical ventilators.^{2,4-6,9,10} In many respects, the fact that there have yet to be any events taxing ventilator availability in U.S. hospitals is fortunate.

Yet, without an event to stress the system's response, our preparation remains untested.

Planning a very complex task

One of the many assumptions perplexing planners regarding ventilator stockpiling was estimating the number of ventilators currently owned by U.S. hospitals. The assumptions had suggested a range of possibilities from 60,000 to 105,000.^{11,12} But the numbers did not discriminate among ventilator types or characteristics. Lewis Robinson, MD, PhD, and I had wrestled with this question as early as 2005 when Dr. Robinson was a fellow in the Center of Biosecurity and Bioterrorism in Baltimore. During those early discussions of ventilator stockpiling, a number of sessions transpired regarding the best method to count the ventilators. From the beginning, we had agreed that the AARC would likely play a key role.

In 2008, Dr. Robinson and I put together a survey instrument that we believed would allow us to determine the number of ventilators in a facility and stratify the devices based on intended application and performance. This included full-featured ventilators capable of ventilating patients from cradle to

grave (neonates to adults), noninvasive ventilators, neonatal ventilators, transport ventilators, and devices to measure continuous positive airway pressure. We received a waiver from the local institutional review boards; and with the help of John Wiligis, MBA, RRT, from Florida we trialed the survey at three hospitals in Florida and Ohio. We chose one small facility (<100 beds), a moderate-sized facility (>100 beds and <500 beds), and a large facility (>500 beds) from each state. The surveys were

about the author...



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

completed by members of the respiratory care departments of the respective hospitals and then verified by a second independent review. The survey was mostly successful; and after several tweaks to the language, a final version was approved.

While surveying half a dozen hospitals was relatively simple, the idea of surveying the nation was a daunting task. It was clear that there would be significant financial and technological challenges that would require appropriate resources. Dr. Robinson had moved to a position at the U.S. Department of Health and Human Services (HHS), which gave us an opportunity to answer the question with the support of the government.

When HHS decided to invest the resources to count ventilators, Dr. Robinson reached out to the AARC and Sam Giordano, MBA, RRT, FAARC. The AARC was awarded a contract by HHS to conduct the survey. While the lion's share of the credit for pushing the project to fruition clearly rests with Dr. Robinson, both Sam and Thomas Kallstrom, MBA, RRT, FAARC, need to be credited with signing on early and dedicating the AARC to the project and being "all in."

Following a period of negotiations, the AARC put the plan into progress. AARC member Timothy Buckley, RRT, FAARC, who had managed home oxygen for a large national home care company, was hired as a project manager. Steven B. Nelson, MS, RRT, FAARC, from the AARC office, was responsible for supervising the information technology used for the project. Early on we decided that the survey would have to be placed online, and he and his team were responsible for this critical task. This included being able to recognize duplicate entries, sorting the data, and dealing with the unavoidable comments

and free text by respondents who wanted to make sure we were capturing the data.

Talking with the three of them at AARC, I think all would agree the most difficult of the unexpected challenges was Protected Infrastructure Information (PII) training. Prior to initiation of the survey, each of the principle team members were required to take PII training from the federal government. According to HHS, knowledge of the results of the survey would be important for disaster planning but could also be exploited by those interested in creating havoc in public health. Each member of the AARC team signed agreements to treat the results of the survey, beyond the published data, as protected information. Because the survey included the manufacturer and type of mechanical ventilator in each category, we also realized early on that the data could be powerful information for any given manufacturer. In similar fashion, we agreed that outside of the general, publically available information, the data would not be shared with companies.

Mobilizing the team

Finally, there was the issue of which facilities to survey. We obtained a list of hospitals from the American Hospital Association, which seemed like a logical and prudent course of action. We found early on that with the consolidating health care system a number of facilities had merged and others had closed. Some facilities had changed to long-term care facilities or became specialty hospitals.

Dr. Robinson, whose mother is a respiratory therapist, had worked with the AARC on a number of fronts and was familiar with the organization. The AARC team rea-



Small facilities (normally in rural areas) are typically <25 beds and often do not have intensive care units, full-time respiratory therapy departments, and in some cases, do not own ventilators.

soned that leveraging our state societies would be critical to contacting our members to garner the highest possible survey return rate. Clearly, the only members of a hospital's staff that could gather this data accurately were the respiratory therapists. But we depended on volunteers to spend significant time to help us meet our goal. We were aiming for a response rate of close to 90%. If you've done survey research, you know this is almost unheard of.

Again, the AARC proved Dr. Robinson to be correct as the members mobilized effectively to gather the data. Incentives for each state were instituted, including free registration to the annual AARC Congress for up to five members for states achieving the desired response rate. The success of the project was clearly the AARC's use of the state societies, which had contacts in many of the local hospitals across each state. The network of AARC members was critical to the final survey success. The project was off and running, and progress was being made. Our next hurdle would be "critical access hospitals." These small facilities (normally in rural areas) are typically <25 beds and often do not have intensive care units, full-time respiratory therapy departments, and in some cases, do not own ventilators. So we faced the problem of whom to contact at these hospitals and how to go about it. An early review of the incoming data demonstrated that large academic hospitals were the most frequent responders, and the initial response rate slowly crept above 60%. Slow and steady progress pushed the survey response rate above 65%. Then the responses started to trickle in, and the team was forced to re-group.

We mailed paper surveys to the hospitals that had not responded in case the non-response was related to problems with their information technology (IT) system. This aided in the response rate. After a short teleconference, each team member was assigned 5–10 states and a list of non-responding hospitals. We identified a number of hospitals without respiratory therapy departments and those that did not have any ventilators. Often, these were specialty hospitals (behavioral health hospitals and orthopedic hospitals). Over the final month of the survey, we called the respiratory therapy departments at the hospitals and encouraged them to respond. While that helped, we still did not meet our goal. We called and walked through the survey with an individual, filled in the surveys, and the IT team input the data. Everyone contributed, and it became a bit of a contest to finish your states with the highest response rate.

Timothy Buckley recalls, "The AARC performed website and email blitzes to let our members know this was coming. We also did a webinar and other activities to create a real high level of visibility and awareness in the RC

community. The results were truly impressive because it was a 'full-court press,' because we all understood it was important, and because it was led from the top."

In the long run, we were able to reach a 75% (74.8% to be exact) response rate, still an impressive result. Buckley recalls that Dr. Robinson was constantly telling us that we had to have the very highest rate for this to be considered seriously. In the end, Dr. Robinson commented that, "The AARC effort was more than he could have expected" and he "wished all contractors provided the same bang for the buck."

As the study moved from idea to reality, I kept thinking about a quote often attributed to Albert Einstein but more likely penned by Sociologist William Bruce Cameron:

"Not everything that counts can be counted, and not everything that can be counted counts."

As the data rolled in, I became convinced that what we were counting counted and would provide a real answer to a nagging question. The data would allow experts in the government to use real data for planning instead of estimates. Today, Dr. Robinson confirms that planning is based on the AARC data instead of "estimates and assumptions," which are frequently used in other arenas.

RTs provide critical information to Homeland Security

The final results were published in 2010 in the journal *Disaster Medicine and Public Health Preparedness*.¹³ The response rate of 74.8% included a survey of 5,752 acute care hospitals, of which 4,305 hospitals responded. The data accounted for 83.8% of ICU beds in the United States. We identified 52,118 full-featured ventilators, of which 46% were capable of extending into the pediatric range. This was one of the unexpected findings of the trial. Extrapolating the data for the nonrespondents, the study estimates that there are over 62,000 full-featured ventilators. The number of ventilators per 100,000 of a state's population varied widely according to the density of the population. The mean was 19.7 ventilators per 100,000 people, and the range was 17.2 – 23.1 per 100,000. When all devices capable of providing ventilation (such as EMS transport and automatic resuscitators) were counted, there were 82,755 reported, which extrapolates to just shy of 100,000 total devices. The study concluded:

- The number of mechanical ventilators per U.S. population exceeds those reported by other developed countries.
- There is wide variation across states in the population-adjusted supply.

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- There are considerably more pediatric-capable ventilators than there are for adults only on a population-adjusted basis. This includes the pediatric devices and full-featured ventilators capable of ventilating pediatric patients.

The results of the HHS-sponsored study conducted by the AARC provides critical information for federal planning. The AARC senior leadership provided the infrastructure to maximize the success of the project, demonstrating the critical role respiratory care departments and respiratory therapists will play in a MCRF event. A little over three years later, the data is relevant and lends itself to further refinement. We hope to involve AARC members in a repeat of the count in the future and evaluate utilization across a period of time. ■

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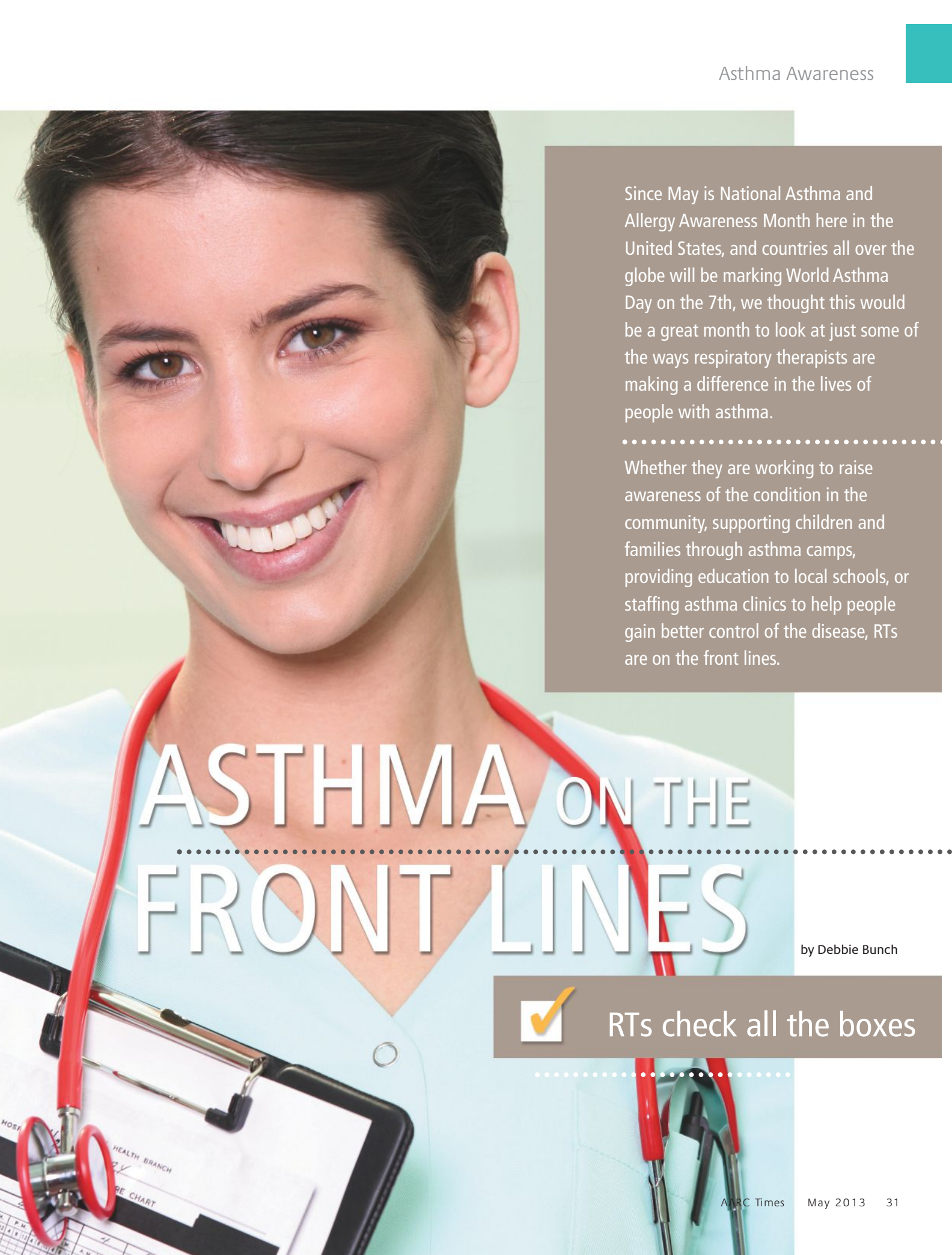
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Since May is National Asthma and Allergy Awareness Month here in the United States, and countries all over the globe will be marking World Asthma Day on the 7th, we thought this would be a great month to look at just some of the ways respiratory therapists are making a difference in the lives of people with asthma.

.....

Whether they are working to raise awareness of the condition in the community, supporting children and families through asthma camps, providing education to local schools, or staffing asthma clinics to help people gain better control of the disease, RTs are on the front lines.

ASTHMA ON THE FRONT LINES

.....

by Debbie Bunch



RTs check all the boxes

.....

REACHING OUT



According to the National Center for Environmental Health, (www.cdc.gov/nceh), asthma is the third leading cause of hospitalization among children under age 15, indicating many kids' asthma is still poorly controlled despite national asthma guidelines suggesting the condition can almost always be well managed. Often these children are from low income communities, and many do not even have a primary

care physician. Meeting with them at the one place they all go to every day makes sense — in other words, at school. That's the goal of AARC members in Kansas and Louisiana.

Taking spirometry to class

Rebecca Brown, MPA, RRT, is working with fellow members of the Greater Kansas City Asthma and COPD Coalition to incorporate spirometry testing into a program called Score 1 for Health® (<http://pub.kcumb.edu/SC1>). Sponsored by the Kansas City University of Medicine and Biosciences (KCUMB), Score 1 has been bringing health services into schools with a large percentage of low-income children for the past 20 years. Around 13,000 kids benefit from these services every year.

"The spirometry program had its pilot project on January 31," explains Brown, who chairs the coalition. "As we move forward, we intend to reach six schools in the 2013–2014 school year." The program is focusing mainly on grades 3–5 since those students are old enough to perform effective spirometry, but younger children who are deemed in need of testing by the school nurse may be considered as well.

The pilot program took place at Wendell Phillips Elementary, where school nurse Natalie Bennett, BSN, RN, selected children for spirometry from among those with "asthma" checked on the school health history form, an asthma action plan on file, and authorization for the school nurse to administer asthma medications at school. The group was then reduced by the selection of



Tim Gilmore (left) and Paul Lowe share their asthma expertise with educators in their community.

children who most often came to the school nurse with asthma symptoms. Erica Forrest, MS, RRT, AE-C, Helen Murphy, RRT, AE-C, and Candace Ramos, MHA, RRT, AE-C, performed the testing by using a screening method established by Score 1.

Given the positive results seen in the pilot, Brown says the coalition is now working closely with KCUMB and other partners to devise a plan for following up with children whose test results suggest poorly controlled asthma. "The focus of this program is to involve the primary care provider as well as the family by helping them understand the need for greater control over asthma and what that entails," she says. "The importance of regular office spirometry to help manage this process will be included in this follow-up."

Educating the educators

Tim Gilmore, MHS, RRT-NPS-ACCS, AE-C, his colleague Paul Lowe, BS, RRT, AE-C, both of whom hold academic positions in the cardiopulmonary science programs at



TO SCHOOLS

RT Helen Murphy (right) explains the parts of the spirometer to KCUMB medical student Aubrey Nevel.



LSU Health Shreveport and Bossier Parish Community College, are also addressing asthma in the schools, although from a different vantage point. Through a partnership with Christus Schumpert Health System, they are delivering asthma education to educators on local campuses.

“As the nurses were desiring a system to educate the teachers and staff about recognizing asthma and the dangers associated with the asthmatic condition, Paul and I began to receive calls requesting us to speak to the local school faculty about this topic,” explains Gilmore. Lowe had already been spearheading a community-based project consisting of asthma fairs designed to help teachers understand proper peak flow meter use and the asthma action plan, so hosting formal educational sessions seemed to fit right into that effort.

“Paul and I have conducted several sessions that usually involve a 15–50

minute presentation as part of a particular school’s general faculty meeting,” says Gilmore. They go over general pathophysiology of asthma, symptomology, acute treatment options, and exacerbation recognition, mainly using information from the American College of Chest Physicians. However, as the program progresses, they believe they will be able to utilize resources from the AARC’s Peak Performance USA (www.peakperformanceusa.info) program as well.

“The program is fairly new, but the feedback we have received has been extremely positive,” he says. “The Monday after the terrible Sandy Hook Elementary shooting, I spoke to a group of elementary school teachers about the dangers of asthma. With such a fresh, mainstream event having just garnered national attention, the atmosphere in the room was certainly one of attention and compassion toward the elementary school-aged child.” ■

ASTHMA RESOURCES OFFERED BY THE AARC



The AARC has a number of resources on asthma designed especially for its members.

Go online to learn more about our **Peak Performance USA program** (www.peakperformanceusa.info), our **Asthma Self-Management Education certification** (www.aarc.org/asme), and our **aerosol delivery devices guides for RTs** (www.aarc.org/education/aerosol_devices/index.asp), **patients** (www.YourLungHealth.org/healthy_living/aerosol), **physicians/nurses** (www.aarc.org/resources/aerosol_nonrts.pdf), and more. *Check it all out, and see what you can do to improve the lives of people with asthma!* ■



Most asthma patients are treated by primary care physicians (PCPs), but these busy doctors almost never have time to sit down with a patient and thoroughly explain the condition and how to manage it. Asthma education programs (AEPs) like the one established a couple of years ago by Ellis Medicine in Schenectady, NY, can fill the gap. AARC member Leslie Bristol, BA, RRT, AE-C, leads the program and explains how it all came about.

“Margaret Rogers-Meagher, MS, RN, one of Ellis Medicine’s Medical Home Health Services navigators, started the discussions back in the summer of 2010,” she explains. Noting that asthma prevalence and asthma-related emergency department (ED) visits in Schenectady County were exceeding regional and national averages, she advocated for an AEP that would utilize the expertise of RTs. Respiratory therapy department director and AARC member Edward Stomski, RRT-NPS, jumped on board, and Bristol was recruited in February of 2011 to work on curriculum development and community outreach.

A comprehensive program

Although no patient is turned away due to lack of insurance, Bristol says reimbursement is available for many patients through Medicaid and private insurance. “New York State Medicaid approved Asthma Self-Management Training in 2009 as a billable service,” she explains. Newly diagnosed or unstable patients with a written referral can be approved for up to 10 hours of education; stable patients are eligible for one hour. Sessions can be provided one-on-one, in small groups of two to four patients at a time, or in large groups of five to eight. “Following New York Medicaid’s lead, many private insurers began reimbursing for asthma education too,” says the RT.

While Bristol is the only full-time staff person for the AEP, she does get help from three others at the hospital. Sabrina Halse, BS, RRT, AE-C, oversees operations in the hospital pulmonary function technology (PFT) lab and serves as the point person for AEP billing and reporting; and inpatient RT Lee Sheldon, RRT, AE-C, plays a key role in identifying patients who could benefit from the program. Mary-Lynn Hemberger, RRT, AE-C, splits her time between the AEP and the PFT lab. Bristol says, “The goals of the program are to reduce the patient’s need for urgent care and/or ED visits, to reduce the need for hospi-

Leslie Bristol helps young Julian Stackhouse better understand his asthma.



ADDRESSING

talizations, to reduce lost work and/or school days, and to improve the patient’s quality of life.”

Each session consists of an asthma control evaluation and asthma knowledge assessment to find out how much patients know about their asthma. “Many patients come to us with minimal knowledge of their disease or with no understanding whatsoever,” says Bristol. She and her colleagues use the assessment to tailor education to the individual. The first session usually runs between 60–90 minutes and includes a thorough health history, along with spirometry when age appropriate. They provide tobacco-cessation counseling to smokers and use a variety of visual aids and educational materials to give the patient and/or caregivers a good understanding of asthma and how to best control it.

“At the conclusion of each education session, a comprehensive report along with recommendations is provided to the PCP,” Bristol explains. “If warranted, follow up by phone is provided to both the patient and physician in between AEP visits to ensure continuity of care.” A follow-up session generally lasts about 30 minutes. They provide spacers, peak flow meters, allergen-proof covers, and nebulizer kits to the patient at no cost.

Julian gets a kick out of applying his inhaler and spacer to the mannequin.



Bristol helps Julian get used to his nebulizer treatment.



AN UNMET NEED

Positive outcomes

Outcomes from the first 18 months of the program show a 68% decrease in ED utilization and a 100% decrease in hospitalizations. The PCPs whose patients have benefited from the AEP give it high marks, with one physician even writing a letter praising the program and the RTs who staff it. "They spend an incredible amount of time evaluating the patient and their environment, making critical recommendations for changes in their pharmaceutical regimen, and impressively and effectively educating and empowering patients to tackle their illness," says Jeena Madden, MD.

The two asthma educators have also received great feedback from patients and families. "For example, a middle-aged man was quite surprised and pleased that he was better able to continue his work as a contractor," says Hemberger. "He is back on his motorcycle again; and with some careful planning, we were able to allow the pet cat to stay in their home, to the delight of his wife."

Bristol recalls one 16-year-old boy whose life was turned around by the program. A junior varsity basketball player at a local high school, he started having chest pains and shortness of breath on the court and also noticed trouble breathing during the night. Since no one in his family suffered from asthma, both he and his mother were shocked at the diagnosis; but the AEP was able to provide them with a treatment plan that would get him back in the game. "As an educator, it is incredibly rewarding to see firsthand the benefits of teaching a patient about his disease and the positive impact that has on his and his family's quality of life," says Bristol. ■



EVERYBODY LEARNS



Pediatric asthma is an important part of any RT's education, as is treating pediatric patients in the clinical setting. Spending several days in a row with kids who have asthma, however, puts an entirely different spin on the condition; and educators who have given their students the opportunity to do that at local asthma

camps believe they come away from the experience much better for having had it.

A new experience

"Being able to interact with the children when they are not sick is something new and different from the hospital setting," says Sara Parker, BHS, RRT-NPS, AE-C, clinical instructor for the respiratory therapy program at the University of Missouri in Columbia. She and her colleagues worked with Washington County Memorial Hospital to establish Camp Catch-Ya-Breath last year and are looking forward to the second year of the camp beginning this June. Thanks to generous donations from individuals, civic groups, and industry, the camp is free to kids 7-13 years old who are referred for attendance. Last year the group held two three-day camps and is planning another two for this year.

Camp WheezeAway in Alabama was established back in 1991 by a double-lung transplant recipient who had suffered from asthma as a child and wanted to give other asthmatic kids the chance to have the camp experience. A partnership between the YMCA and Camp Chandler, the camp is free for kids 8-12 and is staffed by a range of clinicians from across the state, including the respiratory therapy students from the University of Alabama at Birmingham. "Our students take a Directed Study III course that has a service learning component," explains Debra Laken, MAEd, RRT, AE-C, associate professor in the respiratory therapy program. "We work with the junior and senior students to raise money for the camp, and then the senior students attend the camp in the summer of their last year with us." The goal is to raise enough money to fund attendance for each of the senior students and at least two campers.



Respiratory therapy student Cory Proffer takes a blood pressure reading on one of his Camp Catch-Ya-Breath charges.



Everyone had a blast during the shaving cream fight at Camp WheezeAway last summer.

AT ASTHMA CAMP



RT students led a discussion on asthma at Camp WheezeAway.



Respiratory therapy student Clint Daniels looks on as the Camp Catch-Ya-Breath kids play LUNGO.

Frank the pig was a Camp WheezeAway favorite.



Educational for all

Both camps end up being educational for campers and respiratory therapy students alike. Parker says her students not only get the chance to hone their assessment skills but also are able to serve as role models for the kids. "The activities are designed to reinforce the teaching done in the education sessions," she says. "For example, looking for triggers on a nature hike is a way to enjoy the outdoors while helping the campers to identify what might cause their asthma symptoms." Campers also enjoy a bingo-inspired game called "LUNGO" aimed at teaching asthma terminology to kids while also giving them the chance to win prizes.

At Camp WheezeAway, Laken's respiratory therapy students record the campers'

peak flows and administer their asthma medications mornings and evenings. They also present 30-minute classes on a variety of asthma topics, and they came up with a role-playing session called "Avenge the Airway" that requires the kids to take on parts ranging from mast cells to asthma meds to the airway itself and the air that flows through it.

Her students say the camp gives them greater insight into pediatric asthma management in the real-world setting. "Many of the campers used the peak flow incorrectly and were unsure of when to use certain medications," says Ashley Glaze. "It was rewarding to watch them 'light up' when they learned the proper technique." ■



WORLD ASTHMA DAY

World Asthma Day was established by the Global Initiative for Asthma to draw attention to a condition that, while well known, is not well treated in many places, including some parts of the United States. As the day has grown in prominence, more and more hospitals and other groups are taking advantage of it to raise asthma awareness in their own communities. AARC members Rob Seifrit, BHA, RRT-NPS, AE-C, and Karen Goodison, MS, RRT-NPS, RPFT, are planning events in conjunction with this year's day, coming up on Tuesday, May 7.

Education meets fun

The Children's Hospital of Philadelphia (CHOP) has hosted a number of World Asthma Day events in the past, but this is the first year Seifrit has been in charge of organizing the hospital's daylong celebration. Working closely with the child life and public relations departments, he has been busy getting ready for an event that will start out in the hospital lobby and then move into the units that treat children with asthma and the respiratory therapy department.

"Our theme this year is 'Exercise and Asthma, Go for It,'" says the asthma education specialist. Children and families will be invited to come to the hospital lobby for a series of fun-filled activities, including games that will be televised via CHOP's closed circuit TV channel so hospitalized kids who cannot attend can still be part of the day. A special coloring wall is also planned to let the children express their feelings about asthma in a visual way that all can see.

Everyone will go home with small mementos of the day, and CHOP will also have plenty of its asthma day t-shirts to give out as prizes to the kids and to sell to staff members who want to support the event. Several RTs volunteered to staff tables in the lobby to distribute educational materials about asthma and demonstrate metered-dose inhaler technique.



Ms. and Mrs. Maryland helped promote the Asthma Fair at UCH.

Two-hour evening event

This will be the second year for an Asthma Fair held in honor of World Asthma Day at Upper Chesapeake Health (UCH) in Bel Air, MD. A collaboration between the hospital and the Mid-Atlantic Asthma Foundation, the event targets families in Harford County who are affected by asthma.

"We held our first Asthma Fair in 2011, and we learned a lot from that experience," says Goodison, who serves as respiratory therapy department director at the hospital. "The event gave us the opportunity to raise asthma awareness and to connect families with local resources that could offer them and their children the support they need." One lesson learned was that school nurses in the area were invaluable when it came to getting the word out about the big event. Goodison and her group are working with the school nurses again this year, along with many other local organizations and city groups.

2013



Children got involved in arts and crafts during the 2011 Asthma Fair hosted by UCH.

Due to a scheduling conflict, the two-hour evening event will be held in a large conference room at the hospital on Thursday, May 9. Department RTs will set up informational tables; and two RRTs, who also hold the AE-C credential, will lead 30-minute breakout sessions on device training and managing asthma triggers. This will give families “a unique opportunity to hear directly from the professionals who care for their child in an emergency room setting or if they are admitted to our hospital,” says Goodison. She and her colleagues plan to offer lots of fun activities as well, including a kids’ craft table and an exercise demonstration based on a popular form of exercise like yoga or zumba. At the last event, “Ms. Maryland” came by and Goodison hopes to have her in attendance this year, too.



Rob Seifrit is leading the World Asthma Day effort this year at CHOP.

Great support

Goodison credits the Mid-Atlantic Asthma Foundation with doing most of the legwork necessary to organize the fair, but she also applauds the RTs on her staff with helping. “I always encourage our therapists to help and am genuinely proud of their eagerness to participate.”

Seifrit expects several hundred attendees at his event, thanks in large part to great support from CHOP. In addition to working with a local TV station to preview the event, the hospital is planning to advertise it on its closed circuit TV channel and will also hang special World Asthma Day banners in strategic areas of the hospital a couple of weeks prior. “The local media will also be covering the event, and we expect to see a snapshot of the day broadcasted throughout Philadelphia,” says Seifrit. As of this writing in early spring, his public relations department staff was also working to arrange a visit from a celebrity to help ensure robust media attention. Past celebrities have ranged from football great Jerome Bettis to Philadelphia Eagles mascot Swoop. Seifrit is confident that this year’s World Asthma Day will benefit from an equally well-known individual. ■

Questions for Shawna Strickland

The AARC's new associate executive director-education shares her vision for a new era in member education.



Dr. Shawna Strickland sees great things ahead for AARC member education.

Webcast Central is an extremely popular benefit of AARC membership



Shawna Strickland, PhD, RRT-NPS, FAARC, came on board at the AARC earlier this year as the new associate executive director-education, and her first few months on the job have been filled with plans to enhance continuing education opportunities for members. In the following interview, she explains why she decided to take the position and what she hopes to bring to the table in terms of new programs and innovative delivery models.

1

You joined the AARC as associate executive director of education when our long-time director of management and education services, William Dubbs, MHA, RRT, FAARC, retired. Why did you decide to take on this challenge?

I have been a member and volunteer for the AARC since I was a student. I have always been impressed with the quality of the educational offerings from the AARC, both live events and nontraditional programs. I love the thought of being able to contribute to the continuing education for respiratory therapists globally. Anticipating the needs of the respiratory therapy community and meeting or exceeding those needs is a worthy challenge. Our members and our patients are at the heart of everything we do.

2

You spent many years as an educator in the RC program at the University of Missouri before joining the AARC. How are you putting that experience to work for you in your new job?

I learned many things during my time at Mizzou. I developed a great deal of skill at asynchronous, or nontraditional, education development. In addition to my formal education during my doctoral program, my experiences working with educational technology specialists and online degree completion students provided me with an insight into how adults learn, what motivates adult learners, and how we can best meet the needs of adult learners. That knowledge will help us develop continuing education that is relevant and timely, as well as in a format that best benefits respiratory therapists.

CRCE Transcript

Members can print their CRCE transcript from our website. Many state licensing boards accept the AARC transcript in lieu of certificates for AARC-sponsored CRCEs earned. ■

3

Webcast Central is an extremely popular benefit of AARC membership. Tell us a little about your plans for this program and how you believe it can be enhanced to bring even greater value to the membership.

Because these are live events in which RTs can participate from the comfort of their homes or workplaces, the webcasts are a vital part of AARC educational offerings. The programming has been fantastic since the inception of the webcasts. Our challenge is to continue to develop webcasts that reflect the current concerns of the respiratory therapist, whether those concerns relate to clinical concepts or issues surrounding health care management. Another goal is to provide these webcasts live to RTs on the go by taking them past the desktop and laptop computer to tablets and smartphones as well.

4 In your new position, you are also responsible for guiding the development of a host of other educational offerings from the AARC. What's in the pipeline now?

Right now, I'm most excited about the fact that our transcripts have been updated. AARC members can now see their total number of CRCEs on the transcript and which courses satisfy content requirements. The CRCEs are itemized into categories such as neonatal-pediatric, acute care, diagnostics/PFT, patient safety, bioterrorism/disaster response, sleep medicine, and ethics/law. This will make it easier for members to determine which types of credits they have versus what they need for state requirements and the NBRC Continuing Competency Program.

We just launched the RESPIRATORY CARE Journal Webcasts as well. The first one took place in March. The Journal Webcasts are delivered live and discuss the RESPIRATORY CARE editor's pick of the month. These sessions are great for people who want to know more about research and how to interpret scientific manuscripts.

5 Continuing education is a requirement of state licensure for most RTs out there today. How do you believe the AARC helps its members fulfill that requirement?

Continuing education is a huge concern for our members, as this affects their ability to work as respiratory therapists. The AARC is dedicated to enhancing professionalism within respiratory care, improving patient care, and helping RTs broaden their scope of knowledge. One way we do this is by providing members with as many continuing education offerings as possible — and in a variety of ways:

- traditional credits at the International Respiratory Convention & Exhibition and Summer Forum;
- traditional credits through live webcasts and Journal Webcasts; and
- nontraditional credits through archived webcasts and specialized programming such as the Asthma Educator Certification Preparation Course and the COPD Educator Course.

Also available to our members is the opportunity to print their CRCE transcript from our website. Many state licensing boards accept the AARC transcript in lieu of certificates for AARC-sponsored CRCEs earned. It is an easy way to demonstrate compliance with licensure laws.

6 In addition to education, you are also working on other projects that will help AARC members succeed in the changing health care landscape. Please tell us about them.

One of the most exciting projects I'm working on is updating our clinical practice guidelines (CPGs). The AARC has actively contributed to CPGs since 1991, and we're making great strides not only to update older CPGs but also to move toward evidence-based CPGs. RESPIRATORY CARE has been steadily publishing updated CPGs since 2010; and, in 2013, we are focusing on creating evidence-based CPGs that will greatly impact the practice of respiratory care. Soon, members will see an updated CPG webpage and will have access to other CPGs that can help them deliver safe and effective respiratory care. ■

RESPIRATORY CARE gets Wired in 2013

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The collage includes screenshots of the journal's homepage, the 'Table of Contents' for January 2013, and a detailed article page for 'Ambulatory Home Oxygen: What Is the Evidence for Benefit, and Who Does It Help?'. The article page shows the abstract, author information, and a sidebar with various utility links like 'Email this article to a colleague' and 'Social Bookmarking'.

Health Care Reform & Respiratory Care:

by Patrick J. Dunne, MEd, RRT, FAARC

With President Barack Obama's re-election for a second term last fall, remaining challenges to the continued implementation of the Patient Protection and Affordable Care Act of 2010 (ACA) all but disappeared. As a result, health care providers nationwide (individual and institutional alike) are now compelled to address many organizational and operational issues that have been identified as contributing to a health care delivery system that is overly expensive, results in poor quality outcomes, and is (at best) only marginally effective. As one looks at the various reform initiatives currently underway, there is no doubt that the acute care hospital is "front and center" in terms of where the majority of change is now taking place. This is due to the fact that hospital care accounts for almost one-third of all health care expenditures each year, making it the most expensive sector.¹ When one talks about changing how acute hospital care is rendered (and ultimately paid for), it all begins at the patient's bedside. As advocates for patients with acute and chronic respiratory care needs, we, as a profession, are now faced with a golden opportunity to demonstrate just how much value we can contribute.

Challenges facing acute hospitals

There is no doubt that these are challenging times for the senior executive leadership of acute hospitals. Table 1 is a partial list of these challenges. Let us now turn our attention to each one and see how and where respiratory therapy departments can bring value to our beleaguered hospital administrators while also improving patient care outcomes.

TABLE 1.

Acute Care Hospital Challenges under Health Care Reform

- ✓ Traditional system perceived as wasteful, unsafe
- ✓ Expanding Medicare population
- ✓ CMS's new value-based purchasing
- ✓ CMS's new readmission reduction program
- ✓ Post-payment recovery audits (using recovery auditors)
- ✓ Formation of Accountable Care Organizations



A Defining Moment

Perception of traditional system as wasteful and unsafe

In a September 2012 report, the prestigious Institute of Medicine estimated that under the traditional health care delivery system, about 25% of what we spend each year on health care is “squandered” — amounting to a staggering \$750 billion.² Topping the list of the contributing factors is unnecessary care/services, followed by excessive administrative overhead, inefficient delivery processes, inflated pricing, prevention failures, and fraud and abuse. If one assumes these estimates to be correct — and there is compelling evidence they are indeed valid — that means one-fourth of total health care spending does not contribute to any positive patient outcomes and probably results in numerous negative con-

sequences. Thus, it is now widely believed that waste in health care is spending that can be eliminated without reducing the quality of care. One can only imagine how much better off we would be if even a portion of that \$750 billion could be re-directed to more meaningful and productive patient care activities. For our part, we should evaluate current clinical practices to identify areas of unnecessary care, inefficient delivery processes, and prevention failures, and seek to develop and implement suitable enhancements. One way would be to develop evidence-based clinical protocols to guide the delivery of all prescribed care.



Expanding Medicare population

Known as the “Gray-haired Tsunami,” the baby-boomer generation is already impacting the Medicare Program. Since Jan. 1, 2011, and continuing for the next 12 years, approximately 10,000 baby boomers turn 65 each day.³ That’s about 3.5 million new Medicare beneficiaries a year and will represent an increase from the current 49 million beneficiaries to as many as 80 million by the year 2030. The biggest concern is that annual Medicare spending is already a hefty \$556 billion a year for current beneficiaries; and without some drastic measures, total costs are projected to reach an as-

stounding \$1.1 trillion by 2022, an amount that is clearly unsustainable.¹ A secondary concern is the high prevalence of chronic disease in the expanding Medicare population, as we now realize that almost three-fourths of total annual health care expenditures goes for the care of patients with one or more chronic medical conditions.⁴ One important strategy respiratory therapy departments can do to help curb chronic care costs is to shift away from simply treating symptoms and to implement proven disease management processes for our COPD patient population.



Value-based Purchasing (VBP)

After years of discussion, VBP became a reality on Oct. 1, 2012. At that time, hospitals with less than acceptable performance in providing timely and effective processes of care to patients admitted with acute myocardial infarction (MI), congestive heart failure (CHF), and pneumonia began seeing their annual Medicare payments for FY 2013 reduced by as much as 1%. Conversely, those hospitals with performance outcomes exceeding the Medicare threshold began receiving bonus payments of

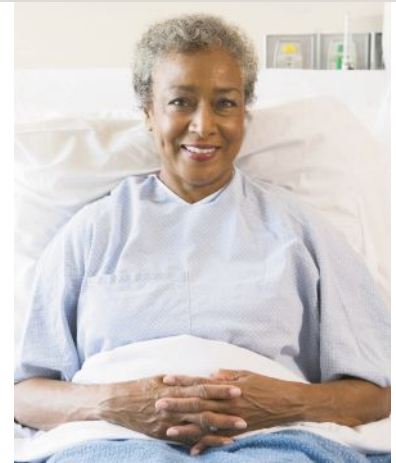
up to 1% of their annual Medicare payments. Payment bonuses and penalties will eventually reach 2% of all Medicare payments. For those providers unable to make the transition to pay-for-performance, the future will not be pretty. For our part, RC departments can help our hospitals prepare now for when COPD performance measures will be included in the pay-for-performance cycle. Adopting evidence-based care guidelines for inpatient COPD care is one important strategy in this regard.



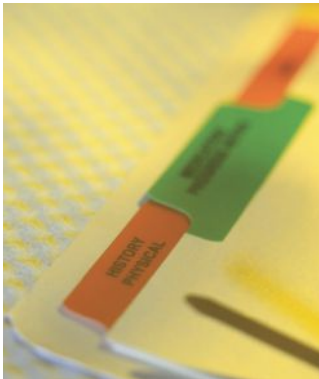
Readmission reduction program

Another part of the ACA is directed at reducing the 30-day readmission rate for patients with chronic medical conditions. Under the traditional fee-for-service payment system, readmissions were viewed as a way to drive reimbursement income. Recent evidence suggests that approximately one in five Medicare patients are readmitted within 30 days of discharge and that such repeat admissions are largely avoidable.⁵ So, starting last October, Medicare began penalizing hospitals having excessive rehospitalization rates

for patients initially admitted for acute MI, CHF, and pneumonia. For FY 2013, the penalty can be as much as 1% of a hospital's annual Medicare payments. In 2014 the rate increases to 2% and then to 3% in FY 2015. As with pay-for-performance, COPD is soon expected to be added to the list of chronic diseases where excessive readmissions could prove to be very costly. Again, the time is right for RC departments to become active in a hospital-wide readmission reduction program for COPD patients.



Post-payment recovery audits



In an ongoing attempt to ensure care that is prescribed and rendered is indeed medically necessary, Medicare is conducting random post-payment audits of patient medical records. These audits are performed by outside consultants known as recovery auditors. Should a recovery auditor determine that a hospitalization was not justifiable or that the care prescribed and rendered during a hospital stay was not medically necessary, the hospital will receive a demand notice requesting repayment. Such demand notices for repay-

ment can amount to hundreds of thousands of dollars, creating yet another financial hardship for hospitals, some of which are already barely getting by financially. One step RC departments can take to help protect our hospitals from the adverse consequences of recovery audits for COPD patients is to begin advocating for the application of evidence-based care. Regrettably, evidence suggests that evidence-based care for COPD patients is woefully underutilized, so there is a great opportunity to improve.^{6,7}

Formation of Accountable Care Organizations

One of the newer evolving provider entities is the Accountable Care Organization, known as an ACO. Under this delivery model, hospitals, physicians, and other providers will join together to provide health and preventive/wellness care to a defined patient population in a specified geographic locale. Medicare and other payors are looking to accountable care programs to close perceived gaps in care, reduce unnecessary emergency room visits, increase preventive health visits, and lead to better follow-up care following hospital discharge. By improving care coordination and meeting certain quality

measures, it is anticipated that, overall, ACOs will actually provide better care at costs substantially lower than seen with traditional fee-for-service.

Given the pervasive incidence of chronic cardiopulmonary diseases — both as a primary and/or comorbid condition — this affords RC departments a golden opportunity to develop and implement suitable lung health outreach programs to help in the diagnosis, prevention, and management of chronic conditions so necessary for an ACO to be successful.

Transformation brings opportunity

There is no doubt that these are transformative times for the U.S. health care delivery system. However, with any great transformation comes opportunity; and for the respiratory care profession, health care reform offers the opportunity to expand and redefine our position in the health care provider hierarchy. ■

About the Author



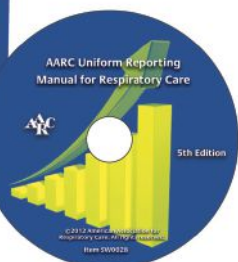
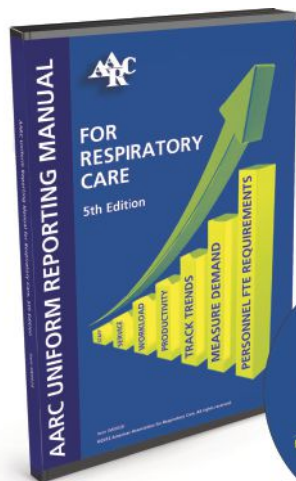
Patrick J. Dunne, MEd, RRT, FAARC, is president of HealthCare Productions, Inc., in Fullerton, CA. He is also a trustee of the American Respiratory Care Foundation and an AARC representative to the International Council for Respiratory Care.

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AARC Summer

PRE-SUMMER FORUM SESSIONS



Where Challenges Become Opportunities

Sunday, July 14, 2013, Orlando, FL

NATIONAL BOARD FOR RESPIRATORY CARE (NBRC)

9:00 am – 3:00 pm

NBRC-Sponsored Item Writing Workshop

The National Board for Respiratory Care (NBRC) will sponsor a free 6-hour item writing workshop that is designed to assist the attendee to develop his/her skills in effective and high-quality multiple-choice item writing. There is no preregistration for this workshop. The number of attendees is limited to a first-come first-serve basis while on-site. Following this workshop, you may choose to serve as an item writer for future NBRC credentialing examinations. Hone your item-writing skills and enhance your program's test bank. Aid your credentialing organization in developing effective and high-quality credentialing examinations.

COMMISSION ON ACCREDITATION FOR RESPIRATORY CARE (CoARC)

1:00 pm – 4:00 pm

Meet the Commission

CoARC Board members and Executive Office Staff will address the following accreditation issues:

- Recent changes to CoARC policies, procedures, and documentation involving the referee process
- Accreditation requirements and recommended improvements of the program
- Communicating appropriately and effectively with the program referee and Executive Office Staff
- Update on the Accreditation Standards revision process.

Prior registration for this session is strongly encouraged. To register, please contact Shelley Christensen at shelley@coarc.com at CoARC by July 1. Specific programmatic questions (e.g., reaccreditation timeline, program action letters, status of recent actions or requests, etc.) should be directed to the CoARC Executive Office. CoARC strongly encourages attendees to submit questions, which will be addressed at the session by one of the Commissioners. There will also be an opportunity to ask questions at the event. Please pre-submit any question that you would like to be addressed to Shelley Christensen at shelley@coarc.com.

AMERICAN ASSOCIATION FOR RESPIRATORY CARE (AARC)

1:00 pm – 4:00 pm

Clinical Preceptor and Inter-Rater Reliability Workshop: Clinical PEP (Practices of Effective Preceptors)

Bill F Galvin MEd RRT CPFT AE-C FAARC/Presiding

Pre-registration required. Deadline: Friday, June 21, or when course is full. Approved for 2.50 hours of continuing education credits (CRCE). You must attend the entire course to receive CRCE credit; no partial credit will be awarded.

Target Audience: Program directors, directors of clinical education, department managers, and hospital-based educators

This program will be of great interest to educators and managers alike! Newly developed CoARC guidelines specify that

programs must develop and implement processes that ensure consistency and reduce variability among individuals who perform clinical evaluations. This requirement has created a need for innovative and creative approaches to assure the attainment of inter-rater reliability within the pre-clinical and clinical components of RT programs. Alternately, respiratory departments and clinical staff also benefit when their clinical educators are well-versed in adult learning principles and are able to give effective, meaningful feedback that allows therapists to improve their clinical performance. This 4-hour interactive workshop will begin with an overview of a Clinical PEP (Practices of Effective Preceptors) Program and will take you step-by-step through the development and implementation of the program. You'll leave with the background and skills to help your clinical preceptors and educators be the best they can be for the benefit of your students, employees and newly hired therapists.

1:00 pm – 1:10 pm

Program Overview

Crystal L Dunlevy EdD RRT RCP, Columbus OH

This opening session will provide an overview and orientation to the history and evolution of the Clinical PEP (Practices of Effective Preceptors) Program.

1:15 pm – 1:55 pm

Centering on the Learner

Crystal L Dunlevy EdD RRT RCP, Columbus OH

This interactive session will describe the general principles of adult learning. It will emphasize adapting clinical education to meeting the learning needs of your students, staff and newly-hired therapists. Additionally, it will discuss the most effective ways to motivate the student learner.



Dunlevy



Sergakis



Varekojis

2:00 pm – 2:40 pm

Practices of Effective Preceptors

Georgianna G Sergakis PhD RRT RCP, Columbus OH

This interactive presentation will review the essential elements needed to balance that fine line between being a nurturing, supportive facilitator and a veteran clinical expert. It will address effective mentoring practices and creation of an empathetic learning environment to support the development of the preceptee.

2:40 pm – 2:55 pm

Break

2:55 pm – 3:35 pm

Evaluation and Feedback

Sarah L Varekojis PhD RRT RCP

Consistently, one of the areas preceptors report difficulty with is evaluating a student or staff member's performance and providing feedback. While many tools exist for evaluating clinical skills, evaluating professional attributes can be challenging. This final session will address the challenge of providing feedback to students and staff, and will highlight strategies that will benefit all preceptors trying to develop both the art and science of respiratory care.

3:40 pm – 4:00 pm

Questions, Answers, Comments

**Crystal L Dunlevy EdD RRT RCP
Georgianna G Sergakis PhD RRT RCP
Sarah L Varekojis PhD RRT RCP**

The workshop will conclude with a question and answer session as well as an opportunity to share experiences in clinical preceptor training and inter-rater reliability.

accommodations



See pages 63-66 for registration form and discounts, how to make your hotel reservation, and transportation discounts.

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See pages 63–66 for registration form and fees,
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Monday, July 15, 2013

PLENARY SESSION

7:30 am – 8:25 am

**Cheryl A Hoerr MBA RRT CPFT
FAARC – Chair, AARC Program
Committee/Presiding**

MOVING THE PROFESSION FORWARD

**George W Gaebler MEd RRT
FAARC, Preble NY**

In November of 2012, the AARC Board of Directors took action on a number of recommendations brought forth by the 2015 & Beyond Steering Committee.

Does this suggest that the **2015 & Beyond** proceedings have been brought to conclusion, or is there more work yet to be done? The keynote address, delivered by AARC President George Gaebler, will detail the actions taken by the AARC Board, and furthermore, will explain the rationale of those actions. In addition, President Gaebler will also discuss objectives that still must be addressed and when the Board intends to take action on postponed recommendations. Don't miss out on this opportunity to learn about the future of the profession and the role of the AARC in leading the profession through 2015 & Beyond.



Gaebler

EDUCATOR TRACK

8:35 am – 2:45 pm

**Joseph Sorbello MEd RT RRT –
Chair, AARC Education Section/
Presiding**

EDUCATION SECTION MEMBERSHIP MEETING

8:35 am – 9:05 am

**Joseph Sorbello MEd RT RRT –
Chair, AARC Education
Section/Presiding**

Updates on issues important to the section will be discussed, with interactive dialogue on how the section chair and the AARC can better serve the Education Section and its members. This is your opportunity to influence the profession and network with your peers. All Summer Forum attendees are invited to attend.

EMERGING TEACHING STRATEGIES IN RESPIRATORY CARE EDUCATION

9:10 am – 9:50 am

**Interprofessional
Collaborative Education
Ralph “Chip” Zimmerman MS
RRT-NPS, Atlanta GA**

According to a 2011 expert panel report from the Interprofessional Education Collaborative, “the goal of interprofessional learning is to prepare all health profession students to deliberately work together with the common goal of building a safer and better patient-centered and community/population-oriented U.S. health care system.” This lecture describes the concept of interprofessional education and the pilot study conducted at Georgia State University during fall semester 2012.



Zimmerman

9:55 am – 10:35 am

**Initiation of Collaborative
Education: A Case Study
Ralph “Chip” Zimmerman MS
RRT-NPS**

This second lecture will serve as a sequel to the previous and provide the attendee with an explanation of the resources – (physical, financial, and human) – necessary to institute an Interprofessional Collaborative Education Program. In addition, it will address the pitfalls as well as the rationale for adoption of interdisciplinary and collaborative learning.

10:35 am – 10:50 am

Break

10:50 am – 11:30 am

**Student Engagement in
Respiratory Care**

**Lynda T Goodfellow EdD RRT
FAARC, Atlanta GA**

What does student engagement mean? While it can mean different things to different people, understanding the importance of how students become engaged learners is often lacking. A conceptual framework for understanding student engagement will be presented along with a teaching-based model for what it means within the context of a college classroom or for professional practitioners continuing their education to become an engaged learner. It will specifically address the role of motivation in student engagement as well as describe the elements of active learning, memory and retention in student engagement.



Goodfellow

added-value



Check out the pre-Summer Forum course:

*Clinical Preceptor and
Inter-Rater Reliability
Workshop: Clinical PEP
(Practices of Effective
Preceptors)*

Register now for this course specially designed for Program Directors, directors of clinical education, department managers, and hospital-based educators. See pages 50-51 for course agenda.

Program Committee & Section Chairs



Program Committee Chair
Cheryl Hoerr MBA RRT CPFT FAARC



Education Section Chair
Joseph Sorbello MEd RT RRT



Management Section Chair
Bill Cohagen BA RRT FAARC

Monday, July 15, 2013 (cont)

11:35 am – 12:15 pm

Flipping Your Classroom

**Douglas S Gardenhire EdD
RRT-NPS FAARC, Atlanta GA**

Picture yourself in a classroom...What do you see? If you picture yourself in front of the classroom lecturing to your students or staff then you are not alone. However, what if someone said, "You cannot lecture." What would you do? This presentation will provide techniques that will "flip" your classroom out of the lecture hall.

12:15 pm – 12:35 pm

Break (Boxed lunch optional)

12:35 pm – 1:15 pm (Working Lunch)

Flipping Techniques in Action: Inspired Teaching in RC

**Douglas S Gardenhire EdD
RRT-NPS FAARC**

Whether you are new to teaching, to clinical practice, or are a veteran in the classroom/bedside, the level of inspiration in our teaching and practice reaches both peaks and valleys. This presentation will utilize "flipped" techniques to allow attendees to reflect on their experiences as a respiratory care practitioner or educator, reinvigorating them for the profession. The techniques demonstrated can be extended to faculty, students, or co-workers.

1:20 pm – 2:00 pm

Teaching Effectiveness in Respiratory Care

Lynda T Goodfellow EdD RRT FAARC

What makes an effective teacher? Why is measuring teaching effectiveness so important? Strategies to address these questions will be presented along with sources of evidence for documenting teaching effectiveness. The presentation will specifically explain the relationship between teacher characteristics and teacher effectiveness as well as the role of teaching effectiveness in teaching and learning.

2:05 pm – 2:45 pm

Moving from Sage-on-the-Stage to Guide-on-the-Side: Active Teaching and Learning Strategies for Lecture, Lab and Clinical Setting

**Lutana Haan MHS RRT RPSGT,
Boise ID**

Active learning has already been heralded as essential to effective teaching and learning. This interactive session is designed to enhance your teaching toolbox by providing active learning exercises that enhance understanding and produce positive and lasting learning outcomes. Take home creative teaching/learning strategies for the classroom, laboratory and clinical setting that can be implemented immediately in your own teaching practice.



Gardenhire



Goodfellow



Hann

MANAGER TRACK

8:35 am – 2:30 pm

**Bill Cohagen BA RRT FAARC –
Chair, AARC Management
Section/Presiding**

MANAGEMENT SECTION MEMBERSHIP MEETING

8:35 am – 9:05 am

**Bill Cohagen BA RRT FAARC –
Chair, AARC Management
Section/Presiding**

Updates on issues important to the section will be discussed, with interactive dialogue on how the section chair and the AARC can better serve the Management Section and its members. This is your opportunity to influence the profession and network with your peers. All Summer Forum attendees are invited to attend.

MOVE TO IMPROVE LUNG HEALTH!

9:10 am – 9:50 am

**Patti DeJuilio MS RRT-NPS,
Winfield IL**

Respiratory therapy plays an integral part of the process to implement a mobility program for ventilated patients. The presenter will describe the process by which this modality can be incorporated, how respiratory therapy should be involved, and outcomes monitoring for this multidisciplinary team initiative.

INTERDISCIPLINARY COMMUNICATION: STRATEGIES TO IMPROVE PATIENT SAFETY

9:55 am – 10:35 am

**Cheryl A Hoerr MBA RRT CPFT
FAARC, Rolla MO**

Healthcare has become increasingly complex, and patients are at significant risk when accessing care. Poor communication among healthcare providers continues to be a primary cause of sentinel events leading to patient injury and death. As providers continue to feel the impact of reduced reimbursement related to poor quality care, they must develop more efficient strategies through which coworkers can monitor patient care situations, support other team members, and communicate more effectively. This presentation will provide basic communication tools that facilitate accurate communication among healthcare team members and support safe patient care delivery.

10:35 am – 10:50 am

Break

MULTIDISCIPLINARY COMMUNICATION AND COLLABORATION LEAD TO EXCELLENCE IN ICU PERFORMANCE

10:50 am – 11:30 am

Patti DeJuilio MS RRT-NPS

It has been widely reported that multidisciplinary rounds in non-critical care settings can improve outcomes. This presentation will discuss how utilizing collaboration of team members at the bedside can establish hospital-wide best practice while simultaneously delivering evidence-based medicine. Strategies to engage all multidisciplinary team members will be highlighted with focus on soliciting input to improve the care and education of the patient. This session will focus on how respiratory therapy can and should be an integral member of this team, and it will close with a discussion on how managers can create a performance dashboard to gauge the success of the multidisciplinary team through improved metrics like risk-adjusted mortality and patient satisfaction.



DeJuilio



Hoerr



Welcome Reception

July 14

5:00 -6:30 pm

Don't miss the AARC Summer Forum Welcome Reception. Enjoy beverages and light snacks as you network with colleagues from around the country and mingle with AARC Corporate Partners.



When forced to
prioritize, simply ask:
What would make
more sense than to
enjoy simple
pleasures while
enhancing my
career?

**All meetings at the beautiful
Renaissance Orlando
at SeaWorld**

AARC Summer

Monday, July 15, 2013 (cont)

VIEW FROM THE C-SUITE: HIGH RELIABILITY PRINCIPLES INTO EVERYDAY RESPIRATORY CARE PRACTICE

11:35 am – 12:15 pm

**Cheri Throop RN MHSA RHIT
CPHQ HPI, Kansas City MO**

The healthcare industry is developing a stronger understanding that safety is truly a science. Ultra high levels of patient and employee safety can be achieved by employing evidence-based principles of "high reliability." The pivotal role of leaders cannot be understated and is absolutely critical to success toward high reliability. Because safety is a "dynamic, non-event," everyone must have a unified role in creating and maintaining a high reliability, safe culture. This lecture will be followed by a workshop in the afternoon for those interested in applying this information into their daily practice.

12:15 pm – 12:35 pm

**Break (Boxed lunch
optional)**

WORKSHOP: HIGH RELIABILITY PRINCIPLES INTO EVERYDAY RESPIRATORY CARE PRACTICE

**Bill Cohagen BA RRT FAARC
and Garry W Kauffman MPA
FACHE RRT FAARC/Presiding**

12:35 pm – 2:30 pm (Working Lunch)

**Cheri Throop RN MHSA RHIT
CPHQ HPI**

Based upon the information presented at the morning lecture, this workshop is specifically designed to provide the attendee with the tools and techniques essential to successfully applying and hard-wiring high reliability principles into daily practice.



Where Challenges Become Opportunities



Throop



Gaebler



Amato



Mikles

Tuesday, July 16, 2013

PLENARY SESSION

7:00 am – 9:25 am

Cheryl A Hoerr MBA RRT CPFT
FAARC – Chair, AARC Program
Committee/Presiding

AGENCY UPDATES

7:00 am – 8:20 am

George W Gaebler MEd RRT
FAARC - AARC President
Michael T Amato MBA,
ARCF Chair
Stephen P Mikles EdS RRT
FAARC, CoARC President
Kerry E George MEd RRT
FAARC, NBRC President

The leadership of the AARC, ARCF, CoARC, and NBRC will join attendees to discuss the latest professional, research, accreditation, and credentialing issues facing respiratory care.

WHAT'S IN THE JOURNAL THIS MONTH? HOW MANAGERS AND EDUCATORS CAN GET THE MOST FROM THEIR JOURNAL

8:25 am – 9:25 am

Dean R Hess PhD RRT FAARC,
Boston MA

There has been an exponential growth in both the number and quality of papers published in *RESPIRATORY CARE* over the past 5 years. In 2013, the Journal fully implemented a new website to make the Journal contents more accessible to readers. This presentation will provide a detailed tour of the new website, with suggestions from the editor about how respiratory therapists can optimize their use of all that the Journal has to offer.

9:25 am – 9:40 am

Break

EDUCATOR TRACK

9:40 am – 2:30 pm

Joseph Sorbello MEd RT RRT –
Chair, AARC Education Section/
Presiding

CoARC SYMPOSIUM: NEW HORIZONS IN RC EDUCATION

9:40 am – 10:20 am

Advanced Practice Respiratory Therapist Update

David C Shelledy PhD RRT
FAARC FASAHP, Chicago IL

The presenter will describe the potential role of an Advanced Practice Respiratory Therapist (APRT) in today's health care environment. In addition, the presenter will discuss possible educational programs to prepare the APRT and the implications of advanced practice on national credentialing and state licensure.

10:25 am – 11:05 am

Managing Your Clinical Sites

Kathy Rye EdD RRT FAARC,
Russellville AR

The quality of a program's clinical education is considered to be at the heart of any successful respiratory care program. This presentation will address some of the key issues by describing strategies for identifying clinical sites that enhance student experiences. In addition, it will describe various models for precepting students in the clinical setting and discuss ways to maintain positive relationships with the program's clinical sites.

share ideas



Learn,
Network,
Become Inspired
at the
AARC
Summer Forum

Most programs are approved
for continuing education credit
(CRCE).



George



Hess



Shelledy



Rye

treat yourself



Néo Lotus Spa

Refresh and rejuvenate at the Néo Lotus Spa located at the beautiful Renaissance Orlando at SeaWorld hotel.

See page 65 for local attractions

Tuesday July 16, 2013 (cont)

11:05 am – 11:20 am

BREAK

11:20 am – 12:00 noon

Degree Ladder: Opportunities for Practitioners

Pat Munzer DHSc RRT FAARC, Topeka KS

The presenter will describe various pathways for graduates of associate's degree programs to earn baccalaureate and graduate degrees. Various models of articulation agreements that provide opportunities for practitioners to earn additional degrees will also be addressed. Additionally, the presenter will identify potential barriers that may prevent practitioners from earning additional degrees and possible resources to remove such barriers.

12:00 noon – 12:20 pm

Break (Boxed lunch optional)

UPDATE ON REVISIONS TO THE CoARC STANDARDS FOR THE PROFESSION OF RESPIRATORY CARE

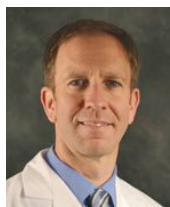
12:20 pm – 1:00 pm (Working Lunch)

Allen N Gustin Jr MD FCCP, Chicago IL

The presenter will begin with a brief explanation of the process for revision of the CoARC standards. Attendees will then be provided with an overview of the proposed new accreditation standards and their implications for programs and the profession. Emphasis will be placed on the most significant differences between the current and new standards. Strategies for implementing programmatic changes to address compliance with the new standards will also be discussed. Time will be allotted for questions and comments from members of the audience.



Munzer



Gustin



Gardner



Hart

A DIFFERENT TYPE OF SIMULATION: THE USE OF STANDARDIZED PATIENTS FOR A PRE-CLINICAL EXPERIENCE

1:05 pm – 1:45 pm

Rationale and Implementation of Standardized Patients

DeDe Gardner MSHP RRT FAARC, San Antonio TX and Mary K Hart MS RRT AE-C FAARC, San Antonio TX

Standardized patients are routinely used across the U.S. to prepare physicians for licensure and to evaluate the clinical assessment skills of healthcare professionals. Scripted scenarios are developed and "played" during simulated patient encounters in a mock examination room. This session will explain the rationale, use and experiences associated with respiratory care students utilizing standardized patients in the pre-clinical environment.

1:50 pm – 2:30 pm

Determining Inter-rater Reliability Between Faculty Observers and Outcomes Assessment of the Program

DeDe Gardner MSHP RRT FAARC and Mary K Hart MS RRT AE-C FAARC
Accreditation standards are now mandating programs to institute measures to assure some form of inter-rater reliability among faculty. Additionally, assessing program outcomes with regard to competency is critical to the success of any program. This session will address the use of a rubric to evaluate respiratory therapy students in pre-clinical experiences with standardized patients. The presenter will also share outcomes data for their three years of experience with this unique process.

MANAGER TRACK

9:40 am – 2:25 pm

**Bill Cohagen BA RRT FAARC –
Chair, AARC Management
Section/Presiding**

NEW ROLES, NEW VALUE

9:40 am – 10:20 am

**Respiratory Therapists as
Asthma Patient Navigators**

Mary K Hart MS RRT AE-C FAARC

Transitioning patients from the hospital to home or to an asthma outpatient clinic has always been a challenge for most healthcare organizations. Those “frequent flyers” continue to present to our EDs regardless of how many prescriptions of controller medications are written by physicians! The Asthma Patient Navigator can help identify those high-risk patients and work with them to gain control over their asthma.

10:25 am – 11:05 am

**COPD Navigator –
Bridging the Gap**

Mary K Hart MS RRT AE-C FAARC

COPD exacerbations can be fatal or result in lengthy hospitalizations. We owe it to our patients to help them remain as healthy, active, and happy as possible by teaching them how to better manage their disease. The presenter will discuss how RTs have led the way in COPD management – using Navigators as the experts to transition COPD patients from the hospital to a chronic disease management program.

11:05 am – 11:20 am

BREAK

VIEW FROM THE C-SUITE: THE CONSULTANTS ARE COMING: NOW WHAT?

11:20 am – 12:00 noon

**Pamela F Cipriano PhD RN
NEA-BC FAAN, Charlottesville
VA**

This two-part program, consisting of a lecture followed by an interactive workshop, will provide the attendees with critical information on why consultants are engaged, what goals they are asked to achieve, what information clinical managers must provide, and how clinical managers can not only survive but become recognized by the consultant and their organization as a value-added leader.

12:00 noon – 12:20 pm

**Lunch (Boxed lunch
optional)**

VIEW FROM THE C-SUITE: CONSULTANTS WORKSHOP

**Bill Cohagen BA RRT FAARC and
Garry W Kauffman MPA FACHE
RRT FAARC/Presiding**

12:20 pm – 2:30 pm (Working
Lunch)

**Pamela F Cipriano PhD RN
NEA-BC FAAN**

Based upon the information presented in the morning lecture, this workshop is designed as an interactive session to provide the attendees with information essential to their ability to document and communicate the value of their departmental services and respiratory therapists in a manner that will be accepted by the consultants. Secondly, for RT leaders, this session will be critical to your ability to showcase your value as a clinical leader.



Where Challenges Become Opportunities



Cipriano

vacation



At one of the premier Orlando attractions, you can interact with dolphins, swim among tropical fish while snorkeling on a reef.

The must-attend
Respiratory Care
Summer Forum



Ride a roller coaster at one the many Orlando theme parks

Online
registration is
underway now at
AARC.org

Two significant ways
to save:

1. Register early
2. Register for the pre-Summer Forum and the Summer Forum.

See pages 63–66 for details.

Wednesday, July 17, 2013

PLENARY SESSION

7:30 am – 9:00 am

Cheryl A Hoerr MBA RRT CPFT
FAARC – Chair, AARC Program
Committee/Presiding

JIMMY A YOUNG MEMORIAL LECTURE

Presented by the National
Board for Respiratory Care

Unveiling the New Therapist Multiple- Choice Examination

Kerry E George MEd RRT
FAARC, NBRC President
Robert C Shaw Jr. PhD RRT
FAARC, NBRC Assistant
Executive Director and
Psychometrician
Lori M Tinkler MBA, NBRC
Chief Operating Officer and
Associate Executive Director

The NBRC will describe in detail the 2012 Respiratory Therapy Job Analysis and new Detailed Content Outline for the written Multiple-Choice Examination to be implemented in January 2015. Additionally, the session will describe many of the operational changes that will occur related to applying for the examination, reporting to education programs and detailing other administrative information for candidates, educators and managers.

EDUCATOR TRACK

9:15 am – 11:45 am

Joseph Sorbello MEd RT RRT –
Chair, AARC Education
Section/ Presiding

TECHNOLOGY IN THE CLASSROOM

9:15 am – 9:55 am

OMG! Students Arrive
with Textbooks,
Stethoscopes and Smart
Phones – Helping Them
Use Mobile Technology
for More than Just Texting
Lutana Haan MHS RRT RPSGT,
Boise ID

This interactive presentation will discuss planning, preparation, and integration of mobile learning within a respiratory care program. The speaker will focus on teaching and learning strategies that leverage the capabilities of mobile devices and examine their potential impacts. Leave this session with ideas for implementation!



George



Shaw



Tinkler



Haan

THE ROLE OF MENTORING IN EDUCATIONAL LEADERSHIP DEVELOPMENT

10:00 am – 10:40 am

Everybody Needs Somebody Sometime: The Role of Mentoring in Educational Leadership Development

**Joseph G Sorbello MEd RT
RRT, Syracuse NY**

All of us can think of at least one mentor we have had in our professional lives who has helped us develop and achieve. A mentor/protégé relationship is a close one. How does it develop? What makes the mentor/protégé relationship work in such a way as to foster professional success and achievement for the protégé? This presentation explores the literature, citing examples of successful mentors and their protégés plus actual stories of both mentors and protégés in our own profession, how those relationships developed and why they worked so well.

DR. FRED HELMHOLZ EDUCATION LECTURE SERIES

**Presented by the Commission
on Accreditation for
Respiratory Care
Tom Hill PhD RRT FAARC/
Presiding**

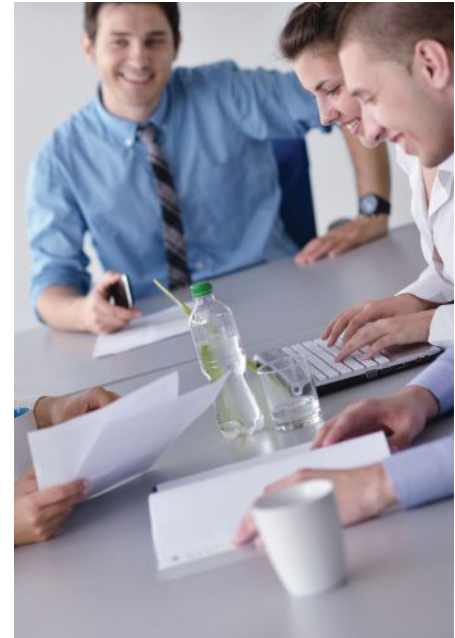
10:45 am – 11:45 am

Teaching Students How to Stay Up-to-date on Mechanical Ventilation

Issues

**Susan P Pilbeam MS RRT
FAARC, St Augustine FL**

The presenter will describe the challenge for educators to teach complex concepts of mechanical ventilation to students. She will identify essential concepts that may help students gain an understanding of mechanical ventilation and will offer suggestions for how educators and students maintain competency in mechanical ventilation as technology continues to evolve.



Problem solving
becomes
easier when
you can
compare ideas
and experiences
with colleagues
during a
session or over
dinner.



Where Challenges Become Opportunities



Sorbello



Pilbeam



Orlando, the world's top family entertainment destination, lets you enjoy SeaWorld, Universal Orlando, Busch Gardens, a host of Walt Disney World theme parks, and so much more.

Wednesday, July 17, 2013 (cont)

MANAGER TRACK

9:15 am – 11:25 am

Garry W Kauffman MPA
FACHE RRT FAARC/Presiding

ROCKY, BULWINKLE, BORIS AND NATASHA: VICTIMS, VILLAINS AND THE NOT SO HOPELESS

9:15 am – 9:55 am

Mary Lou Guy MBA RRT CHT,
Kansas City MO

Most people like to hear stories of victims, villains and heroes, but most do not want to live in the stories. Have you ever thought you were the victim and you are helpless against the villain? The speaker will provide insight into how "victim think" begins and demonstrate how you as a leader as well as your staff should deal with these issues. Learn skills that will give you the basis for preventing this behavior and dealing with these individuals, which can make or break your role as a leader.

BULLYING AND HARRASSMENT IN THE WORKPLACE: HOW TO STOP THESE BEHAVIORS WITHOUT BEING A WHISTLEBLOWER

10:00 am – 10:40 am

Mary Lou Guy MBA RRT CHT

Do you recognize when bullying or harassment happens in your workplace? Could someone say you or one of your staff is a bully? You may be surprised by the depth of workplace bullying and harassment. You may feel helpless in the face of this destructive behavior. The speaker will address workplace bullying and harassment including how to recognize it and your role in stopping to destructive behavior that tears down teams. Attend this lecture and learn to better manage this Joint Commission National Patient Safety Goal.

SIT: SYSTEMATIC INNOVATIVE THINKING

10:45 am – 11:25 am

Bill Cohagen BA RRT FAARC,
Phoenix AZ

SIT is a process of opening your mind as a leader. Similar to, but quicker and easier than Six Sigma Lean, SIT lets you channel the power of your team, opens your mind to new horizons, and challenges you to be innovative in your approach to day-to-day activities. Attend this lecture and maximize the performance of your department through a new and innovative way of thinking.



Guy



Cohagen

REGISTRATION FORM 2013

AARC Summer Forum • Orlando, Florida

Monday, July 15 – Wednesday, July 17, 2013

First/Last Name for Badge _____

Credential (check up to three to be printed after your name): ☐ RRT ☐ CRT ☐ PhD ☐ MA ☐ MD ☐ Other _____

AARC Member # _____ E-mail Address _____@_____

Employer _____

Preferred Mailing Address ☐ Home or ☐ Business Daytime Phone (____) _____

City _____ State _____ Zip _____

Pre-Course

Clinical Preceptor and Inter-Rater Reliability Workshop: Clinical PEP (Practices of Effective Preceptors)

Sunday July 14, 1:00 pm - 4:00 pm

Course capacity is limited. Pre-registration is required.

Deadline: June 21, 2013 or when course is full.

Member	Non-Member	Student Member***
☐ \$25	☐ \$50	☐ \$0

*** Must be registered for the Summer Forum

Summer Forum

Monday, July 15, 7:30 am - Wednesday, July 17, 11:45 am

	Member	Non-Member*	Student Member
By May 20	☐ \$290	☐ \$425	☐ \$90
After May 20	☐ \$330	☐ \$435	☐ \$90
Lunch Package**	☐ \$40	☐ \$40	☐ \$40

Spouses may register on-site for \$40.

* **Join the AARC and save!** If you opt to pay the non-member fee you are entitled to free, automatic 1 year AARC membership. Check here ☐ if you **DO NOT** wish to receive this complimentary membership.

** The lectures at 12:35 pm on Monday and 12:20 pm on Tuesday will be "working lunches". The fee covers a box lunch both days. Must purchase the two-day package; not sold separately.

Method of Payment

Check or Money Order enclosed ☐

Charge my ☐ Visa ☐ MasterCard ☐ American Express

Name of Card Holder (print) _____

Credit Card # _____

Expiration Date _____

Signature _____

If paying by credit card you may FAX your registration form to (972) 484-2720.

Mail Registration Form and check or money order, payable to AARC, to:

AARC Summer Forum

**9425 N MacArthur Blvd, Suite 100
Irving, TX 75063-4706**

Phone (972) 243-2272

You may register online at AARC.org

Cancellations must be in writing.

There will be a 35% handling fee for cancellations received by June 21. No refunds will be made thereafter.

attendee benefits



Benefits for AARC Attendees Staying at the Renaissance Orlando

- Free Internet in guest rooms
- Free self-parking
- Free 5 day I-Ride Trolley pass for each occupant in each guest room.
- \$50 credit for each AARC guest room reservation greater than 5 days in length. Credit is to be used during your stay at any of the hotel's food and beverage outlets.
- 10% off any one-time spa or salon treatment for each AARC attendee. Must indicate that you are an AARC attendee when making your spa reservation.
- Access the following link for additional benefits www.renaissanceseaworldorlando.com/SeaWorld-Official-Hotel-Partner-Benefits-83.html

Site and Hotel Information

Renaissance® Orlando at SeaWorld®

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Phone 407-351-5555

Join us at our new destination for the AARC Summer Forum. Not only is this resort in the heart of the entertainment district of Orlando, it's right across the street from SeaWorld. Golf, great shopping and other major theme parks are nearby too.

But you don't have to leave the resort property to feel like you're on vacation. There are great dining options, a full-service spa, fitness center, Olympic-sized pool with poolside bar & grill, oversized whirlpools, and a family-friendly water park!

Hotel Reservations

- Cut-off date for the AARC's special sleeping room rate is **Friday, June 21.**
- **Room Rate:** \$119 plus 12.5% tax single–quad occupancy. Deposit required.
- **Online at AARC Summer Forum Housing**
<https://resweb.passkey.com/go/2013AARCSummerForum>
- **Call 1-888-789-3090 or 407-351-5555.** Refer to **"2013 AARC Summer Forum."** Discounted rates are available only through these phone numbers.



Orlando Attractions/Discounts

Discounted Theme Park Tickets

AARC attendees, their families and friends are eligible for discounted Meeting/Convention tickets for SeaWorld, Aquatica, Discovery Cove and Walt Disney World.

SeaWorld® and Aquatica®

Visit www.aarc.org/education/meetings/summer_forum_13/discounts.cfm to purchase discounted All Day, After 12 p.m., After 4 p.m. and Length of Stay tickets through our website. Discounts are good for the registered AARC attendee and up to 5 guests.

AARC attendees staying at the Renaissance can also purchase these discounted tickets on-site from the Navigator Desk in the hotel lobby. The attendant will confirm that the room reservation is in the AARC block of rooms before selling the tickets.

Discovery Cove®

Call 877-434-7268 to ask about special offers for convention attendees. Offers are based on availability; blackout dates and other restrictions may apply.

Walt Disney World ®

Pre-purchase Single Day, After 2 p.m., After 4 p.m., and Multi-Day Tickets with a Bonus Visit. These tickets cannot be purchased at the front gates of the theme parks. Tickets must be purchased online at www.mydisneymeetings.com/aarc/ by Sunday, July 14. For additional assistance call (407) 566-5600 to speak with a Disney Group Ticket representative.

What to See and Do

- Titanic the Experience / Dinner Event
- Gatorland
- Universal Orlando Florida
- WonderWorks
- Indoor Skydiving
- 170 golf courses
- Celebrity-owned and award-winning restaurants



more and more



R Aqua Zone,
Renaissance Orlando

Work,
Sun & Play
at the
AARC
Summer Forum

All programs are approved for
continuing education
credit (CRCE).



Updates on
AARC Summer
Forum
programs at
AARC.org

Click on
Meetings



All meetings at the beautiful
Renaissance Orlando
at SeaWorld

Travel Information and Discounts

The discounts shown below are valid for the Orlando International Airport (MCO). The airport is approximately 13 miles from the hotel. Discounts also apply to family and friends.

Airlines

American Airlines

- **Online** at www.aa.com. Enter 7173DH in the Promotion Code box (no booking fee).
- **Call** AA Meeting Services at 800-433-1790 and refer to Authorization Code A7173DH (booking fee added).

Delta Air Lines

- **Online** at www.delta.com. Click "Book a Trip" and "More Search Options". Enter meeting code NMFER in the Meeting Event Code box (no booking fee).
- **Call**, or have your travel agent call, Delta Meeting Network at 800-328-1111. Refer to meeting code NMFER (booking fee added).

United Airlines

- **Online** at www.united.com. Enter ZP93841593 in the Offer Code box (receive an additional 3% off and no booking fee).
- **Call** United Meetings at 800-426-1122. Refer to Z code ZP93 and Agreement Code 841593 (booking fee added).

Airport Shuttle Service

Mears Shuttle is offering a round trip shuttle for \$26 to the Renaissance Orlando at Sea World.

Register **online** at <https://secure.mearstransportation.com/default.asp?referrer=444937019> and use priority code 444937019, or **print** off the discount coupon and present it to the Mears counter agents on Level 1 at the Orlando International Airport.

Please note that the Mears counters at the Orlando International Airport will only accept hard copies of the coupons. Having it on a mobile device will not work.

Return reservations are required and can be made up to one day prior to departure by calling 407-423-5566. The shuttle departs the Renaissance Orlando at Sea World hourly at 55 minutes after the hour. Mears requires reservations be made three hours prior to flight time for the transfer back to the airport. Shuttle may make 4-5 stops before reaching the final destination.

Taxi Service

Taxi and luxury transportation service can also be booked through [Mears Shuttle](#). The fare is \$35 - \$40 one way, or \$66 one way for luxury transportation. Call 407-423-5566.

Rental Cars

Budget Rent A Car

- **Online** at www.budget.com. Click "More Options". Enter U064639 in the Offer Code (BCD) box.
- **Call** 800-772-3773. Refer to Discount Offer Code U064639.

Enterprise Rent-A-Car

- **Online** at www.enterprise.com. Enter Discount Rate Code L9D0194 in the "Optional" code box. On the following page enter AME in the Sign In box.
- **Call** 800-736-8222. Refer to Discount Rate Code L9D0194.

Hertz

- **Online** at www.hertz.com. Enter 049T0007 in the Convention Number (CV) discount box.
- **Call** 800-654-2240 or 405-749-4434. Refer to Convention Discount Code 049T0007.



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2013 AARC Congress and Summer Forum meetings

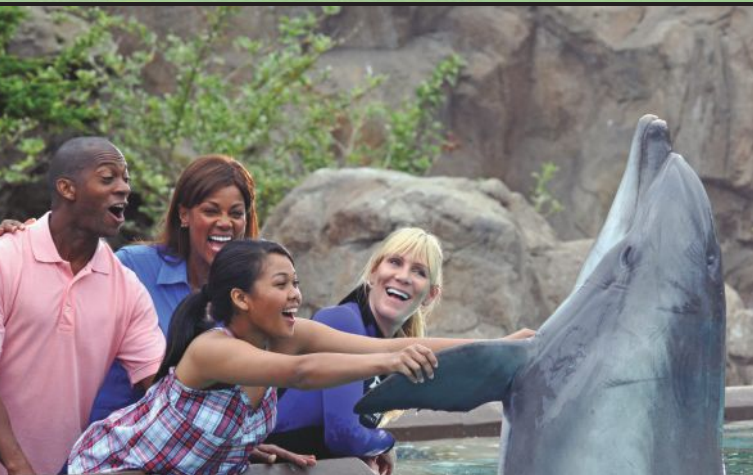
The International Respiratory Convention
& Exhibition is the largest RC meeting in
the world. Held November 16-19, in
Anaheim, California USA. The Summer
Forum is where managers and educators
meet for new ideas and strategies in
respiratory care. Held July 15-17 in
Orlando, Florida USA.

Learn more at http://www.aarc.org/education/aarc_crce/

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This Is a Banner Year for New Attractions

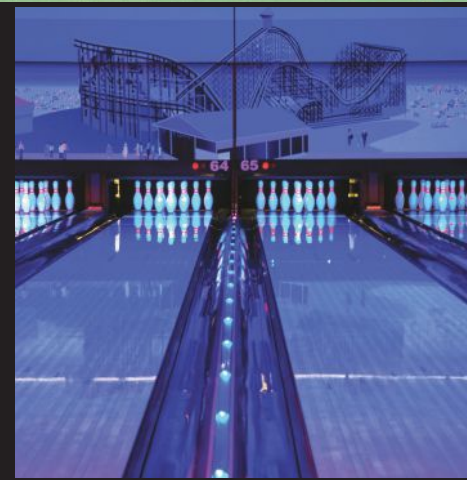


Combining the Summer Forum with a family vacation is a long-standing tradition for many AARC members. With a host of new things to see and do, this year's venue is sure to live up to expectations.

AARC meetings have convened in Orlando, FL, many times over the years, and it always proves to be a popular destination for members who want to bring their families along for the ride. But if you think you already know everything Orlando has to offer, think again. This is turning out to be a banner year for new attractions. Take a look at what you'll find when you arrive in Orlando for the AARC Summer Forum July 15–17.

■ **SeaWorld Goes South:** And when we say “south” we mean as southern as you can get. With Antarctica — Empire of the Penguin, this world-renowned theme park is taking its visitors to the bottom of the world. More than just a new ride, the new “realm” will be the coldest theme park attraction in the world and include a variety of new experiences. A state-of-the-art interactive ride provides an exciting journey through the dangers and beauty of the Antarctic as you follow a young penguin's adventures. The attraction also includes a brand new penguin habitat that will give you the chance to get up close and personal with the penguins. A gift shop and a new dining concept featuring market-style, international food round out the new attraction. Sea World is located right next to the AARC Summer Forum resort, the Renaissance Orlando at SeaWorld®.

at Our Summer Forum Venue: Orlando, FL



■ **Transform Yourself:** Last year Universal Orlando Resort debuted several new attractions, including Despicable Me Minion Mayhem, Universal's Cinematic Spectacular nighttime lagoon show, Universal's Superstar Parade, and the reopening of The Amazing Adventures of Spiderman. Two movie-themed 18-hole miniature golf courses were added at Hollywood Drive-In Golf in Universal's CityWalk as well, incorporating elaborate theming from Sci-Fi flicks from the 1950s with traditional putt-putt golf fun.

This summer the park will add TRANSFORMERS: The Ride — 3D. By combining larger-than-life Transformers characters and an exciting storyline with life-like HD CGI media, state-of-the-art 3D technology, and amazing special effects, the attraction places riders right in the middle of an epic battle between the Autobots and the Decepticons.

■ **More Magic:** Walt Disney World® has a couple of new things going for it this year. First, and most exciting for the little ones in your life, is the largest expansion of Fantasyland in the Magic Kingdom's history. Fresh off the December 2012 opening is Under the Sea — Journey of the Little Mermaid, a musical showcase featuring Ariel and friends. From there, Enchanted Tales with Belle offers guests of all ages the chance to reenact "the tale as old as time" alongside Belle.

The second new feature at Disney World this year will certainly appeal to anyone who has ever endured long lines to ride the top rides or visit the top attractions. With a new website and app called MyMagic+ you can lock in seating for parades, fireworks, character interactions, and even coveted FastPasses before you even leave home. Once you're in Orlando, you'll wear a special MagicBand wristband that will serve as your tickets and FastPass.

■ **Beat the Heat:** Disney's Typhoon Lagoon Water Park lets you snorkel around a coral reef with sharks, stingrays, and tropical fish. The kids will love plunging down rushing rapids, playing on the beach, and floating down the lazy river. This is one of many water parks that can get you cool in a hurry.

■ **Bowl and Drive:** Two other Disney attractions made some major upgrades last year, too. Downtown Disney pumped up the action with the addition of Splitsville, a 45,000-square-foot, 31-lane retro bowling alley that puts a new spin on a classic American pastime. Billiards, dining, dancing, and an outdoor patio are available as well. The Exotic Driving Experience opened at Walt Disney World Speedway, giving guests the opportunity to experience the thrill of driving the world's fastest and most exotic supercars, including a Ferrari 458 Italia, Lamborghini Gallardo LP 570, Lamborghini Gallardo 560, Audi R8, and Porsche 997S.



■ **LEGOLAND:** One of only two LEGOLANDS in the country, LEGOLAND Florida debuted in 2011 with 10 specially themed areas, including Land of Adventure, LEGO City, Pirate's Cove, and Cypress Gardens. A new Star Wars Miniland is part of the mix now too, featuring Lego scenes from all six of the movies, some of them six-feet high. An interactive feature allows visitors to activate animations throughout the scenes.

When you're ready to cool off, the park also offers a new waterpark, complete with everything from wave pools to a "build-a-raft" lazy river, waterslides with 60-foot drops, and a Duplo Splash Safari for toddlers.

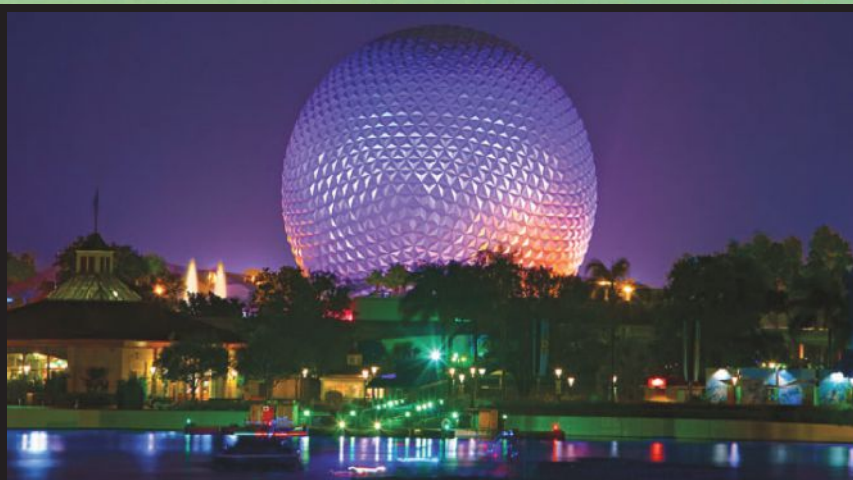
■ **Time Travel:** The newly redesigned Titanic The Experience debuted last year, giving visitors the chance to travel back in time for a taste of what it was like to sail on this famous but ultimately doomed vessel. Authentic artifacts and interactive storytellers in period costume take you through a 17-gallery tour of full-scale recreations, including Titanic's Grand Staircase, First Class Parlor Suite, Boilers, Captain's Bridge, and Promenade Deck. More than 400 unique pieces of memorabilia and 100 recovered artifacts are on display.

■ **On the Spot:** Fun Spot America is undergoing a massive expansion, and the first phase will be open in time for Summer Forum attendees to enjoy. If you're a roller coaster fan, you won't want to miss the new White Lightning wooden coaster. The park also features the world's biggest SkyCoaster, a new suspended family coaster called Vekoma, as well as a wide range of family friendly racetracks and rides.

■ **Blast Off:** The Space Shuttle Atlantis took its final voyage in the summer of 2011, and now the retired vehicle is finding a new home in the Kennedy Space Center Visitor Complex in nearby Titusville, FL. The exhibit is set to open in July, giving AARC members and their families the opportunity to be among the first in the country to walk through the amazing new hall and view the groundbreaking craft in its new digs. Atlantis will be raised 36 feet off the ground and will be rotated about 43 degrees so that it will be showcased on the same angle seen by the astronauts in space. The payload bay will be open and the robotic arm extended, and more than 60 interactive, immersive exhibits covering the entire shuttle program are in the works. A 184-foot-tall space shuttle stack will give visitors a true sense of the massive size and awesome power used to thrust the shuttle into low-Earth orbit.



For more information about these and other Orlando attractions – from world-class golf, to spa retreats, to adventure treks, to arts and culture – visit the Orlando Tourism Bureau at www.visitorlando.com. See you in Orlando for the Summer Forum!



■ **Bon Appetit:** While there is no dearth of restaurants in Orlando (Zagat's 2013 Orlando Survey rates 350 of them online at www.zagat.com), several are new this year. The Superstar Character Breakfast at Universal Studios offers guests a chance to meet characters from the Universal Superstar Parade, including Despicable Me Minions, SpongeBob SquarePants, and Dora the Explorer. Guests also receive access to a special viewing area for the parade later that day. Also at Universal is the Cinematic Spectacular Dining Experience, where guests enjoy dinner at Lombard's Seafood Grille followed by dessert in a private viewing area for Universal's Cinematic Spectacular nighttime lagoon show.

Outside of the theme parks, the East End Market is debuting this spring in Orlando's Audubon Park, a hub for eclectic, unique, small businesses. The market will house 10 local, independently owned food enterprises, including a butcher, seafood merchant, produce vendor, and baker. James Beard Nominated Chef Henry Salgado and his wife Michele are also opening the Txokos Kitchen there, a dine-in restaurant featuring farm-fresh lunch and dinner options.

Epcot: A Timeless Attraction for the Whole Family

You can discover the interesting cultures of the world at Epcot, the long-popular Disney theme park that showcases the diversity of various nations around the world. The main attractions include Future World, which highlights technological innovations, and World Showcase, which introduces you to the flavorful world of various cuisines and cultures.

Live performances and interactive attractions, like "gliding over California," are designed to keep the kids fully engaged, as will opportunities for tours and events, such as swimming with dolphins. And be sure to stay late to see the fantastic fireworks over the lagoon! ■

Attendees staying at the Summer Meetings headquarters hotel –

the Renaissance Orlando at SeaWorld – can take advantage of its great location, as it is right across from SeaWorld Orlando and near Aquatica, Discovery Cove, and other Orlando parks. The Renaissance Orlando SeaWorld also has some fantastic on-site attractions, such as the R Aqua Zone water playground that features big water slides, a teen and 'tween play area, and a pool just for tots. You can relax in the spa or hit the tennis court. Resort guests can also receive complimentary transportation to SeaWorld, Aquatica, and nearby Universal Orlando. ■



Industry Watch

SMART study to look at flu transmission in schools

Researchers at the Johns Hopkins Bloomberg School of Public Health and the University of Pittsburgh are currently investigating how flu spreads in schools using data collected through an online survey measuring how often children come in contact with each other in and out of school. Researchers plan to use the data to construct models of school children's daily interactions so they can develop the most effective preventive measures. The Social Mixing And Respiratory Transmission in Schools (SMART) study is part of an effort by the Centers for Disease Control and Prevention to create a national policy on school response to the flu and other pandemics.

LungExpress Dx validated in clinical studies

According to Precision Therapeutics Inc. and Med BioGene Inc., Precision Therapeutics has completed clinical studies that validate the use of LungExpress Dx™

with tissue preserved by RNAlater®, a molecular fixative that eliminates the need to flash-freeze specimens, keep specimens frozen throughout storage and transport, or preserve tissue in formalin. The clinical studies were conducted using patient specimens prospectively accrued by Precision from a consortium of medical centers in the United States. Precision expects to commence commercialization of LungExpress Dx in its CLIA-certified laboratory within the next few months.

Pulmonary sarcoidosis trial gets underway

Patients are currently enrolling in a clinical trial to investigate the efficacy of immunological therapy for chronic pulmonary sarcoidosis. The trial is being conducted by researchers at the Icahn School of Medicine at Mount Sinai and the University of Cincinnati. The Phase II study is designed to assess the safety, tolerability, and efficacy of an antibody directed against macrophage colony-stimulating factor — a protein associated with

the development of sarcoidosis. During a Phase I clinical trial for patients with rheumatoid arthritis, the antibody was well tolerated in healthy people as well as patients with RA.

New quit-smoking app tracks, prices the cost of smoking

The Will Rogers Institute recently partnered with Covenant Health in Knoxville, TN, to develop a new smartphone app designed to help people quit smoking. The Stop Smoking Mobile App allows each user to create a profile to identify the number of cigarettes they smoke on a daily basis, to tally how much they spend on cigarettes each week, and to learn the triggers that stimulate their need to smoke. Based on a short questionnaire, the app will then generate a realistic "quit date" for users and will help them track how many cigarettes they smoked that day, as well as keep a record of the obstacles that keep the person smoking and make it difficult to quit.

KaloBios Pharmaceuticals begins dosing in CF study

According to KaloBios Pharmaceuticals Inc., dosing has begun in a randomized, double-blind, placebo-controlled Phase 2 clinical trial of KB001-A, the company's anti-PcrV Humaneered®, PEGylated monoclonal antibody fragment. The study will investigate the safety and efficacy of intravenously administered KB001-A as a treatment for chronic *Pseudomonas aeruginosa* infection in cystic fibrosis patients.

In the Phase 2 study, 180 patients will receive repeated doses of KB001-A over a 16-week period. The primary endpoint will be time to need for antibiotics to treat worsening of respiratory tract signs and symptoms. Secondary endpoints will include changes in inflammatory markers, respiratory symptoms, subject-reported outcomes, measurements of lung function, pharmacokinetics, safety, and tolerability. KaloBios expects to announce results by mid-2014.

Nonin donates pulse oximeters to Honduras hospital

Nonin Medical Inc. has donated several Onyx® 9500 finger pulse oximeters to the Evangelistic International Ministries for use at the Hospital Centro Socorro De Lo Alto in the remote village of Sula, Honduras. "Nonin's pulse oximeters provide an invaluable tool to the largely volunteer medical staff treating a diverse patient population in this rural community," says John Wilson, MD, a retired orthopedic surgeon who recently volunteered at the hospital. "In many cases, the Onyx 9500 provided the primary vital sign monitoring of patients after surgery."

Masimo's Pronto-7 used in Libya's blood donation centers

Libya has become the first country to begin using the Masimo Pronto-7® handheld noninvasive hemoglobin spot-check device to screen potential blood donors for low hemoglobin level in all of its major blood donation centers. Donating blood prior to a person's own surgical procedure or those of friends and family members is common practice throughout the Middle East. According to Masimo, before the use of Pronto-7, centers in Libya had been using invasive blood draws to test

donors for low blood count or anemia.

NIAID awards grant to CF researcher

The National Institute of Allergy and Infectious Diseases has awarded a grant to Richard C. Boucher, MD, Kenan Professor of Medicine and director of the Cystic Fibrosis and Pulmonary Research and Treatment Center at the University of North Carolina School of Medicine, to investigate the anti-inflammatory activity of Cemptra Inc.'s solithromycin and its effect on mucin secretion in models for cystic fibrosis. A Cemptra spokesman notes that solithromycin has demonstrated greater potency than azithromycin and other antibiotics against respiratory pathogens, as well as stronger anti-inflammatory properties *in vitro* and in animal models.

Bayer HealthCare submits NDA for riociguat

Bayer HealthCare has submitted a new drug application to the FDA seeking approval for riociguat, an investigational compound for the treatment of pulmonary arterial hypertension (PAH) and persistent/recurrent chronic thromboembolic pulmonary hypertension (CTEPH) after surgical treatment or inoperable CTEPH. "If

approved, riociguat would be the first pharmacological treatment for CTEPH, and it would have the potential to add an important new treatment option to the armamentarium for PAH," says Pamela A. Cyrus, MD, vice president and head of U.S. Medical Affairs, Bayer HealthCare Pharmaceuticals. The company notes the submission is supported by data from two global Phase III studies of riociguat, both of which met their primary endpoint.

Grifols commemorates alpha-1 milestones

Grifols is commemorating the 25th anniversary of its alpha-1 antitrypsin deficiency treatment Prolastin® along with the 50th anniversary of the discovery of alpha-1 with a series of events and programs around the world to raise awareness and advance research in the treatment of alpha-1. "For nearly 17 years, Prolastin was the only product available to patients with alpha-1,"

Sandy Sandhaus, MD, PhD, FCCP, professor of medicine and director of the alpha-1 program at National Jewish Health in

Denver, CO, notes: "Since the beginning, the makers of Prolastin have been remarkable partners with the patient community in helping to improve their health, educate patients about a little-known disease, and support scientific research to find better ways to detect and treat the disease."

Discovery Laboratories gets financing for specialty treatments

According to Discovery Laboratories Inc., the company has entered into a secured loan facility with Deerfield Management Company L.P. to assist the company as it works toward achieving specialty treatments for premature infants with respiratory distress syndrome — Surfaxin® and Aerosurf®. "We are encouraged by Deerfield's confidence in the potential of our transformative technology and business strategy," says Discovery Labs President John G. Cooper.

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



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RC Currents

IN THE NEWS

The AARC Needs You To Volunteer for Your Profession

by George Gaebler, MEd, RRT, FAARC
2012–2014 AARC President

During my first term as AARC president, I realize it's important to receive vital assistance from my colleagues — AARC members — in order to achieve everything the AARC, its membership, and the patients we care for need. I am now asking you to volunteer your time and expertise to our professional organization.

Having RT volunteers not only facilitates our growth as a profession and association but also presents all volunteers with the opportunity to develop and advance their leadership skills, increase their professional contacts, and give back to the profession, as well as to the patients we serve. Volunteers have always been the heart of the AARC and its leadership. Our strength and advancement comes from the countless hours of support volunteers provide

I am confident we can continue to reach milestones in the respiratory care profession if we all work together.

through their time and knowledge toward the betterment of their patients, colleagues, and profession.

There are many people like you who need and use the professional tools the AARC provides. Why not get in on the ground floor and collaborate with your fellow RTs to develop new tools to help RTs continually improve and grow as respiratory care professionals?

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

There is enormous momentum and potential for our profession right now. No one individual can accomplish

everything we need to do, but I know that dedicated RTs supporting the AARC's efforts can make vast strides for assuring quality patient care in the continuum of care and securing the respiratory therapist's rightful place in the changing health care system.

This is your Association, and now is the time to volunteer. We look for a balance of experienced and new members on all of our committees. It is this special mixture that makes it possible for the AARC to continue being the vital professional organization it always has been by mentoring in new talent. It also ensures the future of the respiratory therapist in the health care environment as we witness some of the most sweeping changes in history.

Please consider this a friendly challenge — and think about how you can help your Association, the profession, and the patients we serve. Take time now to network with your fellow AARC members — perhaps someone active in your state society — whom you believe could contribute special talents or services to the AARC. Encourage them to volunteer so that we can capitalize on the vast amount of expertise available in our Association membership.

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

I am confident we can continue to reach milestones in the respiratory care profession if we all work together. Thank you for supporting your professional organization, the AARC. I look forward to working with you. ■



AARC PACT Advocates on Capitol Hill

By now you've seen the AARC website and read the stories about the 14th annual AARC Hill Advocacy Day. This is the event where respiratory therapists from across the country go to Washington, DC, to lobby Congress on legislative issues important to the profession and the pulmonary patient. This year 115 respiratory therapists from 46 states and the District of Columbia "hit the Hill" seeking support for the Medicare Respiratory Therapist Access Act. RTs were joined by over a dozen pulmonary patients sponsored by the COPD Foundation. In addition, over 30 RT students enrolled in respiratory therapy education programs from around the DC region also attended and had the chance to see what dedicated RTs are actively doing for the profession outside of their own respiratory care working world. We can write a lot about the Hill Day — but as they say, a picture is worth a thousand words. Here are some snapshots of respiratory therapists and patients in action on Capitol Hill. ■

First Prizes Awarded in Membership Campaign

Earlier this year the AARC launched a new membership campaign with some great prizes to be awarded on a quarterly basis to renewing and new members alike. Now the first drawing has taken place, and two lucky members are enjoying a couple of pretty cool electronic devices.

Buff Harvey, CRT, won the iPad in the drawing for renewing members, and the first Kindle Fire went to Deb Sheffield, CRT. Read the full story online at www.aarc.org/headlines/13/02/prize/.

Three more drawings for iPads and Kindle Fires are scheduled this year, so be sure to renew your membership and get the word out to your colleagues who have yet to join you in the Association. ■



AARC Mourns C. Everett Koop

The AARC joins the rest of the country in mourning the recent loss of C. Everett Koop, surgeon general of the United States in the 1980s.

The Association worked closely with Dr. Koop in 1983 as we fought to get better care for ventilator-dependent patients. Dr. Koop authored an article in *AARC Times* based on a December 1983 workshop presentation he gave focused on ventilator-dependent children and adults. Additionally, Dr. Koop lent his support to a series of workshops that the AARC held on advancing care and reimbursement for ventilator patients. He also aggressively attacked tobacco use — and the rate dropped from 33%–26% of U.S. citizens during his tenure.



“Dr. Koop was a strong supporter of the AARC and our profession, especially our efforts to help consumers and patients alike to quit smoking,” says Thomas J. Kallstrom, MBA, RRT, FAARC, AARC executive director. “His tireless efforts as a health care provider and patient advocate will be missed by all of us

throughout the world. Dr. Koop helped put respiratory therapists on the health care roadmap since he was the first Surgeon General of the United States to attend our annual meeting to challenge us to do more for our patients.” ■

The “New Members” Column Is Online

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



AHA Clarifies ACLS Policy

Collaboration between the American Heart Association, AARC members, and the AARC Executive Office has resulted in clarification on who is eligible to take ACLS (advanced cardiac life support) and PALS (pediatric advanced life support) courses as well as become an instructor for these courses — and respiratory therapists will continue to be recognized in both areas.

There had been misinterpretation about RTs fulfilling the requirements in order to take the advanced life support courses and become regional faculty to teach the advanced courses. After receiving several inquiries from respiratory therapists, the AARC used its liaisons and contacts to work directly with the leadership of the American Heart Association to clarify the role of the respiratory therapist. “We want to thank AHA leaders for taking our concerns seriously and working collaboratively with us,” said Thomas J. Kallstrom, MBA, RRT, FAARC, the AARC’s executive director.

Based on that conversation, the AHA has published an unequivocal definition that includes RTs among the health care providers eligible for the ACLS and PALS training and to be eligible for consideration as instructors.

“We thank the AHA for working with us to provide a strong statement for our respiratory therapists,” says George Gaebler, MEd, RRT, FAARC, AARC’s president.

To read the notice published by the AHA, go to www.aarc.org/headlines/13/02/aha_clarifies_policy.cfm/. ■

AARC Summer Forum — Where Challenges Become Opportunities

Respiratory care managers and educators will meet this summer in Orlando, FL, to gain powerful new insight through learning and interacting, all while enjoying a great summer destination. In addition to the concurrent management and education tracks on July 15–17, AARC will hold a pre-Summer Forum session on July 14 titled “Clinical Preceptor and Inter-Rater Reliability Workshop.” This four-hour interactive workshop will reinforce practices of effective preceptors with emphasis on adult learning, mentoring, and evaluating learner performance. See all the details in the full Summer Forum Program in this issue. ■



AARC Now Accepting Applications for the 2013 International Fellowship Program

If you provide respiratory care outside of the United States and would like to share and expand your knowledge, please consider applying for our International Fellowship Program.

The International Fellowship Program is a sponsored activity of the AARC. Since 1990, health professionals from more than 50 countries have shared experiences, knowledge, and lasting friendships through this exceptional program.

The three-week program takes each participant to two host cities in the United States and concludes with attendance and acknowledgement at AARC Congress 2013 to be held Nov. 16–19 in Anaheim, CA.

Learn more and apply at www.aarc.org/resources/international_fellows/. For more information, contact April Lynch at lynch@aarc.org. ■

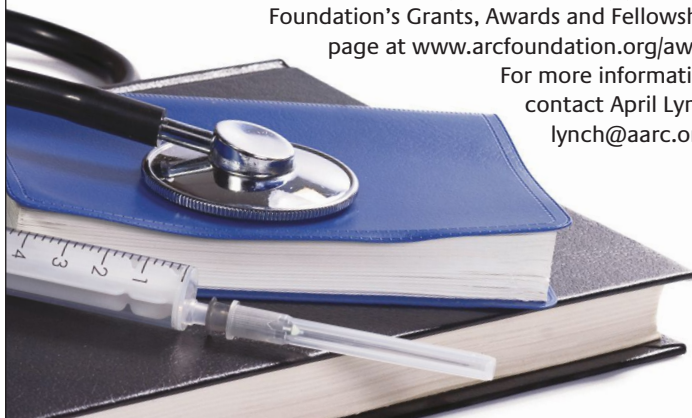
Educators: Help Recognize Outstanding Students

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

The ARCF offers awards to students who are currently enrolled in accredited respiratory care educational programs and to respiratory therapists who are pursuing an advanced degree. Awards include registration and airfare to attend AARC Congress 2013, to be held Nov. 16–19 in Anaheim, CA.

To see all of the awards bestowed by the ARCF every year, go to the Foundation's Grants, Awards and Fellowships page at www.arcfoundation.org/awards/.

For more information, contact April Lynch at lynch@aarc.org. ■



A New Lease on Life

by Julie Morgan, RRT, AE-C

Along with the other RTs and nurses here at Deaconess Hospital in Evansville, IN, I had helped care for Deon Smoot many times over the years when he had come in to be treated for exacerbations of his COPD. A 60–70 pack-per-year smoker, he had quit smoking several years before but was suffering with severe end-stage COPD, required continuous home oxygen, chronic prednisone use, inhaled medications, etc. He also had spontaneous pneumothoraces requiring bilateral pleurodesis.

With the help of David Harris, MD, one of our local pulmonologists, Deon was able to get on the lung

Deon came to the meeting without oxygen, and today he no longer takes bronchodilators and does not even have oxygen in his home.

transplant list. About a year later, he received a call from the transplant center that they had two new lungs for him (from a 25-year-old). This was a few days before Halloween in 2011. The picture you see here was taken on the day he was released to return to our Better Breathers support-group meeting — only three months after transplant.

We had originally planned to celebrate his November birthday at our November meeting; however, after the transplant he was able to celebrate the birthday — his 65th — in a much bigger way. He was able to breathe again! When his wife called me and told me



Deon and Melodie Smoot celebrated his new lease on life at his 65th birthday celebration.

they were going to come to the January meeting, I called a local bakery and ordered this 3D lung cake.

Deon came to the meeting without oxygen, and today he no longer takes bronchodilators and does not even have oxygen in his home. We went to the YMCA for our last support group meeting, and he walked on the treadmill at a fast pace without a problem. He is an amazing person; and so is his loving wife Melodie, who has supported him every step of the way. ■

Julie Morgan, RRT, AE-C, is a respiratory therapist at Deaconess Hospital in Evansville, IN.

Request for OPEN FORUM Abstracts for AARC Congress 2013

The AARC invites you to submit abstracts for the OPEN FORUM at AARC Congress 2013. Considered by many to be the premier event at the AARC Congress, the OPEN FORUM is your opportunity to gain national and international recognition for your research in cardiorespiratory care by submitting an original abstract for presentation at the Congress and having it published in *RESPIRATORY CARE*. The deadline to submit abstracts for the OPEN FORUM is *June 1* at <http://aarc2013.abstractcentral.com/>. ■

International Fellowship Program Looking for City Hosts

Every year the AARC sponsors an International Fellowship Program that brings physicians, therapists, and nurses from other countries to our shores to learn more about American-style respiratory care in two cities. It can't happen without city hosts in each of the localities, and now is the time to step up and volunteer.

Learn more about the program and apply by the June 1 deadline at www.aarc.org/resources/international_fellows/. The fellowships take place in the fall just prior to AARC Congress 2013, scheduled this year for Nov. 16–19 in Anaheim, CA.

For more information, contact April Lynch at lynch@aarc.org. ■



Enter the 2013 AARC Photo Contest

AARC Times is looking for creative members to enter our AARC Photo Contest. Finalists will receive a free one-year membership renewal and have their photo entered into our Photo-of-the-Year Contest with the chance of it being chosen to appear on the March 2014 cover. For instructions and guidelines, select the *AARC Times* icon at www.AARC.org and click on the "Photo-of-the-Year Contest" link. Deadline to submit photos is Oct. 15, 2013. ■



AARC Leaders Attend Meetings

Throughout the year, AARC leaders and members of the Executive Office staff attend meetings of the Association's state societies as well as other special meetings. In addition to making AARC representatives available for speaking engagements at meetings, the Association funds a special program to help some state societies partially pay for the travel costs of the speakers. Below are some activities AARC representatives are involved in:

Thomas J. Kallstrom, AARC Executive Director/CEO

- Presenting the Keynote Address at the Colorado Society for Respiratory Care meeting in Vail, CO
- Co-hosting with the Saudi Society for Respiratory Care a pre-course on asthma and COPD in Jeddah, Saudi Arabia. Also presenting at the Saudi Society meeting.
- Participating in the COPD8USA Conference in Chicago, IL

Douglas S. Laher, AARC Associate Executive Director

- Speaking on Health Care Reform and Its Impact on the Respiratory Profession at the Children's Hospital Association's Respiratory Therapy Forum in Houston, TX

Timothy R. Myers, AARC Associate Executive Director

- Co-hosting with the Saudi Society for Respiratory Care a pre-course on asthma and COPD in Jeddah, Saudi Arabia. Also presenting at the Saudi Society meeting.

Shawna Strickland, Associate Executive Director of Education

- Speaking on Maximizing Patient Education and AARC Membership, Professionalism and the Future of the Profession at the Missouri Society for Respiratory Care's annual conference in Lake of the Ozarks, MO

Honoring Military RTs

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

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

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

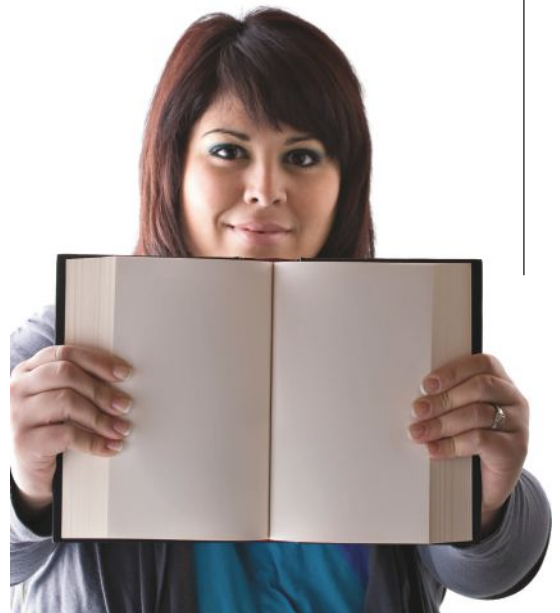


National Health Observances

- **National Asthma and Allergy Awareness Month;** May; Asthma and Allergy Foundation of America; (800) 727-8462; info@aafa.org
- **World Asthma Day;** May 7; Global Initiative for Asthma; www.ginasthma.com
- **Air Quality Awareness Week;** April 29–May 3; National Oceanic and Atmospheric Administration; (301) 713-1867; www.airquality.noaa.gov
- **World No Tobacco Day;** May 31; Pan American Health Organization; (202) 974-3000; www.who.int/tobacco/wntd/en

Correction

The February *AARC Times* Clinical Perspectives article titled "Unusual Cases in Blood Gas Analysis" contained an error. In case study #1, beginning on page 20 in column 1, we noted the blood glucose units incorrectly as mmol/L. It should have been mg/dL. We regret the error.



Members, Send Us Your Human Interest Stories

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

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

Is a New Strain Causing the Surge in Whooping Cough Cases?

Researchers from the Centers for Disease Control and Prevention (CDC) joined fellow investigators in authoring a brief report earlier this year in *The New England Journal of Medicine* outlining the first confirmed cases of a new pertussis strain in the United States. The strain, which was initially identified in France and now accounts for 14% of the whooping cough cases there, was identified in 12 cases of the disease in Philadelphia over the past two years.

The investigators believe the strain may be playing a role in the resurgence of whooping cough seen over the

past few years in America. Last year, 41,880 cases and 18 deaths were reported to the CDC — the worst year for whooping cough in six decades. Noting that the rapid test U.S. physicians generally rely on to make the diagnosis does not identify the strain, the researchers call for additional study to determine if more extensive testing should be performed on a routine basis to uncover the new strain. ■

“Mr. Gibbs” — A Little Girl’s Best Friend

Alida Knobloch was diagnosed with a rare disorder called neuroendocrine cell hyperplasia of infancy when she was just eight months old, a condition that causes her to be unable to breathe on her own for more than about 45 minutes at a time. Luckily she has a great friend who willingly trails behind her with her oxygen tanks on his back. The 60-pound golden doodle, named “Mr. Gibbs,” remains by the child’s side whether she’s playing at home, eating in her high chair, or even riding around on her bike. According to an article published recently in *Readers Digest*, Alida’s parents worked closely with a dog trainer to provide their young daughter with the skills she would need to control the service dog. ■

Watch Alida and Mr. Gibbs on www.youtube.com/watch?v=TVLTSuzK1q8&feature=endscreen



Bronchiectasis in COPD Raises Mortality Risk

Spanish researchers publishing in the online ahead-of-print edition of the *American Journal of Respiratory and Critical Care Medicine* last January linked the presence and severity of bronchiectasis to a significant increase in all-cause mortality in patients with moderate-to-severe COPD. The finding held true independent of other known risk factors, including pulmonary function and comorbidities.

The multicenter prospective observational study was conducted among 201 consecutive patients, of whom 115 were diagnosed with bronchiectasis by high-resolution computed tomography (CT) scan of the chest. Fifty-one patients died during a median follow up of 48 months — 43 of them in the bronchiectasis group.

“If the prognostic value of bronchiectasis in patients with moderate-to-severe COPD that we found is confirmed in further and larger studies, it would have an important clinical impact,” study author Miguel Ángel Martínez-García, MD, noted. “Bronchiectasis can be reliably diagnosed with high-resolution CT scanning; and effective treatments are available, potentially reducing the risk of mortality in patients with COPD.” ■



Mouse Study Sheds Light on Pulmonary Hypertension

Researchers from the National Institutes of Health have discovered that a protein that regulates iron levels in the body may also play a role in the development of pulmonary hypertension. Results of their study, published in *Cell Metabolism*, found that mice lacking the iron-regulating protein 1 (Irp1) gene produced high levels of hypoxia inducible factor 2-alpha (HIF2 alpha). HIF2 alpha is a protein produced in response to low oxygen conditions, and it also spurs production of the hormone erythropoietin, which stimulates the production of red blood cells.

To investigate Irp1's role in regulating the body's use of iron, the researchers divided the Irp1-deficient mice into two groups, feeding one group a normal diet and the other a low iron diet. Within a year, less than 40% of the mice on the low iron diet had survived. Most had died from abdominal hemorrhaging. The researchers found that the mice on the low iron diet also had high levels of HIF2 alpha in the lungs and kidney. These animals produced high levels of erythropoietin, which resulted in polycythemia. HIF2 alpha also triggered increased production of endothelin-1 in the lungs, which likely contributed to the development of pulmonary hypertension. ■



Researchers Studying How To Regrow Alveoli

Research underway at Johns Hopkins may one day lead to the first successful treatments for regrowing alveoli in people with respiratory disease. Using hepatocyte growth factor (HGF), the investigators have made progress in regrowing alveoli and restoring lung structure in mice genetically engineered to develop a human-like form of emphysema.

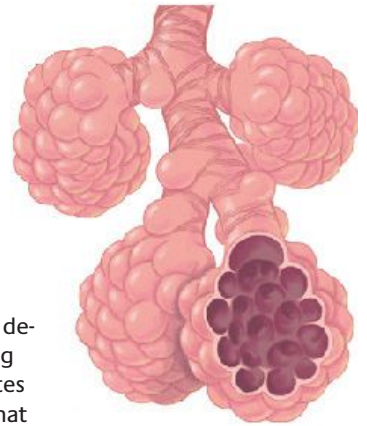
Two recent experiments were outlined in a recent edition of *PLOS Genetics*. In one, adult mice were divided into two groups. Half received HGF, delivered under the skin using a special pump for two weeks. The other half received a placebo.

A control group with healthy lungs was also divided in half to receive either HGF or a placebo.

Mice with emphysema who received HGF developed a 17% improvement in the size of their air sacs compared to placebo-treated mice, consistent with improved lung structure and function. The HGF also prevented destruction of the alveoli by reducing the oxidative stress that contributes to lung injury. The healthy mice that received HGF showed no difference in alveolar size. The mice with emphysema that were treated with a placebo did not show any improvement.

The researchers then wanted to see the effect of impaired HGF activity in young mice whose lungs were still forming. They created a mouse in which the HGF receptor, known as MET, was removed from the cells lining the alveoli. The investigators speculated that knocking out MET would result in damage to the alveoli.

As predicted, the air sacs in the developing mice without the HGF receptor did not form correctly. Also, the blood vessels serving the alveoli were reduced, and scientists noted an increase in both oxidative stress and inflammation. They concluded that developing alveoli require both HGF and MET signaling in order to form normally. ■



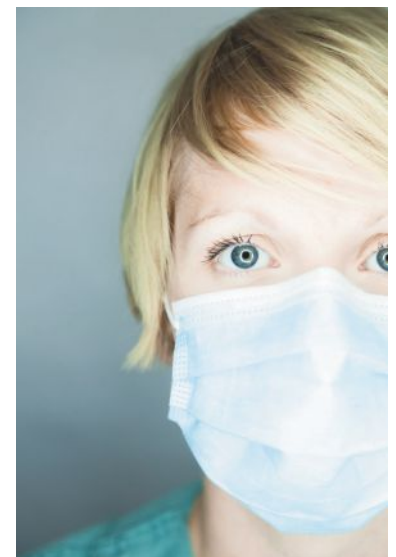
Your Flu Exposure May Be Greater Than You Think

Current infection-control guidelines call for health care professionals who are taking care of influenza patients to use fitted respirators only during aerosol-generating procedures like bronchoscopy, intubation, and CPR. Non-fitted surgical masks are considered adequate for routine care. But a recent study from Wake Forest Baptist Medical Center calls that advice into question. Researchers there screened 94 patients for flu-like symptoms during the 2010–2011 flu season. They also tested the air for the presence of flu virus.

Sixty-one of the patients tested positive for the flu, and 26 emitted the virus into the air. However, five of those patients

emitted up to 32 times more virus than their peers. These patients also had a greater severity of illness, indicating the existence of a more highly infectious subgroup.

Other results showed the majority of the emitted virus was contained in small particles located as much as six feet from a patient's head. The investigators note that this finding also runs counter to conventional wisdom, which suggests most influenza virus is emitted in large particles that less easily penetrate surgical masks. The study was published in the Jan. 31 online edition of *The Journal of Infectious Disease*. ■



Possible Answer Why Flu Vaccine Is Less Effective in the Elderly

A study in the Feb. 6 edition of *Science Translational Medicine* is helping to explain why seniors appear to receive less protection from the flu shot than younger people. Ning Jenny Jiang, who led the research at Stanford University before moving to the University of Texas at Austin, used gene-sequencing technology to count the number of B cells in four people age 70 and older and 13 between the ages of 8 and 30 during their peak immune response to the vaccine. Results showed the older subjects had lower numbers of the antibody-producing B cells.

The antibody-coding genes in their B cells also had a higher level of mutation, suggesting they had already become highly specialized. This higher level of specialization could be making them more resistant to further specialization in response to the yearly flu vaccine. ■



Artificial Intelligence System “Thinks Like a Doctor,” Say Scientists

Indiana University researchers are working on a machine learning tool that they believe may eventually be able to reduce health care costs by more than 50% while improving patient outcomes by nearly 50%.

This may sound too good to be true, but the investigators believe an artificial intelligence (AI) framework combining Markov Decision Processes with Dynamic Decision Networks could achieve these goals. The system employs sequential decision making to simulate numerous alternative treatment paths out into the future, maintain beliefs about patient health status over time even when measurements are unavailable or uncertain, and continually plan/re-plan as new information becomes available. In other words, it “thinks like a doctor.”

Using clinical data from 500 randomly selected patients with major clinical depression diagnoses, 65–70% of whom had comorbidities like diabetes, hypertension, and cardiovascular disease, the researchers compared actual physician performance and patient outcomes against sequential decision-making models. They found great disparity in the cost per

unit of outcome change when the AI model’s cost of \$189 was compared to the treatment-as-usual cost of \$497.

Specifically, the AI approach resulted in a 30%–35% increase in improved patient outcomes, and adjustments to the system revealed that those improvements could be enhanced to about 50%. The authors believe the system could be used with any diagnosis or disorder.

“The framework here easily outperforms the current treatment-as-usual, case-rate/fee-for-service models of health care,” study author Casey Bennett was quoted as saying. However, he and his colleagues stop short of suggesting that the system replace clinicians. “Even with the development of new AI techniques that can approximate or even surpass human decision-making performance, we believe that the most effective long-term path could be combining artificial intelligence with human clinicians. Let humans do what they do well, and let machines do what they do well. In the end, we may maximize the potential of both.” The research appeared in a recent issue of *Artificial Intelligence in Medicine*. ■

Heavy Smoking May Not Rule Out Lung Donation

Ideally, patients awaiting lung transplants will receive lungs from healthy nonsmokers. But given the shortage of donated lungs, some physicians have opted for lungs from smokers. However, lungs from heavy smokers — defined as a pack a day for 20 years or more — are typically avoided. New research, however, suggests those lungs might fare just as well as those from light-to-moderate smokers.

Investigators from Temple University Hospital in Philadelphia analyzed data from 5,900 double-lung transplant recipients recorded in the United Network for Organ Sharing database between 2005–2011. Transplants from heavy smokers composed 13% (766) of the double-lung transplants. Results showed that short- and medium-term survival was similar in patients who received lungs from carefully selected donors with a history of heavy smoking and patients who received donor lungs from non-heavy smoking donors. Amazingly, lung function was found to be no worse when using heavy smoking donors, and the number of deaths due to malignancy was also about the same.

“Our findings demonstrate that the current criteria for lung transplantation can potentially be revised to include donors with a heavy smoking history,” study author Sharven Taghavi, MD, noted. “This may help decrease the shortage of donor lungs and decrease waiting list mortality.” The study was presented at the latest meeting of the Society of Thoracic Surgeons. More studies are needed. ■



Is Your Company Listed in the AARC Online Buyer's Guide for Respiratory Care?

If so, you need to **update your listing before April 23** to have your current information included in the printed **Buyer's Guide**, which will appear in the **July issue** of *AARC Times*.

If your company is **not** listed, log on today to **<http://buyersguide.aarc.org>** and enroll for your free listing.

Just look for the "click here!" link on the home page.



For more information, contact buyersguide@aarc.org.

► Transitions

The AARC mourns the loss of **Roy Wagner, RRT**, of Dallas, TX, who recently lost his battle with cancer. In addition to serving on numerous committees for the Texas Society for Respiratory Care (TSRC) and for the AARC, he also served as president and delegate for the TSRC. He was recognized for his excellence in professionalism with the AARC's Delegate of the Year award in 2007. Roy was a true professional, a patient advocate, and a friend. He will be missed.

— *John Hiser, MD, RRT, FAARC*



Michael Tracy, BA, RRT-NPS, passed away in March. Tracy spent the past 25 years in the pediatric respiratory care and pediatric pulmonary function departments at Rainbow Babies & Children's Hospital in Cleveland, OH. An AARC member since 1981, he became a Neonatal-Pediatric Specialist in 1994 and was a member of both the Neonatal-Pediatrics and Management Sections. He was awarded the Neonatal-Pediatric Specialty Practitioner of the Year in 1998 and served as chair of the Neonatal-Pediatrics Section from 2005–2007. He was a member of the AARC Clinical Practice Guidelines Committee and Board of Directors from 2005–2009. His colleagues will remember him for his attention to detail, stern disciplined demeanor, and love for the profession.



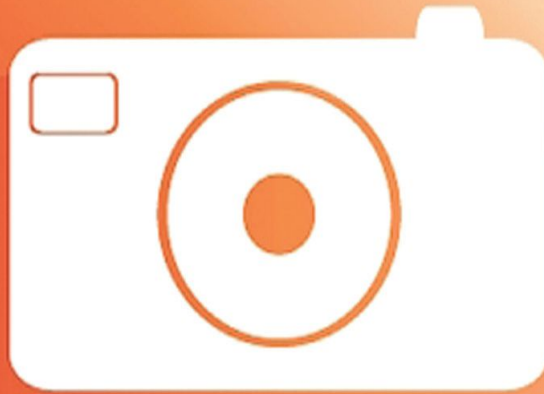
You can submit news about AARC members by going to www.AARC.org/transitions. ■

AARC Times

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- Take the photo at your highest quality setting
- Email your photo to knauf@aacrc.org or send a CD to:
Photo Contest, *AARC Times*, 9425 N. MacArthur Blvd., Irving, TX 75063

■ You must be an AARC member.

■ Contest finalists will receive one year **FREE DUES** on membership renewal.

■ Finalists will be in the Dec. 2013 issue for members to vote on.

■ The winning photo will be on the March 2014 cover.

■ All photos become the property of the AARC.

■ You must provide a signed release form for everyone in the photo.

■ Go to www.aarc.org and type **photo release** in the search box or have Karen fax you one. Call (972) 406-4661.

■ If you have a story for the photo, please send that, too.

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Calendar of Events

AARC & State Society Programs

April 15–16
Fargo, ND
 NDSRC's Annual Spring Convention
 Contact: Angela MacAdams, (701) 234-6777

April 18–19
King of Prussia, PA
 PSRC's Eastern Regional Conference
 Contact: Thomas Lamphere, (215) 687-2904, www.psrc.net

April 18–19
Cocoa Beach, FL
 Florida Society for Respiratory Care Space Coast Cardiopulmonary Conference
 Contact FSRC at (866) 534-6172 or www.fsrc.org "Live Events"

April 23–24
Las Vegas, NV
 Nevada Society for Respiratory Care's 2013 Annual Conference
 Spring into Action
 Contact Connie Small at (702) 807-9311 or www.nsrc.us

April 24–26
Kalispell, MT
 39th Annual MSRC Convention
 Contact: Bill Carmichael, (406) 455-5242

April 24–26
Shawnee, OK
 OSRC's 49th Annual Summer Exhibition
 Contact: Gary Revas, (405) 271-8001 ext 37787 or (405) 308-7987

April 29–May 1
Wisconsin Dells, WI
 Wisconsin & Minnesota North Regional Respiratory Care Conference
 Contact: www.nrrcc.com

April 30–May 1
Plantsville, CT
 CTSRC Symposium XXXI
 Contact: Susan Albino, (203) 739-7878

May 1–3
Lake Ozark, MO
 MSRC's 42nd Annual Conference and Business Meeting
 Contact: Aaron Light, (417) 447-8824

May 1–3
Vail, CO
 CSRC State Conference: Rockin' Rollin' Respiratory
 Contact: Kari Woodruff, (720) 235-4986

May 6–8
San Diego, CA
 45th CSRC Annual Convention
 Contact: Abbie Rosenberg, (888) 730-2772

May 15–16
Bangor, ME
 The Maine Event 2013
 Contact: John Higgins, (207) 542-5482

May 15–17
Kearney, NE
 Great Plains Conference on Respiratory Care
 Contact: Joe Rush, (402) 413-3275

May 29–31
Riverdale, IL
 Illinois Society for Respiratory Care's

Annual Conference and Exhibition
 Contact: Douglas McQueary, (773) 962-4086

June 13–14
Shawnee, OK
 OSRC's 49th Annual Meeting
 Contact: Patrina Nesbitt, pnesbitt@chcares.com

July 15–17
Orlando, FL
 AARC Summer Forum
 Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

July 29–30
Columbus, OH
 Ohio Society for Respiratory Care's 35th Annual State Meeting
 Contact: Joe Huff, www.osrc.org

September 25–26
Sturbridge, MA
 MSRC's 36th Annual Meeting
 Contact: Valeri-Ann Bolduc, (508) 429-7478

September 25–27
Hot Springs, AR
 42nd Annual ASRC State Meeting and Educational Seminar
 Contact: John Lindsey, (501) 620-3281

September 26–27
Mars, PA
 PSRC's Western Regional Conference
 Contact: Thomas Lamphere, (215) 687-2904, www.psrc.net

September 30 – October 1
Frankenmuth, MI

Michigan Society for Respiratory Care's Fall Conference
 Contact: (866) 989-6772

October 3–4
Indianapolis, IN
 Indiana Society for Respiratory Care's 39th Annual Fall Seminar
 Contact: Pat Ingle, (317) 962-5058

October 20–26
Respiratory Care Week
 Contact AARC, (972) 243-2272, www.aarc.org/rcweek

October 23
Lung Health Day
 Contact AARC, (972) 243-2272, www.aarc.org

November 16–19
(Saturday–Tuesday)
Anaheim, CA
 AARC Congress 2013
 Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

Other Meetings

June 14–15
Chicago, IL
 COPD8USA Conference sponsored by COPD Foundation, Respiratory Health Association, and University of Nebraska Medical Center
 Contact: (866) 316-COPD (2673) or info@copdfoundation.org

Submissions for the next available issue are due May 19.

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 Email binkley@aarc.org

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